

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

# MEMÓRIA DE CÁLCULO DE ESTRUTURA DE CONCRETO ARMADO CED QD 04 AE 02 - ESTRUTURAL CASTELO POTÁVEL

**Autor do Projeto: Eng. Civil Dalmo Blanco Cinnanti**  
**CREA: 7962/D-DF**

R01	29/12/2022	VERSÃO INICIAL	DALMO B. CINNANTI
REVISÃO	DATA	DESCRIÇÃO	RESPONSÁVEL
<i>Nome do projeto</i>		MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO (CASTELO POTÁVEL)	
<i>Número do projeto</i>		<b>314-SEEDF-CED QD 04 ESTRUTURAL -MEM-EST-CASTELO POTAVEL-R01</b>	
<i>Local</i>		<b>Quadra 04 AE 02 - RA XXV - SCIA / ESTRUTURAL - Vila Estrutural - DF</b>	

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## SUMÁRIO

1.	Resumo de resultados .....	3
a)	Cargas verticais: .....	3
b)	Deslocamento horizontal: .....	3
c)	Verificação de estabilidade (Gama-Z): .....	3
d)	Análise de 2ª ordem: .....	4
2.	Deslocamentos Horizontais Devido à Ação do Vento .....	5
a)	Análise da Não Linearidade Geométrica pelo Processo P-Delta .....	6
3.	Relatório de Esforços nas Fundações por Elementos .....	9
4.	Pavimento NV 000 .....	15
a)	Cálculo do Bloco BC1 .....	15
b)	Cálculo do Bloco BC3 .....	17
c)	Cálculo do Bloco BC4 .....	19
d)	Cálculo do Bloco BC6 .....	21
e)	Cálculo dos Pilares .....	23
f)	Vigas do pavimento NV 000 .....	23
5.	Pavimento NV 245 .....	24
a)	Cálculo dos Pilares .....	24
b)	Vigas do pavimento NV 245 .....	24
6.	Pavimento NV 700 CELULA INF .....	25
a)	Cálculo dos Pilares .....	25
b)	Vigas do pavimento NV 700 CELULA INF .....	25
7.	Cálculos do Reservatório .....	26
a)	Reservatório RES4 .....	26
8.	Pavimento NV 920 .....	38
a)	Cálculo dos Pilares .....	38
b)	Vigas do pavimento NV 920 .....	38
9.	Pavimento NV 1323 CELULA SUP .....	39
a)	Cálculo dos Pilares .....	39
b)	Vigas do pavimento NV 1323 CELULA SUP .....	39
10.	Cálculos do Reservatório .....	40
a)	Reservatório RES2 .....	40

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## **Memorial de cálculo**

### 1. Resumo de resultados

#### a) Cargas verticais:

Peso próprio = 98.50 tf

Adicional = 9.39 tf

Acidental = 7.08 tf

Água = 79.03 tf

Total = 194.00 tf

Área aproximada = 47.18 m<sup>2</sup>

Relação = 4112.30 kgf/m<sup>2</sup>

### **AVISO: Relação de carga por área não usual para edifícios**

#### b) Deslocamento horizontal:

X+ = 0.05 cm (limite 0.79)

X- = 0.05 cm (limite 0.79)

Y+ = 0.09 cm (limite 0.79)

Y- = 0.09 cm (limite 0.79)

#### c) Verificação de estabilidade (Gama-Z):

X+ = 1.04 (limite 1.10)

X- = 1.06 (limite 1.10)

Y+ = 1.05 (limite 1.10)

Y- = 1.05 (limite 1.10)

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**d) Análise de 2ª ordem:**

Processo P-Delta

Deslocamentos no topo da edificação:

Água: 0.18 »» 0.18 (+1.72%)

Vento X+: 0.24 »» 0.25 (+1.44%)

Vento X-: 0.24 »» 0.25 (+1.44%)

Vento Y+: 0.60 »» 0.63 (+4.34%)

Vento Y-: 0.60 »» 0.63 (+4.34%)

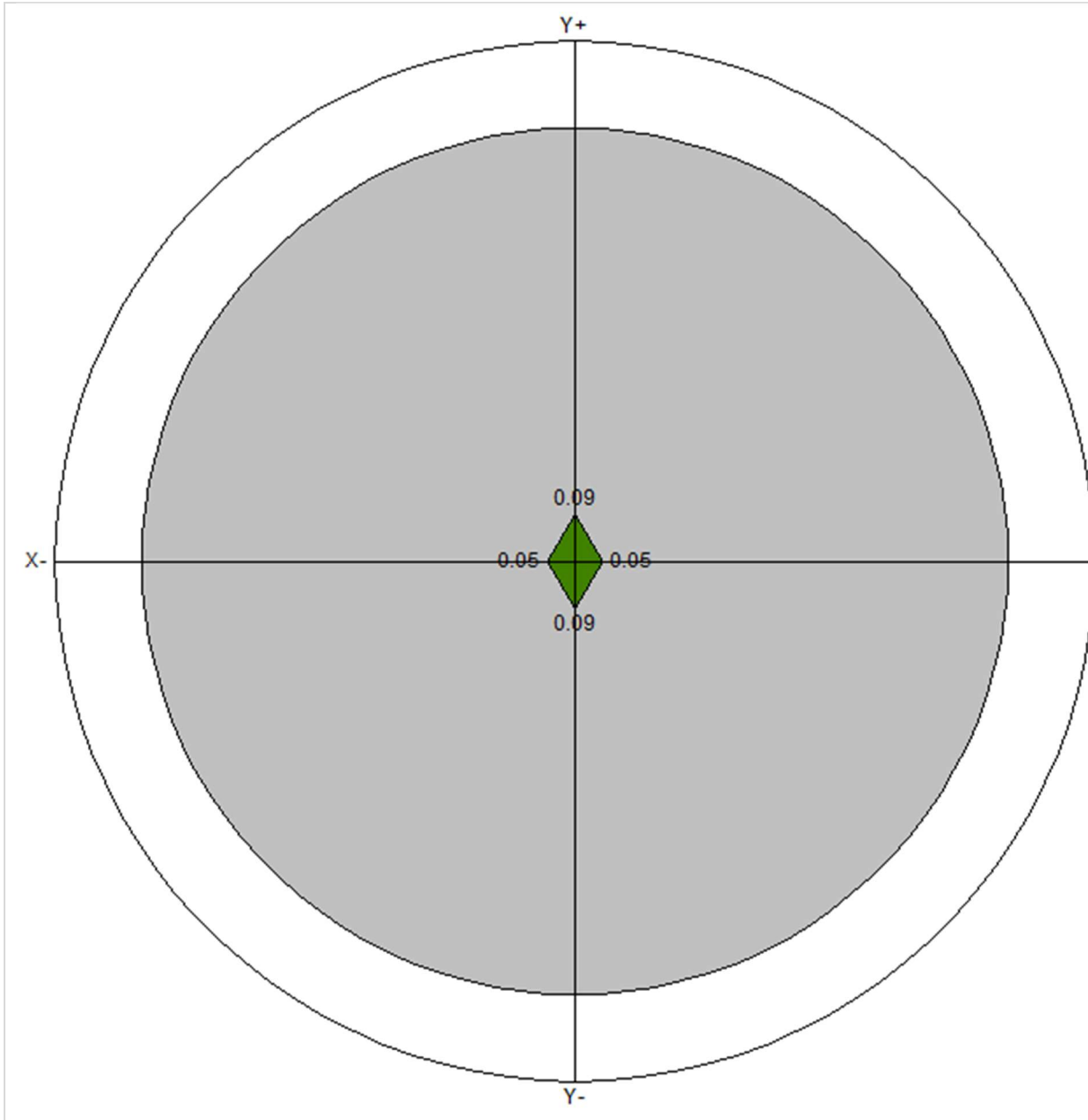
Desaprumo X+: 0.04 »» 0.04 (+1.53%)

Desaprumo X-: 0.04 »» 0.04 (+1.53%)

Desaprumo Y+: 0.08 »» 0.08 (+4.55%)

Desaprumo Y-: 0.08 »» 0.08 (+4.55%)

## 2. Deslocamentos Horizontais Devido à Ação do Vento



Verificações	X+	X-	Y+	Y-
Altura total da edificação (cm)	1348.00			
Deslocamento limite (cm)	0.79			
Deslocamento característico (cm)	0.17	-0.17	0.29	-0.29
gf2	0.30	0.30	0.30	0.30
Deslocamento combinações frequentes (cm)	0.05	-0.05	0.09	-0.09

Pavimento	Altura (cm)	Deslocamento combinações frequentes (cm)				Diferença (cm)				Limite (cm)
		X+	X-	Y+	Y-	X+	X-	Y+	Y-	
NV 1323 CELULA SUP	403.00	0.05	-0.05	0.09	-0.09	0.00	0.00	0.01	-0.01	0.47
NV 920	220.00	0.05	-0.05	0.08	-0.08	0.00	0.00	0.01	-0.01	0.26
NV 700 CELULA INF	455.00	0.05	-0.05	0.07	-0.07	0.02	-0.02	0.02	-0.02	0.54
NV 245	260.00	0.03	-0.03	0.05	-0.05	0.02	-0.02	0.04	-0.04	0.31
NV 000	10.00	0.01	-0.01	0.01	-0.01	0.01	-0.01	0.01	-0.01	0.01

a) Análise da Não Linearidade Geométrica pelo Processo P-Delta

Acidental									
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)				
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem		
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	
NV 1323 CELULA SUP	-0.01	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	
NV 920	-0.02	0.00	-0.02	0.00	0.00	0.00	-0.05	0.00	
NV 700 CELULA INF	-0.02	0.00	-0.02	0.00	0.00	0.00	-0.04	0.00	
NV 245	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NV 000	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	

Varição no deslocamento do topo da edificação: 2.53%

Água									
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)				
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem		
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	
NV 1323 CELULA SUP	-0.18	0.00	-0.18	0.00	0.00	0.00	-0.01	0.00	
NV 920	-0.33	0.00	-0.33	0.00	0.00	0.00	-0.62	0.00	
NV 700 CELULA INF	-0.29	0.00	-0.29	0.00	0.00	0.00	-0.47	0.00	
NV 245	0.02	0.00	0.02	0.00	0.00	0.00	0.01	0.00	
NV 000	0.02	0.00	0.02	0.00	0.00	0.00	0.08	0.00	

Varição no deslocamento do topo da edificação: 1.72%

Vento X+									
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)				
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem		
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	
NV 1323 CELULA SUP	0.24	0.00	0.25	0.00	0.77	0.00	0.78	0.00	
NV 920	0.24	0.00	0.24	0.00	0.83	0.00	1.27	0.00	
NV 700 CELULA INF	0.22	0.00	0.23	0.00	1.00	0.00	1.36	0.00	
NV 245	0.14	0.00	0.14	0.00	0.89	0.00	1.52	0.00	
NV 000	0.03	0.00	0.04	0.00	0.07	0.00	0.09	0.00	

Varição no deslocamento do topo da edificação: 1.44%

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Vento X-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
NV 1323 CELULA SUP	-0.24	0.00	-0.25	0.00	-0.77	0.00	-0.78	0.00
NV 920	-0.24	0.00	-0.24	0.00	-0.83	0.00	-1.27	0.00
NV 700 CELULA INF	-0.22	0.00	-0.23	0.00	-1.00	0.00	-1.36	0.00
NV 245	-0.14	0.00	-0.14	0.00	-0.89	0.00	-1.52	0.00
NV 000	-0.03	0.00	-0.04	0.00	-0.07	0.00	-0.09	0.00

Variação no deslocamento do topo da edificação: 1.44%

Vento Y+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
NV 1323 CELULA SUP	0.00	0.60	0.00	0.63	0.00	0.94	0.00	0.99
NV 920	0.00	0.54	0.00	0.57	0.00	1.01	0.00	2.37
NV 700 CELULA INF	0.00	0.46	0.00	0.48	0.00	1.26	0.00	1.82
NV 245	0.00	0.33	0.00	0.35	0.00	1.15	0.00	2.56
NV 000	0.00	0.08	0.00	0.08	0.00	0.09	0.00	0.13

Variação no deslocamento do topo da edificação: 4.34%

Vento Y-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
NV 1323 CELULA SUP	0.00	-0.60	0.00	-0.63	0.00	-0.94	0.00	-0.99
NV 920	0.00	-0.54	0.00	-0.57	0.00	-1.01	0.00	-2.37
NV 700 CELULA INF	0.00	-0.46	0.00	-0.48	0.00	-1.26	0.00	-1.82
NV 245	0.00	-0.33	0.00	-0.35	0.00	-1.15	0.00	-2.56
NV 000	0.00	-0.08	0.00	-0.08	0.00	-0.09	0.00	-0.13

Variação no deslocamento do topo da edificação: 4.34%

Desaprumo X+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
NV 1323 CELULA SUP	0.04	0.00	0.04	0.00	0.06	0.00	0.06	0.00
NV 920	0.04	0.00	0.04	0.00	0.12	0.00	0.19	0.00
NV 700 CELULA INF	0.03	0.00	0.03	0.00	-0.02	0.00	0.04	0.00
NV 245	0.02	0.00	0.02	0.00	0.18	0.00	0.28	0.00
NV 000	0.01	0.00	0.01	0.00	0.03	0.00	0.03	0.00

Variação no deslocamento do topo da edificação: 1.53%

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Desaprumo X-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
NV 1323 CELULA SUP	-0.04	0.00	-0.04	0.00	-0.06	0.00	-0.06	0.00
NV 920	-0.04	0.00	-0.04	0.00	-0.12	0.00	-0.19	0.00
NV 700 CELULA INF	-0.03	0.00	-0.03	0.00	0.02	0.00	-0.04	0.00
NV 245	-0.02	0.00	-0.02	0.00	-0.18	0.00	-0.28	0.00
NV 000	-0.01	0.00	-0.01	0.00	-0.03	0.00	-0.03	0.00

Varição no deslocamento do topo da edificação: 1.53%

Desaprumo Y+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
NV 1323 CELULA SUP	0.00	0.08	0.00	0.08	0.00	0.06	0.00	0.07
NV 920	0.00	0.07	0.00	0.07	0.00	0.12	0.00	0.30
NV 700 CELULA INF	0.00	0.06	0.00	0.06	0.00	-0.02	0.00	0.06
NV 245	0.00	0.04	0.00	0.05	0.00	0.18	0.00	0.37
NV 000	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.03

Varição no deslocamento do topo da edificação: 4.55%

Desaprumo Y-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
NV 1323 CELULA SUP	0.00	-0.08	0.00	-0.08	0.00	-0.06	0.00	-0.07
NV 920	0.00	-0.07	0.00	-0.07	0.00	-0.12	0.00	-0.30
NV 700 CELULA INF	0.00	-0.06	0.00	-0.06	0.00	0.02	0.00	-0.06
NV 245	0.00	-0.04	0.00	-0.05	0.00	-0.18	0.00	-0.37
NV 000	0.00	-0.01	0.00	-0.01	0.00	-0.03	0.00	-0.03

Varição no deslocamento do topo da edificação: 4.55%



### 3. Relatório de Esforços nas Fundações por Elementos

Fundação BC1						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	23.99	0.00	0.00	-2.23	2.03	0.00
Adicional (G2)	2.70	0.00	0.00	-0.15	0.24	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.65	0.00	0.00	-0.17	0.14	0.00
Água (A)	19.39	0.00	0.00	-2.10	1.81	0.00
Vento X+ (V1)	-3.92	0.00	0.00	1.36	-0.69	0.00
Vento X- (V2)	3.92	0.00	0.00	-1.36	0.69	0.00
Vento Y+ (V3)	2.63	0.00	0.00	0.31	0.63	0.00
Vento Y- (V4)	-2.63	0.00	0.00	-0.31	-0.63	0.00
Desaprumo X+ (D1)	-0.54	0.00	0.00	0.22	-0.09	0.00
Desaprumo X- (D2)	0.54	0.00	0.00	-0.22	0.09	0.00
Desaprumo Y+ (D3)	0.30	0.00	0.00	0.07	0.08	0.00
Desaprumo Y- (D4)	-0.30	0.00	0.00	-0.07	-0.08	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+0.82D1	25.05	0.00	0.00	-1.49	1.88	0.00
G1+G2+0.7Q+0.6V2+0.82D2	30.63	0.00	0.00	-3.49	2.86	0.00
G1+G2+0.7Q+0.6V3+0.82D3	29.66	0.00	0.00	-2.25	2.81	0.00
G1+G2+0.7Q+0.6V4+0.82D4	26.01	0.00	0.00	-2.74	1.93	0.00
G1+G2+0.7Q+A+0.6V1+0.49D1	44.62	0.00	0.00	-3.67	3.72	0.00
G1+G2+0.7Q+A+0.6V1+0.82D1	44.44	0.00	0.00	-3.60	3.69	0.00
G1+G2+0.7Q+A+0.6V2+0.49D2	49.85	0.00	0.00	-5.52	4.64	0.00
G1+G2+0.7Q+A+0.6V2+0.82D2	50.03	0.00	0.00	-5.60	4.67	0.00
G1+G2+0.7Q+A+0.6V3+0.49D3	48.96	0.00	0.00	-4.38	4.60	0.00
G1+G2+0.7Q+A+0.6V3+0.82D3	49.06	0.00	0.00	-4.35	4.62	0.00
G1+G2+0.7Q+A+0.6V4+0.49D4	45.51	0.00	0.00	-4.82	3.76	0.00
G1+G2+0.7Q+A+0.6V4+0.82D4	45.41	0.00	0.00	-4.84	3.74	0.00
G1+G2+0.7Q+A+D1	46.69	0.00	0.00	-4.38	4.09	0.00
G1+G2+0.7Q+A+D2	47.77	0.00	0.00	-4.82	4.27	0.00
G1+G2+0.7Q+A+D3	47.54	0.00	0.00	-4.53	4.26	0.00
G1+G2+0.7Q+A+D4	46.93	0.00	0.00	-4.67	4.10	0.00
G1+G2+0.7Q+A+V1+0.49D1	43.05	0.00	0.00	-3.12	3.44	0.00
G1+G2+0.7Q+A+V2+0.49D2	51.42	0.00	0.00	-6.07	4.92	0.00
G1+G2+0.7Q+A+V3+0.49D3	50.01	0.00	0.00	-4.25	4.85	0.00
G1+G2+0.7Q+A+V4+0.49D4	44.45	0.00	0.00	-4.94	3.51	0.00
G1+G2+0.7Q+V1+0.49D1	23.65	0.00	0.00	-1.02	1.63	0.00
G1+G2+0.7Q+V2+0.49D2	32.02	0.00	0.00	-3.97	3.11	0.00
G1+G2+0.7Q+V3+0.49D3	30.62	0.00	0.00	-2.15	3.04	0.00
G1+G2+0.7Q+V4+0.49D4	25.06	0.00	0.00	-2.84	1.70	0.00
G1+G2+A+0.6V1+0.49D1	43.46	0.00	0.00	-3.55	3.62	0.00
G1+G2+A+0.6V1+0.82D1	43.29	0.00	0.00	-3.48	3.59	0.00
G1+G2+A+0.6V2+0.49D2	48.70	0.00	0.00	-5.41	4.54	0.00
G1+G2+A+0.6V2+0.82D2	48.87	0.00	0.00	-5.48	4.57	0.00
G1+G2+A+0.6V3+0.49D3	47.81	0.00	0.00	-4.26	4.49	0.00
G1+G2+A+0.6V3+0.82D3	47.90	0.00	0.00	-4.24	4.52	0.00
G1+G2+A+0.6V4+0.49D4	44.35	0.00	0.00	-4.70	3.66	0.00
G1+G2+A+0.6V4+0.82D4	44.25	0.00	0.00	-4.72	3.64	0.00
G1+G2+A+D1	45.54	0.00	0.00	-4.26	3.98	0.00
G1+G2+A+D2	46.62	0.00	0.00	-4.70	4.17	0.00

G1+G2+A+D3	46.38	0.00	0.00	-4.41	4.16	0.00
G1+G2+A+D4	45.78	0.00	0.00	-4.55	4.00	0.00
G1+G2+A+V1+0.49D1	41.89	0.00	0.00	-3.01	3.34	0.00
G1+G2+A+V2+0.49D2	50.26	0.00	0.00	-5.95	4.82	0.00
G1+G2+A+V3+0.49D3	48.86	0.00	0.00	-4.14	4.75	0.00
G1+G2+A+V4+0.49D4	43.30	0.00	0.00	-4.82	3.41	0.00
G1+G2+D1	26.14	0.00	0.00	-2.15	2.18	0.00
G1+G2+D2	27.22	0.00	0.00	-2.60	2.36	0.00
G1+G2+D3	26.99	0.00	0.00	-2.30	2.35	0.00
G1+G2+D4	26.38	0.00	0.00	-2.45	2.19	0.00
G1+G2+Q+0.6V1+0.49D1	25.72	0.00	0.00	-1.62	1.95	0.00
G1+G2+Q+0.6V2+0.49D2	30.95	0.00	0.00	-3.47	2.88	0.00
G1+G2+Q+0.6V3+0.49D3	30.06	0.00	0.00	-2.32	2.83	0.00
G1+G2+Q+0.6V4+0.49D4	26.61	0.00	0.00	-2.76	2.00	0.00
G1+G2+Q+A+0.6V1+0.49D1	45.11	0.00	0.00	-3.72	3.76	0.00
G1+G2+Q+A+0.6V2+0.49D2	50.35	0.00	0.00	-5.57	4.68	0.00
G1+G2+Q+A+0.6V3+0.49D3	49.46	0.00	0.00	-4.43	4.64	0.00
G1+G2+Q+A+0.6V4+0.49D4	46.00	0.00	0.00	-4.87	3.81	0.00
G1+G2+Q+A+D1	47.19	0.00	0.00	-4.43	4.13	0.00
G1+G2+Q+A+D2	48.27	0.00	0.00	-4.87	4.32	0.00
G1+G2+Q+A+D3	48.03	0.00	0.00	-4.58	4.30	0.00
G1+G2+Q+A+D4	47.43	0.00	0.00	-4.72	4.14	0.00
G1+G2+Q+D1	27.79	0.00	0.00	-2.32	2.32	0.00
G1+G2+Q+D2	28.87	0.00	0.00	-2.76	2.51	0.00
G1+G2+Q+D3	28.64	0.00	0.00	-2.47	2.49	0.00
G1+G2+Q+D4	28.03	0.00	0.00	-2.61	2.34	0.00

<b>Fundação BC3</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	25.26	0.00	0.00	2.23	0.81	0.00
Adicional (G2)	2.00	0.00	0.00	0.15	0.26	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.89	0.00	0.00	0.17	0.04	0.00
Água (A)	20.12	0.00	0.00	2.10	0.55	0.00
Vento X+ (V1)	3.92	0.00	0.00	0.56	-0.02	0.00
Vento X- (V2)	-3.92	0.00	0.00	-0.56	0.02	0.00
Vento Y+ (V3)	7.75	0.00	0.00	0.99	1.77	0.00
Vento Y- (V4)	-7.75	0.00	0.00	-0.99	-1.77	0.00
Desaprumo X+ (D1)	0.54	0.00	0.00	0.10	0.00	0.00
Desaprumo X- (D2)	-0.54	0.00	0.00	-0.10	0.00	0.00
Desaprumo Y+ (D3)	0.86	0.00	0.00	0.10	0.24	0.00
Desaprumo Y- (D4)	-0.86	0.00	0.00	-0.10	-0.24	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+0.82D1	31.38	0.00	0.00	2.91	1.09	0.00
G1+G2+0.7Q+0.6V2+0.82D2	25.79	0.00	0.00	2.07	1.11	0.00
G1+G2+0.7Q+0.6V3+0.82D3	33.94	0.00	0.00	3.17	2.36	0.00
G1+G2+0.7Q+0.6V4+0.82D4	23.23	0.00	0.00	1.82	-0.16	0.00
G1+G2+0.7Q+A+0.6V1+0.49D1	51.32	0.00	0.00	4.98	1.64	0.00
G1+G2+0.7Q+A+0.6V1+0.82D1	51.50	0.00	0.00	5.02	1.64	0.00
G1+G2+0.7Q+A+0.6V2+0.49D2	46.09	0.00	0.00	4.21	1.66	0.00
G1+G2+0.7Q+A+0.6V2+0.82D2	45.91	0.00	0.00	4.18	1.66	0.00
G1+G2+0.7Q+A+0.6V3+0.49D3	53.78	0.00	0.00	5.24	2.83	0.00
G1+G2+0.7Q+A+0.6V3+0.82D3	54.06	0.00	0.00	5.27	2.91	0.00
G1+G2+0.7Q+A+0.6V4+0.49D4	43.63	0.00	0.00	3.96	0.47	0.00

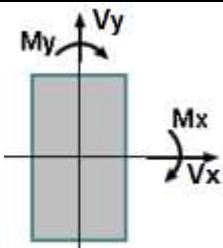
G1+G2+0.7Q+A+0.6V4+0.82D4	43.35	0.00	0.00	3.92	0.39	0.00
G1+G2+0.7Q+A+D1	49.25	0.00	0.00	4.70	1.65	0.00
G1+G2+0.7Q+A+D2	48.17	0.00	0.00	4.49	1.65	0.00
G1+G2+0.7Q+A+D3	49.57	0.00	0.00	4.70	1.90	0.00
G1+G2+0.7Q+A+D4	47.85	0.00	0.00	4.50	1.41	0.00
G1+G2+0.7Q+A+V1+0.49D1	52.89	0.00	0.00	5.20	1.63	0.00
G1+G2+0.7Q+A+V2+0.49D2	44.52	0.00	0.00	3.99	1.67	0.00
G1+G2+0.7Q+A+V3+0.49D3	56.88	0.00	0.00	5.63	3.54	0.00
G1+G2+0.7Q+A+V4+0.49D4	40.54	0.00	0.00	3.56	-0.23	0.00
G1+G2+0.7Q+V1+0.49D1	32.77	0.00	0.00	3.10	1.08	0.00
G1+G2+0.7Q+V2+0.49D2	24.40	0.00	0.00	1.89	1.11	0.00
G1+G2+0.7Q+V3+0.49D3	36.76	0.00	0.00	3.53	2.98	0.00
G1+G2+0.7Q+V4+0.49D4	20.42	0.00	0.00	1.46	-0.79	0.00
G1+G2+A+0.6V1+0.49D1	50.00	0.00	0.00	4.86	1.61	0.00
G1+G2+A+0.6V1+0.82D1	50.18	0.00	0.00	4.90	1.61	0.00
G1+G2+A+0.6V2+0.49D2	44.77	0.00	0.00	4.10	1.63	0.00
G1+G2+A+0.6V2+0.82D2	44.59	0.00	0.00	4.06	1.63	0.00
G1+G2+A+0.6V3+0.49D3	52.45	0.00	0.00	5.12	2.80	0.00
G1+G2+A+0.6V3+0.82D3	52.73	0.00	0.00	5.15	2.88	0.00
G1+G2+A+0.6V4+0.49D4	42.31	0.00	0.00	3.84	0.44	0.00
G1+G2+A+0.6V4+0.82D4	42.03	0.00	0.00	3.81	0.36	0.00
G1+G2+A+D1	47.92	0.00	0.00	4.58	1.62	0.00
G1+G2+A+D2	46.84	0.00	0.00	4.38	1.62	0.00
G1+G2+A+D3	48.24	0.00	0.00	4.58	1.87	0.00
G1+G2+A+D4	46.52	0.00	0.00	4.38	1.38	0.00
G1+G2+A+V1+0.49D1	51.57	0.00	0.00	5.09	1.60	0.00
G1+G2+A+V2+0.49D2	43.20	0.00	0.00	3.87	1.64	0.00
G1+G2+A+V3+0.49D3	55.55	0.00	0.00	5.52	3.51	0.00
G1+G2+A+V4+0.49D4	39.21	0.00	0.00	3.44	-0.26	0.00
G1+G2+D1	27.80	0.00	0.00	2.48	1.07	0.00
G1+G2+D2	26.72	0.00	0.00	2.27	1.06	0.00
G1+G2+D3	28.12	0.00	0.00	2.47	1.31	0.00
G1+G2+D4	26.40	0.00	0.00	2.28	0.82	0.00
G1+G2+Q+0.6V1+0.49D1	31.77	0.00	0.00	2.93	1.10	0.00
G1+G2+Q+0.6V2+0.49D2	26.53	0.00	0.00	2.16	1.12	0.00
G1+G2+Q+0.6V3+0.49D3	34.22	0.00	0.00	3.18	2.29	0.00
G1+G2+Q+0.6V4+0.49D4	24.08	0.00	0.00	1.90	-0.07	0.00
G1+G2+Q+A+0.6V1+0.49D1	51.89	0.00	0.00	5.03	1.65	0.00
G1+G2+Q+A+0.6V2+0.49D2	46.65	0.00	0.00	4.26	1.67	0.00
G1+G2+Q+A+0.6V3+0.49D3	54.34	0.00	0.00	5.29	2.84	0.00
G1+G2+Q+A+0.6V4+0.49D4	44.20	0.00	0.00	4.01	0.48	0.00
G1+G2+Q+A+D1	49.81	0.00	0.00	4.75	1.67	0.00
G1+G2+Q+A+D2	48.73	0.00	0.00	4.54	1.66	0.00
G1+G2+Q+A+D3	50.13	0.00	0.00	4.75	1.91	0.00
G1+G2+Q+A+D4	48.41	0.00	0.00	4.55	1.42	0.00
G1+G2+Q+D1	29.69	0.00	0.00	2.65	1.11	0.00
G1+G2+Q+D2	28.61	0.00	0.00	2.44	1.11	0.00
G1+G2+Q+D3	30.01	0.00	0.00	2.64	1.35	0.00
G1+G2+Q+D4	28.29	0.00	0.00	2.44	0.86	0.00

Fundação BC4						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	23.99	0.00	0.00	-2.23	-2.03	0.00
Adicional (G2)	2.70	0.00	0.00	-0.15	-0.24	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.65	0.00	0.00	-0.17	-0.14	0.00
Água (A)	19.39	0.00	0.00	-2.10	-1.81	0.00
Vento X+ (V1)	-3.92	0.00	0.00	1.36	0.69	0.00
Vento X- (V2)	3.92	0.00	0.00	-1.36	-0.69	0.00
Vento Y+ (V3)	-2.63	0.00	0.00	-0.31	0.63	0.00
Vento Y- (V4)	2.63	0.00	0.00	0.31	-0.63	0.00
Desaprumo X+ (D1)	-0.54	0.00	0.00	0.22	0.09	0.00
Desaprumo X- (D2)	0.54	0.00	0.00	-0.22	-0.09	0.00
Desaprumo Y+ (D3)	-0.30	0.00	0.00	-0.07	0.08	0.00
Desaprumo Y- (D4)	0.30	0.00	0.00	0.07	-0.08	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+0.82D1	25.05	0.00	0.00	-1.49	-1.88	0.00
G1+G2+0.7Q+0.6V2+0.82D2	30.63	0.00	0.00	-3.49	-2.86	0.00
G1+G2+0.7Q+0.6V3+0.82D3	26.01	0.00	0.00	-2.74	-1.93	0.00
G1+G2+0.7Q+0.6V4+0.82D4	29.66	0.00	0.00	-2.25	-2.81	0.00
G1+G2+0.7Q+A+0.6V1+0.49D1	44.62	0.00	0.00	-3.67	-3.72	0.00
G1+G2+0.7Q+A+0.6V1+0.82D1	44.44	0.00	0.00	-3.60	-3.69	0.00
G1+G2+0.7Q+A+0.6V2+0.49D2	49.85	0.00	0.00	-5.52	-4.64	0.00
G1+G2+0.7Q+A+0.6V2+0.82D2	50.03	0.00	0.00	-5.60	-4.67	0.00
G1+G2+0.7Q+A+0.6V3+0.49D3	45.51	0.00	0.00	-4.82	-3.76	0.00
G1+G2+0.7Q+A+0.6V3+0.82D3	45.41	0.00	0.00	-4.84	-3.74	0.00
G1+G2+0.7Q+A+0.6V4+0.49D4	48.96	0.00	0.00	-4.38	-4.60	0.00
G1+G2+0.7Q+A+0.6V4+0.82D4	49.06	0.00	0.00	-4.35	-4.62	0.00
G1+G2+0.7Q+A+D1	46.69	0.00	0.00	-4.38	-4.09	0.00
G1+G2+0.7Q+A+D2	47.77	0.00	0.00	-4.82	-4.27	0.00
G1+G2+0.7Q+A+D3	46.93	0.00	0.00	-4.67	-4.10	0.00
G1+G2+0.7Q+A+D4	47.53	0.00	0.00	-4.53	-4.26	0.00
G1+G2+0.7Q+A+V1+0.49D1	43.05	0.00	0.00	-3.12	-3.44	0.00
G1+G2+0.7Q+A+V2+0.49D2	51.42	0.00	0.00	-6.07	-4.92	0.00
G1+G2+0.7Q+A+V3+0.49D3	44.45	0.00	0.00	-4.94	-3.51	0.00
G1+G2+0.7Q+A+V4+0.49D4	50.01	0.00	0.00	-4.25	-4.85	0.00
G1+G2+0.7Q+V1+0.49D1	23.65	0.00	0.00	-1.02	-1.63	0.00
G1+G2+0.7Q+V2+0.49D2	32.02	0.00	0.00	-3.97	-3.11	0.00
G1+G2+0.7Q+V3+0.49D3	25.06	0.00	0.00	-2.84	-1.70	0.00
G1+G2+0.7Q+V4+0.49D4	30.62	0.00	0.00	-2.15	-3.04	0.00
G1+G2+A+0.6V1+0.49D1	43.46	0.00	0.00	-3.55	-3.62	0.00
G1+G2+A+0.6V1+0.82D1	43.28	0.00	0.00	-3.48	-3.59	0.00
G1+G2+A+0.6V2+0.49D2	48.70	0.00	0.00	-5.41	-4.54	0.00
G1+G2+A+0.6V2+0.82D2	48.87	0.00	0.00	-5.48	-4.57	0.00
G1+G2+A+0.6V3+0.49D3	44.35	0.00	0.00	-4.70	-3.66	0.00
G1+G2+A+0.6V3+0.82D3	44.25	0.00	0.00	-4.72	-3.64	0.00
G1+G2+A+0.6V4+0.49D4	47.80	0.00	0.00	-4.26	-4.49	0.00
G1+G2+A+0.6V4+0.82D4	47.90	0.00	0.00	-4.24	-4.52	0.00
G1+G2+A+D1	45.54	0.00	0.00	-4.26	-3.98	0.00
G1+G2+A+D2	46.62	0.00	0.00	-4.70	-4.17	0.00
G1+G2+A+D3	45.78	0.00	0.00	-4.55	-4.00	0.00
G1+G2+A+D4	46.38	0.00	0.00	-4.41	-4.16	0.00
G1+G2+A+V1+0.49D1	41.89	0.00	0.00	-3.01	-3.34	0.00
G1+G2+A+V2+0.49D2	50.26	0.00	0.00	-5.95	-4.82	0.00

G1+G2+A+V3+0.49D3	43.30	0.00	0.00	-4.82	-3.41	0.00
G1+G2+A+V4+0.49D4	48.86	0.00	0.00	-4.14	-4.75	0.00
G1+G2+D1	26.14	0.00	0.00	-2.15	-2.18	0.00
G1+G2+D2	27.22	0.00	0.00	-2.60	-2.36	0.00
G1+G2+D3	26.38	0.00	0.00	-2.45	-2.19	0.00
G1+G2+D4	26.99	0.00	0.00	-2.30	-2.35	0.00
G1+G2+Q+0.6V1+0.49D1	25.72	0.00	0.00	-1.62	-1.95	0.00
G1+G2+Q+0.6V2+0.49D2	30.95	0.00	0.00	-3.47	-2.88	0.00
G1+G2+Q+0.6V3+0.49D3	26.61	0.00	0.00	-2.76	-2.00	0.00
G1+G2+Q+0.6V4+0.49D4	30.06	0.00	0.00	-2.32	-2.83	0.00
G1+G2+Q+A+0.6V1+0.49D1	45.11	0.00	0.00	-3.72	-3.76	0.00
G1+G2+Q+A+0.6V2+0.49D2	50.34	0.00	0.00	-5.57	-4.68	0.00
G1+G2+Q+A+0.6V3+0.49D3	46.00	0.00	0.00	-4.87	-3.81	0.00
G1+G2+Q+A+0.6V4+0.49D4	49.45	0.00	0.00	-4.43	-4.64	0.00
G1+G2+Q+A+D1	47.19	0.00	0.00	-4.43	-4.13	0.00
G1+G2+Q+A+D2	48.27	0.00	0.00	-4.87	-4.32	0.00
G1+G2+Q+A+D3	47.43	0.00	0.00	-4.72	-4.14	0.00
G1+G2+Q+A+D4	48.03	0.00	0.00	-4.58	-4.30	0.00
G1+G2+Q+D1	27.79	0.00	0.00	-2.32	-2.32	0.00
G1+G2+Q+D2	28.87	0.00	0.00	-2.76	-2.51	0.00
G1+G2+Q+D3	28.03	0.00	0.00	-2.61	-2.34	0.00
G1+G2+Q+D4	28.64	0.00	0.00	-2.47	-2.49	0.00

Fundação BC6						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	25.26	0.00	0.00	2.23	-0.81	0.00
Adicional (G2)	2.00	0.00	0.00	0.15	-0.26	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.89	0.00	0.00	0.17	-0.04	0.00
Água (A)	20.12	0.00	0.00	2.10	-0.55	0.00
Vento X+ (V1)	3.92	0.00	0.00	0.56	0.02	0.00
Vento X- (V2)	-3.92	0.00	0.00	-0.56	-0.02	0.00
Vento Y+ (V3)	-7.75	0.00	0.00	-0.99	1.77	0.00
Vento Y- (V4)	7.75	0.00	0.00	0.99	-1.77	0.00
Desaprumo X+ (D1)	0.54	0.00	0.00	0.10	0.00	0.00
Desaprumo X- (D2)	-0.54	0.00	0.00	-0.10	0.00	0.00
Desaprumo Y+ (D3)	-0.86	0.00	0.00	-0.10	0.24	0.00
Desaprumo Y- (D4)	0.86	0.00	0.00	0.10	-0.24	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+0.82D1	31.38	0.00	0.00	2.91	-1.09	0.00
G1+G2+0.7Q+0.6V2+0.82D2	25.79	0.00	0.00	2.07	-1.11	0.00
G1+G2+0.7Q+0.6V3+0.82D3	23.23	0.00	0.00	1.82	0.16	0.00
G1+G2+0.7Q+0.6V4+0.82D4	33.94	0.00	0.00	3.17	-2.36	0.00
G1+G2+0.7Q+A+0.6V1+0.49D1	51.32	0.00	0.00	4.98	-1.64	0.00
G1+G2+0.7Q+A+0.6V1+0.82D1	51.50	0.00	0.00	5.02	-1.64	0.00
G1+G2+0.7Q+A+0.6V2+0.49D2	46.09	0.00	0.00	4.21	-1.66	0.00
G1+G2+0.7Q+A+0.6V2+0.82D2	45.91	0.00	0.00	4.18	-1.66	0.00
G1+G2+0.7Q+A+0.6V3+0.49D3	43.63	0.00	0.00	3.96	-0.47	0.00
G1+G2+0.7Q+A+0.6V3+0.82D3	43.35	0.00	0.00	3.92	-0.39	0.00
G1+G2+0.7Q+A+0.6V4+0.49D4	53.77	0.00	0.00	5.24	-2.83	0.00
G1+G2+0.7Q+A+0.6V4+0.82D4	54.06	0.00	0.00	5.27	-2.91	0.00
G1+G2+0.7Q+A+D1	49.24	0.00	0.00	4.70	-1.65	0.00
G1+G2+0.7Q+A+D2	48.16	0.00	0.00	4.49	-1.65	0.00
G1+G2+0.7Q+A+D3	47.84	0.00	0.00	4.50	-1.41	0.00

G1+G2+0.7Q+A+D4	49.56	0.00	0.00	4.70	-1.90	0.00
G1+G2+0.7Q+A+V1+0.49D1	52.89	0.00	0.00	5.20	-1.63	0.00
G1+G2+0.7Q+A+V2+0.49D2	44.52	0.00	0.00	3.99	-1.67	0.00
G1+G2+0.7Q+A+V3+0.49D3	40.53	0.00	0.00	3.56	0.23	0.00
G1+G2+0.7Q+A+V4+0.49D4	56.87	0.00	0.00	5.63	-3.54	0.00
G1+G2+0.7Q+V1+0.49D1	32.77	0.00	0.00	3.10	-1.08	0.00
G1+G2+0.7Q+V2+0.49D2	24.40	0.00	0.00	1.89	-1.11	0.00
G1+G2+0.7Q+V3+0.49D3	20.42	0.00	0.00	1.46	0.79	0.00
G1+G2+0.7Q+V4+0.49D4	36.75	0.00	0.00	3.53	-2.98	0.00
G1+G2+A+0.6V1+0.49D1	50.00	0.00	0.00	4.86	-1.61	0.00
G1+G2+A+0.6V1+0.82D1	50.18	0.00	0.00	4.90	-1.61	0.00
G1+G2+A+0.6V2+0.49D2	44.77	0.00	0.00	4.10	-1.63	0.00
G1+G2+A+0.6V2+0.82D2	44.59	0.00	0.00	4.06	-1.63	0.00
G1+G2+A+0.6V3+0.49D3	42.31	0.00	0.00	3.84	-0.44	0.00
G1+G2+A+0.6V3+0.82D3	42.03	0.00	0.00	3.81	-0.36	0.00
G1+G2+A+0.6V4+0.49D4	52.45	0.00	0.00	5.12	-2.80	0.00
G1+G2+A+0.6V4+0.82D4	52.73	0.00	0.00	5.15	-2.88	0.00
G1+G2+A+D1	47.92	0.00	0.00	4.58	-1.62	0.00
G1+G2+A+D2	46.84	0.00	0.00	4.38	-1.62	0.00
G1+G2+A+D3	46.52	0.00	0.00	4.38	-1.38	0.00
G1+G2+A+D4	48.24	0.00	0.00	4.58	-1.87	0.00
G1+G2+A+V1+0.49D1	51.57	0.00	0.00	5.09	-1.60	0.00
G1+G2+A+V2+0.49D2	43.20	0.00	0.00	3.87	-1.64	0.00
G1+G2+A+V3+0.49D3	39.21	0.00	0.00	3.44	0.26	0.00
G1+G2+A+V4+0.49D4	55.55	0.00	0.00	5.52	-3.51	0.00
G1+G2+D1	27.80	0.00	0.00	2.48	-1.07	0.00
G1+G2+D2	26.72	0.00	0.00	2.27	-1.06	0.00
G1+G2+D3	26.40	0.00	0.00	2.28	-0.82	0.00
G1+G2+D4	28.12	0.00	0.00	2.47	-1.31	0.00
G1+G2+Q+0.6V1+0.49D1	31.77	0.00	0.00	2.93	-1.10	0.00
G1+G2+Q+0.6V2+0.49D2	26.53	0.00	0.00	2.16	-1.12	0.00
G1+G2+Q+0.6V3+0.49D3	24.08	0.00	0.00	1.90	0.07	0.00
G1+G2+Q+0.6V4+0.49D4	34.22	0.00	0.00	3.18	-2.29	0.00
G1+G2+Q+A+0.6V1+0.49D1	51.89	0.00	0.00	5.03	-1.65	0.00
G1+G2+Q+A+0.6V2+0.49D2	46.65	0.00	0.00	4.26	-1.67	0.00
G1+G2+Q+A+0.6V3+0.49D3	44.20	0.00	0.00	4.01	-0.48	0.00
G1+G2+Q+A+0.6V4+0.49D4	54.34	0.00	0.00	5.29	-2.84	0.00
G1+G2+Q+A+D1	49.81	0.00	0.00	4.75	-1.67	0.00
G1+G2+Q+A+D2	48.73	0.00	0.00	4.54	-1.66	0.00
G1+G2+Q+A+D3	48.41	0.00	0.00	4.55	-1.42	0.00
G1+G2+Q+A+D4	50.13	0.00	0.00	4.75	-1.91	0.00
G1+G2+Q+D1	29.69	0.00	0.00	2.65	-1.11	0.00
G1+G2+Q+D2	28.61	0.00	0.00	2.44	-1.11	0.00
G1+G2+Q+D3	28.29	0.00	0.00	2.44	-0.86	0.00
G1+G2+Q+D4	30.01	0.00	0.00	2.64	-1.35	0.00

<b>Legenda</b>	
	- Caso: indica o caso de carregamento no qual serão apresentados os esforços atuantes;
	- Elemento: nome da fundação;
	- N: esforço axial na fundação (inclui o peso próprio do bloco caso sua seção tenha sido definida no lançamento);
	- Mx: momento fletor na fundação, atuante em torno do eixo X global;
	- My: momento fletor na fundação, atuante em torno do eixo Y global;
	- Vx: esforço cortante na fundação, atuante no plano paralelo à direção X global;
	- Vy: esforço cortante na fundação, atuante no plano paralelo à direção Y global;
	- Mt: momento de torção atuante.

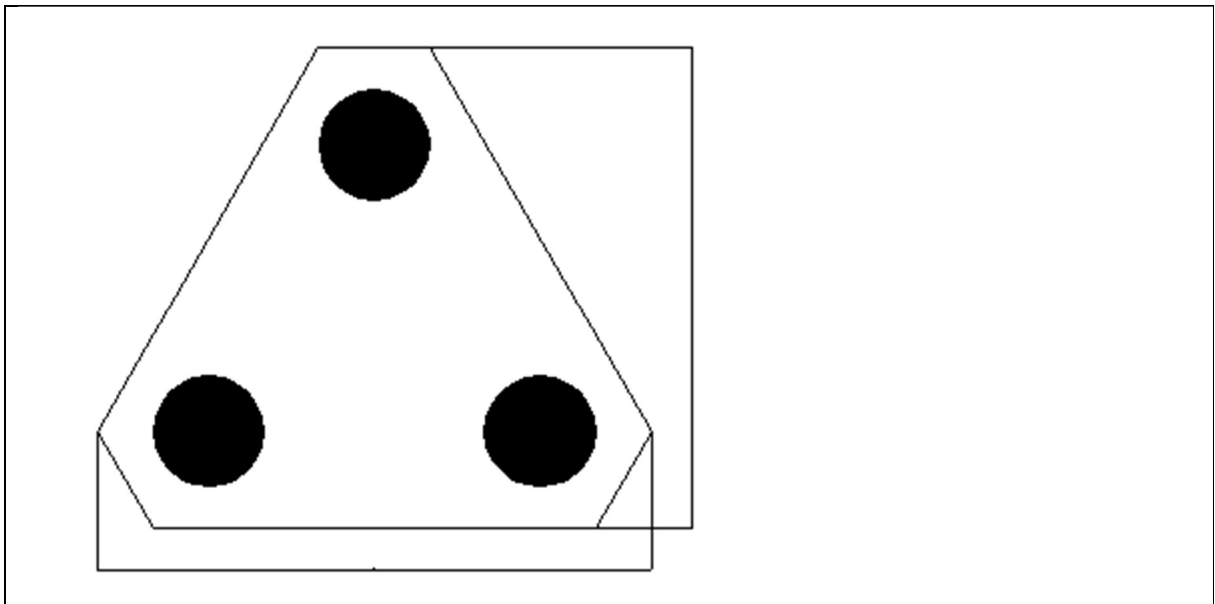
#### 4. Pavimento NV 000

##### a) Cálculo do Bloco BC1

Pavimento NV 000 - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 3	fck = 300 kgf/cm <sup>2</sup>
TRI	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 4.50	Peso específico = 2500
cm	kgf/m <sup>3</sup>

##### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	50.00	<b>LB</b>	200.83
<b>Seção</b>	40.00	<b>Total</b>	65.00	<b>LH</b>	173.92
<b>Espaçamento entre estacas (e)</b>	120.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	3.92 m <sup>2</sup>
<b>Volume concreto</b>	1.44 m <sup>3</sup>

##### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
3.61	51.42	6.74	61.77

### Verificação ao esmagamento da biela - Método de Blevot e Frémy

	Junto ao pilar	Junto à estaca
Tensão solicitante (kgf/cm <sup>2</sup> )	193.80	65.52
Tensão admissível (kgf/cm <sup>2</sup> )	280.50	135.77
Condição	Ok	Ok

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	52.17	24.40	2500	7.81
2	2	190x70	55	1.73	27.48	12.39	668	3.91
3 TRI	3	201x174	65	3.61	20.21	8.50	0	2.60
Limites					27.00	-1.35	4200	3.20

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E1-1	18.72	9.37	0	2.60
E1-2	20.21	9.40	0	2.60
E1-3	16.10	8.50	0	2.60

### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	11.14	19.21	-



## Dimensionamento da armadura

### Método de cálculo: biela-tirante

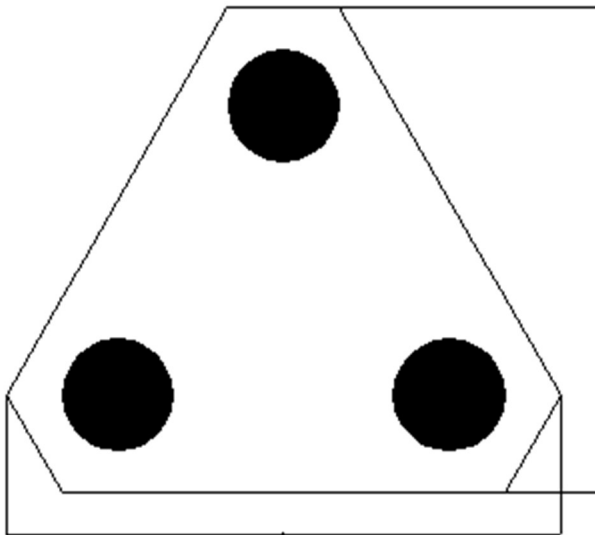
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	29.03	10.86	6 ø 16.0
Armadura principal na direção Y	-	-	-
Estribo horizontal	3.63	1.36	5 ø 6.3
Estribo vertical	-	-	-
Armadura superior na direção X	-	2.17	9 ø 8.0
Armadura superior na direção Y	-	2.17	10 ø 8.0
Armadura distribuição	7.26	2.71	ø 8.0 c/20

### b) Cálculo do Bloco BC3

Pavimento NV 000 - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 3 TRI Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	50.00	LB	200.83
Seção	40.00	Total	65.00	LH	173.92
Espaçamento entre estacas (e)	120.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

<b>Área de forma</b>	3.92 m <sup>2</sup>
<b>Volume concreto</b>	1.44 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
3.61	56.88	6.14	66.62

### Verificação ao esmagamento da biela - Método de Blevot e Frémy

	Junto ao pilar	Junto à estaca
Tensão solicitante (kgf/cm <sup>2</sup> )	209.98	70.67
Tensão admissível (kgf/cm <sup>2</sup> )	280.50	135.77
Condição	Ok	Ok

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	57.62	21.16	2128	6.65
2	2	190x70	65	2.07	30.97	10.85	566	3.33
3 TRI	3	201x174	65	3.61	22.21	7.50	0	2.22
Limites					27.00	-1.35	4200	3.20

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E3-1	19.20	7.50	0	2.22
E3-2	22.21	8.28	0	2.22
E3-3	19.07	8.25	0	2.22

### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	11.14	19.21	-

## Dimensionamento da armadura

### Método de cálculo: biela-tirante

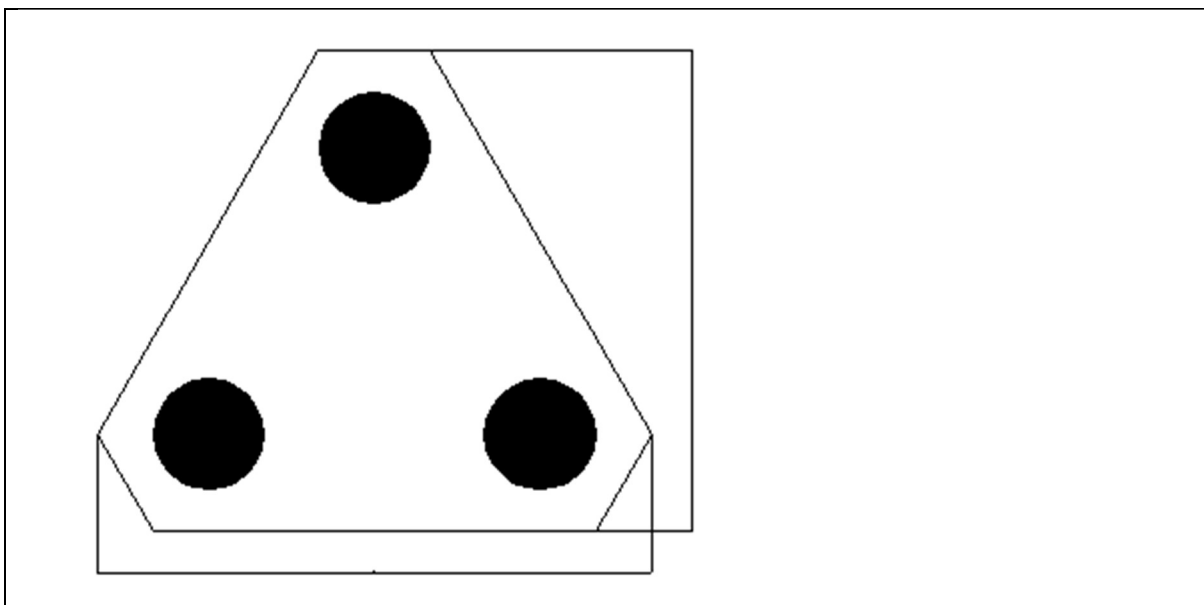
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	31.31	11.37	6 ø 16.0
Armadura principal na direção Y	-	-	-
Estribo horizontal	3.91	1.42	5 ø 6.3
Estribo vertical	-	-	-
Armadura superior na direção X	-	2.27	9 ø 8.0
Armadura superior na direção Y	-	2.27	10 ø 8.0
Armadura distribuição	7.83	2.84	ø 8.0 c/20

### c) Cálculo do Bloco BC4

Pavimento NV 000 - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 3 TRI Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	50.00	LB	200.83
Seção	40.00	Total	65.00	LH	173.92
Espaçamento entre estacas (e)	120.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma 3.92 m<sup>2</sup>

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

<b>Volume concreto</b>	1.44 m <sup>3</sup>
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### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
3.61	51.42	7.13	62.15

### Verificação ao esmagamento da biela - Método de Blevot e Frémy

	Junto ao pilar	Junto à estaca
Tensão solicitante (kgf/cm <sup>2</sup> )	195.09	65.93
Tensão admissível (kgf/cm <sup>2</sup> )	280.50	135.77
Condição	Ok	Ok

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	52.17	24.40	2500	7.81
2	2	190x70	65	2.07	28.36	12.59	787	3.91
3 TRI	3	201x174	65	3.61	20.72	8.58	0	2.60
Limites					27.00	-1.35	4200	3.20

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E4-1	16.83	8.58	0	2.60
E4-2	20.72	9.61	0	2.60
E4-3	17.49	9.06	0	2.60

### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	11.14	19.21	-

### Dimensionamento da armadura

**Método de cálculo: biela-tirante**

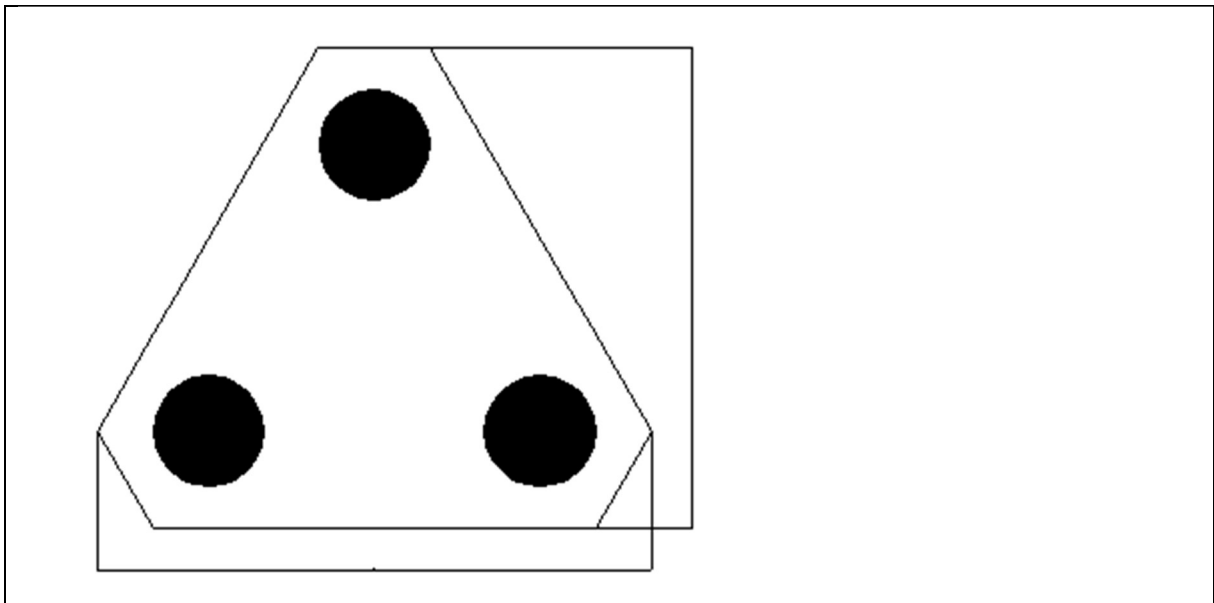
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	29.21	10.91	6 ø 16.0
Armadura principal na direção Y	-	-	-
Estribo horizontal	3.65	1.36	5 ø 6.3
Estribo vertical	-	-	-
Armadura superior na direção X	-	2.18	9 ø 8.0
Armadura superior na direção Y	-	2.18	10 ø 8.0
Armadura distribuição	7.30	2.73	ø 8.0 c/20

d) Cálculo do Bloco BC6

Pavimento NV 000 - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 3	fck = 300 kgf/cm <sup>2</sup>
TRI	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 4.50	Peso específico = 2500
cm	kgf/m <sup>3</sup>

**Cálculo das dimensões do bloco**



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	50.00	LB	200.83
Seção	40.00	Total	65.00	LH	173.92
Espaçamento entre estacas (e)	120.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	3.92 m <sup>2</sup>
Volume concreto	1.44 m <sup>3</sup>

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
3.61	56.87	6.14	66.62

### Verificação ao esmagamento da biela - Método de Blevot e Frémy

	Junto ao pilar	Junto à estaca
Tensão solicitante (kgf/cm <sup>2</sup> )	209.98	70.67
Tensão admissível (kgf/cm <sup>2</sup> )	280.50	135.77
Condição	Ok	Ok

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	57.62	21.16	2128	6.65
2	2	190x70	65	2.07	30.97	10.85	566	3.33
3 TRI	3	201x174	65	3.61	22.21	7.50	0	2.22
Limites					27.00	-1.35	4200	3.20

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E6-1	19.07	8.25	0	2.22
E6-2	19.20	7.50	0	2.22
E6-3	22.21	8.28	0	2.22

### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	11.14	19.21	-

### Dimensionamento da armadura

**Método de cálculo: biela-tirante**

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	31.31	11.37	6 ø 16.0
Armadura principal na direção Y	-	-	-
Estribo horizontal	3.91	1.42	5 ø 6.3
Estribo vertical	-	-	-
Armadura superior na direção X	-	2.27	9 ø 8.0
Armadura superior na direção Y	-	2.27	10 ø 8.0
Armadura distribuição	7.83	2.84	ø 8.0 c/20

**e) Cálculo dos Pilares**

<b>NV 000</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
PC1	20.00 X 60.00	RR 13.49 RR 4.50	65.71 25.69	6378 4931	6984 5399	(*) 1.10	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC3	20.00 X 60.00	RR 13.49 RR 4.50	73.07 25.83	5969 3791	7391 4694	(*) 1.24	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC4	20.00 X 60.00	RR 13.49 RR 4.50	65.71 25.69	6378 4931	6984 5399	(*) 1.10	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC6	20.00 X 60.00	RR 13.49 RR 4.50	73.07 25.83	5969 3791	7391 4694	(*) 1.24	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)

**f) Vigas do pavimento NV 000**

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	28205.35	11 ø 12.5		-8455.34 -8597.34	2 ø 16.0 2 ø 16.0		Avisos 04, 38, 101
VB2	28205.28	11 ø 12.5		-8455.34 -8597.31	2 ø 16.0 2 ø 16.0		Avisos 04, 38, 101
VB3	1018.37	2 ø 8.0		-1601.05 -1601.06	2 ø 8.0 2 ø 8.0		Aviso 26
VB4	901.33	2 ø 8.0		-1567.06 -1567.05	2 ø 8.0 2 ø 8.0		Aviso 26

## 5. Pavimento NV 245

### a) Cálculo dos Pilares

NV 245	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 2		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
PC1	20.00 X 60.00	RR 45.84 RR 15.28	38.06 15.14	2832 1681	6235 3702	(*) 2.20	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC3	20.00 X 60.00	RR 44.98 RR 14.99	58.93 20.03	4145 9291	5211 11681	(*) 1.26	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC4	20.00 X 60.00	RR 45.84 RR 15.28	38.06 15.14	2832 1681	6235 3702	(*) 2.20	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC6	20.00 X 60.00	RR 44.98 RR 14.99	58.93 20.03	4145 9291	5211 11681	(*) 1.26	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC7	15.00 X 50.00	RR 59.97 RR 17.99	42.37 13.09	826 11391	959 13226	(*) 1.16	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
PC8	15.00 X 50.00	RR 59.97 RR 17.99	42.37 13.09	826 11391	959 13226	(*) 1.16	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)

### b) Vigas do pavimento NV 245

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V101	860.26	2 ø 8.0		-1728.76 -1728.78	2 ø 10.0 2 ø 10.0		Aviso 26



## 6. Pavimento NV 700 CELULA INF

### a) Cálculo dos Pilares

<b>NV 700 CELULA INF</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 3</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
PC1	20.00 X 60.00	RR 78.72 RR 26.24	35.09 12.89	2646 1527	6188 3571	(*) 2.34	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC3	20.00 X 60.00	RR 78.72 RR 26.24	37.20 6.00	3030 3960	5495 7182	(*) 1.81	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC4	20.00 X 60.00	RR 78.72 RR 26.24	35.09 12.89	2646 1527	6188 3571	(*) 2.34	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC6	20.00 X 60.00	RR 78.72 RR 26.24	37.20 6.00	3030 3960	5495 7182	(*) 1.81	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC7	15.00 X 50.00	RR 104.95 RR 31.49	24.76 1.15	2441 1070	3048 1336	(*) 1.25	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
PC8	15.00 X 50.00	RR 104.95 RR 31.49	24.76 1.15	2441 1070	3048 1336	(*) 1.25	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)

### b) Vigas do pavimento NV 700 CELULA INF

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V201	642.81	2 ø 8.0	2 ø 8.0	-1103.73 -1103.73	2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0	Aviso 26

## 7. Cálculos do Reservatório

NV 700 CELULA INF	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 3		cobr = 3.00 cm	

### a) Reservatório RES4

<b>ARMADURAS POSITIVAS (LAJE)</b>										
Trec ho	Direç ão	Momento positivo			Momento negativo			Armad ura inferior	Armad ura superio r	Cisalham ento
		Flexã o	Verificaç ão axial (compres são)	Verifica ção axial (tração)	Flexã o	Verificaç ão axial (compres são)	Verifica ção axial (tração)			
L101	X	Md = 757 kgf.m /m  As = 1.54 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.57 tf Situação: GE As = 1.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 12.17 tf Situação : GE As = 3.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1640 kgf.m /m  As = 3.50 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.57 tf Situação: GE As = 3.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 12.17 tf Situação : GE As = 5.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.04 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 490.16 kgf.m/m F = 7.76 tf físs = 0.08 mm		vsd = 5.33 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 56.01 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.67 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 6.91 tf Situação : PE As = 1.34 cm <sup>2</sup> /m A's = 0.41 cm <sup>2</sup> /m	Md = 785 kgf.m /m  As = 1.76 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 2.83 tf Situação: GE As = 1.30 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.91 tf Situação : GE As = 2.87 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.67 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 115.91 kgf.m/m F = 4.57 tf físs = 0.03 mm		vsd = 3.56 tf/m vrd1 = 7.42 tf/m vrd2 = 51.42 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L102	X	Md = 757 kgf.m /m  As = 1.54 cm <sup>2</sup> / m	Fd = 0.57 tf Situação: GE As = 1.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 12.17 tf Situação : GE As = 3.04 cm <sup>2</sup> /m	Md = 1640 kgf.m /m  As = 3.50 cm <sup>2</sup> / m	Fd = 0.57 tf Situação: GE As = 3.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 12.17 tf Situação : GE As = 5.31 cm <sup>2</sup> /m	As = 3.04 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m)		vsd = 5.33 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 56.01 tf/m

		cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.00 cm <sup>2</sup> /m	cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.00 cm <sup>2</sup> /m	M = 490.09 kgf.m/m F = 7.76 tf fiss = 0.08 mm		vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.67 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 6.91 tf Situação : PE As = 1.34 cm <sup>2</sup> /m A's = 0.41 cm <sup>2</sup> /m	Md = 785 kgf.m /m  As = 1.76 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 2.83 tf Situação: GE As = 1.30 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.91 tf Situação : GE As = 2.87 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.67 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 115.89 kgf.m/m F = 4.57 tf fiss = 0.03 mm		vsd = 3.56 tf/m vrd1 = 7.42 tf/m vrd2 = 51.42 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L201	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 1.46 tf Situação: GE As = 0.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.59 tf Situação : GE As = 1.10 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 173.74 kgf.m/m F = 2.15 tf fiss = 0.03 mm		vsd = 0.83 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 3.14 tf Situação : PE As = 0.57 cm <sup>2</sup> /m A's = 0.15 cm <sup>2</sup> /m				As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 50.05 kgf.m/m F = 1.68 tf fiss = 0.01 mm		vsd = 0.94 tf/m vrd1 = 7.51 tf/m vrd2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L202	X	Md = 757 kgf.m /m  As = 1.51	Fd = 1.46 tf Situação: GE As = 0.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.59 tf Situação : GE As = 1.10 cm <sup>2</sup> /m				As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)		vsd = 0.83 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 56.95 tf/m

		cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.00 cm <sup>2</sup> /m				M = 173.74 kgf.m/m F = 2.15 tf fiss = 0.03 mm		vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 3.14 tf Situação : PE As = 0.57 cm <sup>2</sup> /m A's = 0.15 cm <sup>2</sup> /m				As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 50.05 kgf.m/m F = 1.68 tf fiss = 0.01 mm		vsd = 0.94 tf/m vrd1 = 7.51 tf/m vrd2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
PAR 3	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 6.02 tf Situação : PE As = 0.76 cm <sup>2</sup> /m A's = 0.63 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 6.02 tf Situação : PE As = 0.76 cm <sup>2</sup> /m A's = 0.63 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 0.78 kgf.m/m F = 4.17 tf fiss = 0.02 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 4.87 kgf.m/m F = 4.17 tf fiss = 0.02 mm	vsd = 0.05 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 57.60 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 10.71 tf Situação : PE As = 1.42 cm <sup>2</sup> /m A's = 1.05 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 10.71 tf Situação : PE As = 1.42 cm <sup>2</sup> /m A's = 1.05 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 1.28 kgf.m/m F = 7.20 tf fiss = 0.05 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 11.43 kgf.m/m F = 7.20 tf fiss = 0.06 mm	vsd = 0.07 tf/m vrd1 = 7.51 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
PAR 6	X	Md = 757 kgf.m /m  As = 1.52		Fd = 6.67 tf Situação : GE As = 2.06 cm <sup>2</sup> /m	Md = 804 kgf.m /m  As = 1.64		Fd = 10.32 tf Situação: GE As = 0.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.67 tf Situação : GE As = 2.62 cm <sup>2</sup> /m	As = 2.06 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)	A's = 2.62 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m)	vsd = 4.08 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 57.17 tf/m

		cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.00 cm <sup>2</sup> /m	cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.00 cm <sup>2</sup> /m	M = 11.83 kgf.m/m F = 4.04 tf fiss = 0.01 mm	M = 667.88 kgf.m/m F = 4.04 tf fiss = 0.08 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
	Y	Md = 757 kgf.m /m  As = 1.63 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 5.97 tf Situação : PE As = 1.14 cm <sup>2</sup> /m A's = 0.36 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.64 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 5.97 tf Situação : GE As = 1.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.63 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 54.47 kgf.m/m F = 3.88 tf fiss = 0.02 mm	A's = 1.95 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 384.34 kgf.m/m F = 3.88 tf fiss = 0.07 mm	vsd = 4.83 tf/m vrd1 = 7.42 tf/m vrd2 = 53.48 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
PAR 7	X	Md = 757 kgf.m /m  As = 1.52 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 6.67 tf Situação : GE As = 2.06 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 804 kgf.m /m  As = 1.64 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 10.32 tf Situação: GE As = 0.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.67 tf Situação : GE As = 2.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.06 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 11.83 kgf.m/m F = 4.04 tf fiss = 0.01 mm	A's = 2.62 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 667.89 kgf.m/m F = 4.04 tf fiss = 0.08 mm	vsd = 4.08 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 57.17 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.63 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 5.97 tf Situação : PE As = 1.14 cm <sup>2</sup> /m A's = 0.36 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.64 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 5.97 tf Situação : GE As = 1.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.63 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 54.47 kgf.m/m F = 3.88 tf fiss = 0.02 mm	A's = 1.95 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 384.34 kgf.m/m F = 3.88 tf fiss = 0.07 mm	vsd = 4.83 tf/m vrd1 = 7.42 tf/m vrd2 = 53.48 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
PAR 8-A	X	Md = 757 kgf.m /m  As = 1.51	Fd = 1.28 tf Situação: GE As = 0.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.44 tf Situação : GE As = 1.56 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.52		Fd = 1.28 tf Situação: GE As = 0.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.44 tf Situação : GE As = 1.66 cm <sup>2</sup> /m	As = 1.56 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m)	A's = 1.66 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)	vsd = 3.39 tf/m vrd1 = 8.02 tf/m Modelo I vrd2 = 57.60 tf/m

		cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.00 cm <sup>2</sup> /m	cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.00 cm <sup>2</sup> /m	M = 90.43 kgf.m/m F = 3.91 tf fiss = 0.03 mm	M = 291.77 kgf.m/m F = 3.91 tf fiss = 0.05 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 3.96 tf Situação : PE As = 0.54 cm <sup>2</sup> /m A's = 0.37 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 3.96 tf Situação : GE As = 0.97 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 21.12 kgf.m/m F = 2.65 tf fiss = 0.01 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 135.12 kgf.m/m F = 2.65 tf fiss = 0.03 mm	vsd = 3.07 tf/m vrd1 = 7.41 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 8-B	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 1.28 tf Situação: GE As = 0.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.44 tf Situação : GE As = 1.56 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.52 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 1.28 tf Situação: GE As = 0.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.44 tf Situação : GE As = 1.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.56 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 90.28 kgf.m/m F = 3.91 tf fiss = 0.03 mm	A's = 1.66 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 291.80 kgf.m/m F = 3.91 tf fiss = 0.05 mm	vsd = 3.39 tf/m vrd1 = 8.02 tf/m Modelo I vrd2 = 57.60 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 3.96 tf Situação : PE As = 0.54 cm <sup>2</sup> /m A's = 0.37 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 3.96 tf Situação : GE As = 0.97 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 21.12 kgf.m/m F = 2.65 tf fiss = 0.01 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 135.13 kgf.m/m F = 2.65 tf fiss = 0.03 mm	vsd = 3.07 tf/m vrd1 = 7.41 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 9-A	X	Md = 757 kgf.m /m  As = 1.52	Fd = 14.26 tf Situação : PE As = 2.08 cm <sup>2</sup> /m	Fd = 14.26 tf Situação : PE As = 2.08 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.54	Fd = 14.26 tf Situação : PE As = 2.70 cm <sup>2</sup> /m	As = 2.08 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)	A's = 2.70 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m)	vsd = 3.33 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 57.17 tf/m	

		cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 1.19 cm <sup>2</sup> /m	cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		A's = 0.85 cm <sup>2</sup> /m	M = 90.84 kgf.m/m F = 5.46 tf fiss = 0.03 mm	M = 304.87 kgf.m/m F = 5.46 tf fiss = 0.04 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m As = 1.63 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 7.83 tf Situação : PE As = 1.09 cm <sup>2</sup> /m A's = 0.71 cm <sup>2</sup> /m	Md = 757 kgf.m /m As = 1.63 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 7.83 tf Situação : PE As = 1.47 cm <sup>2</sup> /m A's = 0.47 cm <sup>2</sup> /m	As = 1.63 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 34.99 kgf.m/m F = 2.67 tf fiss = 0.01 mm	A's = 1.63 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 138.34 kgf.m/m F = 2.67 tf fiss = 0.03 mm	vsd = 3.09 tf/m vrd1 = 7.29 tf/m vrd2 = 53.48 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 9-B	X	Md = 757 kgf.m /m As = 1.52 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 14.25 tf Situação : PE As = 2.08 cm <sup>2</sup> /m A's = 1.19 cm <sup>2</sup> /m	Md = 757 kgf.m /m As = 1.54 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 14.25 tf Situação : PE As = 2.70 cm <sup>2</sup> /m A's = 0.85 cm <sup>2</sup> /m	As = 2.08 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 91.00 kgf.m/m F = 5.46 tf fiss = 0.03 mm	A's = 2.70 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 304.84 kgf.m/m F = 5.46 tf fiss = 0.04 mm	vsd = 3.33 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 57.17 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m As = 1.63 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 7.83 tf Situação : PE As = 1.09 cm <sup>2</sup> /m A's = 0.71 cm <sup>2</sup> /m	Md = 757 kgf.m /m As = 1.63 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 7.83 tf Situação : PE As = 1.47 cm <sup>2</sup> /m A's = 0.47 cm <sup>2</sup> /m	As = 1.63 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 34.99 kgf.m/m F = 2.67 tf fiss = 0.01 mm	A's = 1.63 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 138.32 kgf.m/m F = 2.67 tf fiss = 0.03 mm	vsd = 3.09 tf/m vrd1 = 7.29 tf/m vrd2 = 53.48 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

ARMADURAS NEGATIVAS (NA CONTINUIDADE)								
Viga	Laje 1	Momento negativo			Momento positivo			Armaduras finais
		Flexão	Flexo compressão	Flexo tração	Flexão	Flexo compressão	Flexo tração	
Trecho	Laje 2							

Barra	PAR9-A L101	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 7.76 tf Situação: GE As = 2.74 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 2.74 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L101 PAR9-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 7.76 tf Situação: PE As = 1.46 cm <sup>2</sup> /m A's = 0.46 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	PAR6 L101	Md = 1677 kgf.m/m As = 3.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 16.88 tf Situação: GE As = 1.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 14.26 tf Situação: GE As = 5.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 5.70 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	L101 PAR6	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.26 tf Situação: PE As = 2.51 cm <sup>2</sup> /m A's = 0.85 cm <sup>2</sup> /m				As = 2.51 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	PAR8-B L101	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.58 tf Situação: GE As = 2.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 2.42 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	L101 PAR8-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.58 tf Situação: PE As = 1.11 cm <sup>2</sup> /m A's = 0.33 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	L101 PAR3	Md = 1258 kgf.m/m As = 2.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.60 tf Situação: GE As = 2.53 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 12.17 tf Situação: GE As = 4.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 4.42 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	PAR3 L102	Md = 1258 kgf.m/m	Fd = 0.60 tf Situação: GE As = 2.53 cm <sup>2</sup> /m	Fd = 12.17 tf Situação: GE				As = 4.42 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm



		As = 2.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m	As = 4.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				
Barra	L102 L101	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 12.17 tf Situação: PE As = 1.40 cm <sup>2</sup> /m A's = 1.40 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	PAR9- B L102	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 7.76 tf Situação: GE As = 2.74 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 2.74 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L102 PAR9- B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 7.76 tf Situação: PE As = 1.46 cm <sup>2</sup> /m A's = 0.46 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	PAR8- A L102	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.58 tf Situação: GE As = 2.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 2.42 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	L102 PAR8- A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.58 tf Situação: PE As = 1.12 cm <sup>2</sup> /m A's = 0.33 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	PAR7 L102	Md = 1677 kgf.m/m As = 3.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 16.88 tf Situação: GE As = 1.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 14.25 tf Situação: GE As = 5.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 5.70 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	L102 PAR7	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.25 tf Situação: PE As = 2.51 cm <sup>2</sup> /m A's = 0.85 cm <sup>2</sup> /m				As = 2.51 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.09 mm

Barra	L201 PAR9-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 11.15 tf Situação: PE As = 1.66 cm <sup>2</sup> /m A's = 0.91 cm <sup>2</sup> /m			As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm
Barra	PAR9-A L201	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 11.15 tf Situação: GE As = 2.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 2.81 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR6 PAR9-A	Md = 1530 kgf.m/m As = 3.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 7.24 tf Situação: GE As = 2.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 14.26 tf Situação: GE As = 5.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 5.38 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR9-A PAR6	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.26 tf Situação: PE As = 2.11 cm <sup>2</sup> /m A's = 1.17 cm <sup>2</sup> /m			As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR9-A PAR3	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.65 tf Situação: GE As = 0.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.40 tf Situação: GE As = 2.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 2.62 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR3 PAR9-B	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.65 tf Situação: GE As = 0.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.40 tf Situação: GE As = 2.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 2.62 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR9-B PAR9-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.40 tf Situação: PE As = 1.01 cm <sup>2</sup> /m A's = 0.92 cm <sup>2</sup> /m			As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	L202 PAR9-B	Md = 1130 kgf.m/m		Fd = 11.15 tf Situação: PE			As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm

		As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 1.66 cm <sup>2</sup> /m A's = 0.91 cm <sup>2</sup> /m				
Barra	PAR9-B L202	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 11.15 tf Situação: GE As = 2.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 2.81 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR9-B PAR7	Md = 1530 kgf.m/m As = 3.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 7.24 tf Situação: GE As = 2.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 14.25 tf Situação: GE As = 5.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 5.38 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR7 PAR9-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.25 tf Situação: PE As = 2.11 cm <sup>2</sup> /m A's = 1.17 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L202 PAR8-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 1.55 cm <sup>2</sup> /m A's = 0.97 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	PAR8-A L202	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 1.92 cm <sup>2</sup> /m A's = 0.65 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	PAR7 PAR8-A	Md = 1395 kgf.m/m As = 2.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.32 tf Situação: GE As = 1.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.67 tf Situação: GE As = 3.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 3.89 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.08 mm
Barra	PAR8-A PAR7	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.67 tf Situação: PE As = 0.87 cm <sup>2</sup> /m A's = 0.66 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm

Barra	PAR3 PAR8-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.28 tf Situação: GE As = 1.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.44 tf Situação: GE As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	PAR8-B PAR8-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.44 tf Situação: PE As = 0.78 cm <sup>2</sup> /m A's = 0.70 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR8-A PAR3	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.28 tf Situação: GE As = 1.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.44 tf Situação: GE As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	L201 PAR8-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 1.55 cm <sup>2</sup> /m A's = 0.97 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	PAR8-B L201	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 1.92 cm <sup>2</sup> /m A's = 0.65 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	PAR6 PAR8-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.67 tf Situação: PE As = 0.87 cm <sup>2</sup> /m A's = 0.66 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR8-B PAR6	Md = 1395 kgf.m/m As = 2.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.32 tf Situação: GE As = 1.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.67 tf Situação: GE As = 3.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 3.89 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.08 mm
Barra	L201 L202	Md = 1130 kgf.m/m	Fd = 1.04 tf Situação: GE As = 0.38 cm <sup>2</sup> /m	Fd = 1.97 tf Situação: GE As = 0.83 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm

		As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m				
Barra	L202 PAR3	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 1.97 tf Situação: PE As = 0.39 cm <sup>2</sup> /m A's = 0.07 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	PAR3 L201	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 1.97 tf Situação: PE As = 0.39 cm <sup>2</sup> /m A's = 0.07 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L201 PAR6	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.05 tf Situação: PE As = 2.28 cm <sup>2</sup> /m A's = 0.95 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR6 L201	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.05 tf Situação: PE As = 2.09 cm <sup>2</sup> /m A's = 1.14 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L202 PAR7	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.05 tf Situação: PE As = 2.28 cm <sup>2</sup> /m A's = 0.95 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR7 L202	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 14.05 tf Situação: PE As = 2.09 cm <sup>2</sup> /m A's = 1.14 cm <sup>2</sup> /m				As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm

## 8. Pavimento NV 920

### a) Cálculo dos Pilares

<b>NV 920</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 4</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
PC2	15.00 X 50.00	RR	17.44	1231	1384	1.12	2.45
		RR	5.58	5366	6035		3.68
PC5	15.00 X 50.00	RR	17.44	1231	1384	1.12	2.45
		RR	5.58	5366	6035		3.68
PC7	15.00 X 50.00	EL	6.80	502	1199	(*)	2.45
		RR	2.52	2189	5223	2.39	3.68
PC8	15.00 X 50.00	EL	6.80	502	1199	(*)	2.45
		RR	2.52	2189	5223	2.39	3.68

(\*) Quantidade de barras alterada pelo usuário (para mais)

### b) Vigas do pavimento NV 920

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V301	539.16	2 ø 8.0	2 ø 8.0	-934.34 -934.35	2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0	Aviso 26
V302	9350.38	2 ø 16.0		-1857.87 -3474.86	2 ø 10.0 2 ø 10.0		Avisos 26, 04
V303	9350.23	2 ø 16.0		-1857.83 -3474.82	2 ø 10.0 2 ø 10.0		Avisos 26, 04

## 9. Pavimento NV 1323 CELULA SUP

### a) Cálculo dos Pilares

<b>NV 1323 CELULA SUP</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 5</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
PC1	20.00 X 60.00	RR 107.78 RR 23.24	31.71 0.10	5284 3686	5912 4124	(*) 1.12	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC2	15.00 X 50.00	RR 92.96 RR 27.89	5.40 -2.63	205 3542	411 7103	(*) 2.01	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
PC3	20.00 X 60.00	RR 97.40 RR 23.24	22.17 3.81	4830 2462	5673 2891	(*) 1.17	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC4	20.00 X 60.00	RR 107.78 RR 23.24	31.70 0.10	5284 3686	5912 4124	(*) 1.12	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
PC5	15.00 X 50.00	RR 92.96 RR 27.89	5.40 -2.63	205 3542	411 7103	(*) 2.01	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
PC6	20.00 X 60.00	RR 97.40 RR 23.24	22.17 3.81	4830 2462	5673 2892	(*) 1.17	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)

### b) Vigas do pavimento NV 1323 CELULA SUP

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V401	0.11	4 ø 8.0		-3.11 -9.73	4 ø 8.0 4 ø 8.0		Aviso 02
V402	2640.71	8 ø 12.5	8 ø 10.0	-1691.88	8 ø 12.5	8 ø 8.0	Aviso 38
V403	0.11	4 ø 8.0		-3.11 -9.73	4 ø 8.0 4 ø 8.0		Aviso 02
V404	2640.47	8 ø 12.5	8 ø 10.0	-1691.79	8 ø 12.5	8 ø 8.0	Aviso 38
V405	987.81	2 ø 10.0	2 ø 10.0	-705.40 -705.64	2 ø 10.0 2 ø 10.0	2 ø 8.0 2 ø 8.0	Aviso 08

## 10. Cálculos do Reservatório

NV 1323 CELULA SUP	$f_{ck} = 300.00 \text{ kgf/cm}^2$	$E = 268384 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
Lance 5		$cobr = 3.00 \text{ cm}$	

### a) Reservatório RES2

ARMADURAS POSITIVAS (LAJE)										
Trec ho	Direç ão	Momento positivo			Momento negativo			Arm ad ura inferior	Arm ad ura superior	Cisalh am ento
		Flexã o	Verifica ção axial (compress ão)	Verifica ção axial (tração)	Flexã o	Verifica ção axial (compress ão)	Verifica ção axial (tração)			
L301	X	Md = 757 kgf.m /m As = 1.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.45 tf Situação : GE As = 2.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1393 kgf.m /m As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.45 tf Situação : GE As = 4.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.34 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 432.14 kgf.m/m F = 5.59 tf fiss = 0.05 mm		vsd = 4.70 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 56.01 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m As = 1.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.70 tf Situação : PE As = 1.54 cm <sup>2</sup> /m A's = 0.52 cm <sup>2</sup> /m	Md = 694 kgf.m /m As = 1.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.24 tf Situação: GE As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.70 tf Situação : GE As = 2.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.67 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 112.00 kgf.m/m F = 4.74 tf fiss = 0.03 mm		vsd = 3.16 tf/m vrd1 = 7.42 tf/m vrd2 = 51.42 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L302	X	Md = 757 kgf.m /m As = 1.54 cm <sup>2</sup> /m A's = 0.00		Fd = 8.45 tf Situação : GE As = 2.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1393 kgf.m /m As = 2.90 cm <sup>2</sup> /m A's = 0.00		Fd = 8.45 tf Situação : GE As = 4.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.34 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 432.08 kgf.m/m		vsd = 4.70 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 56.01 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m



		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 5.59 tf fiss = 0.05 mm		
	Y	Md = 757 kgf.m /m  As = 1.67 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 8.70 tf Situação : PE As = 1.54 cm <sup>2</sup> /m A's = 0.52 cm <sup>2</sup> /m	Md = 694 kgf.m /m  As = 1.55 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.24 tf Situação: GE As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.70 tf Situação : GE As = 2.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.67 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 112.01 kgf.m/m F = 4.73 tf fiss = 0.03 mm		vsd = 3.16 tf/m vrd1 = 7.42 tf/m vrd2 = 51.42 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L401	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m			Md = 12 kgf.m /m  As = 0.02 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.01 tf Situação: GE As = 0.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 3.63 kgf.m/m F = 0.01 tf fiss = 0.00 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 7.80 kgf.m/m F = 0.01 tf fiss = 0.00 mm	vsd = 0.26 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m			Md = 112 kgf.m /m  As = 0.19 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m			As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 1.22 kgf.m/m F = 0.00 tf fiss = 0.00 mm	A's = 2.38 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 74.04 kgf.m/m F = 0.00 tf fiss = 0.01 mm	vsd = 0.64 tf/m vrd1 = 7.51 tf/m vrd2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L402	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00	Fd = 2.13 tf Situação: GE As = 0.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.77 tf Situação : GE As = 0.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 411 kgf.m /m  As = 0.68 cm <sup>2</sup> / m A's = 0.00	Fd = 2.13 tf Situação: GE As = 0.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.77 tf Situação : GE As = 0.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 187.92 kgf.m/m	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 304.31 kgf.m/m	vsd = 2.17 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 0.50 tf fiss = 0.02 mm	F = 0.50 tf fiss = 0.08 mm	
	Y	Md = 757 kgf.m /m  As = 1.62 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 5.51 tf Situação: GE As = 0.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Md = 154 kgf.m /m  As = 0.27 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m			As = 1.62 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 529.57 kgf.m/m F = 0.00 tf fiss = 0.06 mm		vsd = 2.03 tf/m vrd1 = 7.65 tf/m vrd2 = 53.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L403	X	Md = 565 kgf.m /m  As = 1.12 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.05 tf Situação: GE As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.07 tf Situação : GE As = 0.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 70 kgf.m /m  As = 0.11 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.05 tf Situação: GE As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.07 tf Situação : GE As = 0.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.12 cm <sup>2</sup> /m ø6.3 c/25 (1.25 cm <sup>2</sup> /m) M = 45.56 kgf.m/m F = 0.04 tf fiss = 0.00 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 49.55 kgf.m/m F = 0.04 tf fiss = 0.00 mm	vsd = 2.67 tf/m vrd1 = 7.80 tf/m Modelo I vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 2582 kgf.m /m  As = 6.03 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 6.72 tf Situação: GE As = 5.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.94 tf Situação : GE As = 6.48 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1333 kgf.m /m  As = 2.91 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 6.72 tf Situação: GE As = 1.88 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.94 tf Situação : GE As = 3.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 12.51 cm <sup>2</sup> /m ø16.0 c/16 (12.57 cm <sup>2</sup> /m) M = 1994.54 kgf.m/m F = 1.77 tf fiss = 0.09 mm	A's = 3.00 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 970.39 kgf.m/m F = 1.77 tf fiss = 0.07 mm	vsd = 3.62 tf/m vrd1 = 9.58 tf/m vrd2 = 51.27 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L404	X	Md = 2642 kgf.m /m  As = 5.78 cm <sup>2</sup> / m A's = 0.00	Fd = 1.45 tf Situação: GE As = 5.57 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.51 tf Situação : GE As = 5.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1161 kgf.m /m  As = 2.36 cm <sup>2</sup> / m A's = 0.00	Fd = 1.45 tf Situação: GE As = 2.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.51 tf Situação : GE As = 2.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 11.89 cm <sup>2</sup> /m ø16.0 c/16 (12.57 cm <sup>2</sup> /m) M = 2036.72 kgf.m/m		vsd = 6.46 tf/m vrd1 = 9.95 tf/m Modelo I vrd2 = 54.48 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 0.31 tf fiss = 0.08 mm		
	Y	Md = 1621 kgf.m /m  As = 4.09 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m			Md = 3160 kgf.m /m  As = 8.46 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 2.15 tf Situação: GE As = 8.10 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 4.09 cm <sup>2</sup> /m ø16.0 c/20 (10.05 cm <sup>2</sup> /m) M = 1248.61 kgf.m/m F = 0.00 tf fiss = 0.06 mm	A's = 12.48 cm <sup>2</sup> /m ø16.0 c/16 (12.57 cm <sup>2</sup> /m) M = 1947.93 kgf.m/m F = 0.00 tf fiss = 0.09 mm	vsd = 18.33 tf/m vrd1 = 8.46 tf/m vrd2 = 46.33 tf/m vsw = 10.34 tf/m asw = 50.52 cm <sup>2</sup> /m
L405	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m						As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 7.59 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.31 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.51 tf Situação: GE As = 0.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.09 tf Situação : GE As = 0.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 280.16 kgf.m/m F = 0.03 tf fiss = 0.03 mm		vsd = 1.48 tf/m vrd1 = 7.51 tf/m vrd2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L406	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00	Fd = 2.13 tf Situação: GE As = 0.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.77 tf Situação : GE As = 0.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 411 kgf.m /m  As = 0.68 cm <sup>2</sup> / m A's = 0.00	Fd = 2.13 tf Situação: GE As = 0.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.77 tf Situação : GE As = 0.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 187.95 kgf.m/m	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 304.33 kgf.m/m	vsd = 2.17 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 0.50 tf fiss = 0.02 mm	F = 0.50 tf fiss = 0.08 mm	
	Y	Md = 757 kgf.m /m  As = 1.62 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 5.51 tf Situação: GE As = 0.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Md = 154 kgf.m /m  As = 0.27 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m			As = 1.62 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 529.89 kgf.m/m F = 0.00 tf fiss = 0.06 mm		vsd = 2.03 tf/m vrd1 = 7.65 tf/m vrd2 = 53.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L407	X	Md = 565 kgf.m /m  As = 1.12 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.05 tf Situação: GE As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.07 tf Situação : GE As = 0.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 70 kgf.m /m  As = 0.11 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 0.05 tf Situação: GE As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.07 tf Situação : GE As = 0.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.12 cm <sup>2</sup> /m ø6.3 c/25 (1.25 cm <sup>2</sup> /m) M = 45.56 kgf.m/m F = 0.04 tf fiss = 0.00 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 49.55 kgf.m/m F = 0.04 tf fiss = 0.00 mm	vsd = 2.67 tf/m vrd1 = 7.80 tf/m Modelo I vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 2582 kgf.m /m  As = 6.03 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 6.72 tf Situação: GE As = 5.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.94 tf Situação : GE As = 6.48 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1333 kgf.m /m  As = 2.91 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	Fd = 6.72 tf Situação: GE As = 1.88 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.94 tf Situação : GE As = 3.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 12.51 cm <sup>2</sup> /m ø16.0 c/16 (12.57 cm <sup>2</sup> /m) M = 1994.40 kgf.m/m F = 1.77 tf fiss = 0.09 mm	A's = 3.00 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 970.36 kgf.m/m F = 1.77 tf fiss = 0.07 mm	vsd = 3.62 tf/m vrd1 = 9.58 tf/m vrd2 = 51.27 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 1	X	Md = 757 kgf.m /m  As = 1.52 cm <sup>2</sup> / m A's = 0.00		Fd = 13.48 tf Situação : PE As = 1.84 cm <sup>2</sup> /m A's = 1.26 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.54 cm <sup>2</sup> / m A's = 0.00		Fd = 13.48 tf Situação : GE As = 3.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.84 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 9.10 kgf.m/m	A's = 3.21 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 492.65 kgf.m/m	vsd = 3.28 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 57.17 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 6.65 tf fiss = 0.03 mm	F = 6.65 tf fiss = 0.07 mm	
	Y	Md = 757 kgf.m /m  As = 1.64 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : GE As = 2.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.64 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : GE As = 2.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.52 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 29.34 kgf.m/m F = 7.01 tf fiss = 0.03 mm	A's = 2.61 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 336.82 kgf.m/m F = 7.01 tf fiss = 0.09 mm	vsd = 4.10 tf/m vrd1 = 7.45 tf/m vrd2 = 53.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 2	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 5.56 tf Situação : PE As = 0.68 cm <sup>2</sup> /m A's = 0.60 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 5.56 tf Situação : PE As = 0.68 cm <sup>2</sup> /m A's = 0.60 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 0.51 kgf.m/m F = 3.61 tf fiss = 0.01 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 3.07 kgf.m/m F = 3.61 tf fiss = 0.02 mm	vsd = 0.05 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 57.60 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 9.69 tf Situação : PE As = 1.17 cm <sup>2</sup> /m A's = 1.05 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 9.69 tf Situação : PE As = 1.17 cm <sup>2</sup> /m A's = 1.05 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 0.32 kgf.m/m F = 6.49 tf fiss = 0.04 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 3.63 kgf.m/m F = 6.49 tf fiss = 0.04 mm	vsd = 0.05 tf/m vrd1 = 7.51 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 3	X	Md = 757 kgf.m /m  As = 1.52 cm <sup>2</sup> / m A's = 0.00		Fd = 13.48 tf Situação : PE As = 1.84 cm <sup>2</sup> /m A's = 1.26 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.54 cm <sup>2</sup> / m A's = 0.00		Fd = 13.48 tf Situação : GE As = 3.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.84 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 9.10 kgf.m/m	A's = 3.21 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 492.65 kgf.m/m	vsd = 3.28 tf/m vrd1 = 8.26 tf/m Modelo I vrd2 = 57.17 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 6.65 tf fiss = 0.03 mm	F = 6.65 tf fiss = 0.07 mm	
	Y	Md = 757 kgf.m /m  As = 1.64 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : GE As = 2.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.64 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : GE As = 2.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.52 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 29.34 kgf.m/m F = 7.01 tf fiss = 0.03 mm	A's = 2.61 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 336.82 kgf.m/m F = 7.01 tf fiss = 0.09 mm	vsd = 4.10 tf/m vrd1 = 7.45 tf/m vrd2 = 53.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 4-A	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m	Fd = 1.65 tf Situação: GE As = 0.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.98 tf Situação : PE As = 1.08 cm <sup>2</sup> /m A's = 0.36 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m	Fd = 1.65 tf Situação: GE As = 0.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.98 tf Situação : GE As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 112.20 kgf.m/m F = 4.00 tf fiss = 0.04 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 244.99 kgf.m/m F = 4.00 tf fiss = 0.08 mm	vsd = 2.69 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 57.60 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 3.55 tf Situação : PE As = 0.49 cm <sup>2</sup> /m A's = 0.32 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 3.55 tf Situação : GE As = 0.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 21.00 kgf.m/m F = 2.35 tf fiss = 0.01 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 116.49 kgf.m/m F = 2.35 tf fiss = 0.02 mm	vsd = 2.68 tf/m vrd1 = 7.51 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 4-B	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00	Fd = 1.65 tf Situação: GE As = 0.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.98 tf Situação : PE As = 1.08 cm <sup>2</sup> /m A's = 0.36 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00	Fd = 1.65 tf Situação: GE As = 0.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.98 tf Situação : GE As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 112.20 kgf.m/m	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 245.02 kgf.m/m	vsd = 2.69 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 57.60 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 4.00 tf fiss = 0.04 mm	F = 4.00 tf fiss = 0.08 mm	
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 3.55 tf Situação : PE As = 0.49 cm <sup>2</sup> /m A's = 0.33 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 3.55 tf Situação : GE As = 0.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 21.00 kgf.m/m F = 2.35 tf fiss = 0.01 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 116.50 kgf.m/m F = 2.35 tf fiss = 0.02 mm	vsd = 2.68 tf/m vrd1 = 7.51 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 5-A	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m	Fd = 1.76 tf Situação: GE As = 0.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.26 tf Situação : GE As = 1.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m	Fd = 1.76 tf Situação: GE As = 0.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.26 tf Situação : GE As = 1.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 244.81 kgf.m/m F = 2.69 tf fiss = 0.06 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 238.24 kgf.m/m F = 2.69 tf fiss = 0.05 mm	vsd = 2.74 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 57.60 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : PE As = 1.43 cm <sup>2</sup> /m A's = 1.08 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.62 cm <sup>2</sup> / m  A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : GE As = 2.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 42.88 kgf.m/m F = 7.01 tf fiss = 0.06 mm	A's = 2.64 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 335.98 kgf.m/m F = 7.01 tf fiss = 0.09 mm	vsd = 3.15 tf/m vrd1 = 7.67 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR 5-B	X	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00	Fd = 1.76 tf Situação: GE As = 0.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.26 tf Situação : GE As = 1.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m /m  As = 1.51 cm <sup>2</sup> / m  A's = 0.00	Fd = 1.76 tf Situação: GE As = 0.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.26 tf Situação : GE As = 1.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 244.71 kgf.m/m	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 238.21 kgf.m/m	vsd = 2.74 tf/m vrd1 = 7.86 tf/m Modelo I vrd2 = 57.60 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

		cm <sup>2</sup> / m			cm <sup>2</sup> / m			F = 2.69 tf fiss = 0.06 mm	F = 2.69 tf fiss = 0.05 mm	
	Y	Md = 757 kgf.m /m  As = 1.60 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : PE As = 1.43 cm <sup>2</sup> / m A's = 1.08 cm <sup>2</sup> / m	Md = 757 kgf.m /m  As = 1.62 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m		Fd = 10.94 tf Situação : GE As = 2.64 cm <sup>2</sup> / m A's = 0.00 cm <sup>2</sup> / m	As = 1.60 cm <sup>2</sup> / m ø6.3 c/19 (1.64 cm <sup>2</sup> / m) M = 42.89 kgf.m/m F = 7.01 tf fiss = 0.06 mm	A's = 2.64 cm <sup>2</sup> / m ø8.0 c/19 (2.65 cm <sup>2</sup> / m) M = 336.08 kgf.m/m F = 7.01 tf fiss = 0.09 mm	vsd = 3.15 tf/m vrd1 = 7.67 tf/m vrd2 = 54.36 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> / m

<b>ARMADURAS NEGATIVAS (NA CONTINUIDADE)</b>					
<b>Viga</b>	<b>Laje 1</b>	<b>Momento negativo</b>			<b>Armaduras finais</b>
		<b>Flexão</b>	<b>Flexo compressão</b>	<b>Flexo tração</b>	
<b>Trecho</b>	<b>Laje 2</b>				
Barra	PAR5-A L301	Md = 1130 kgf.m/m  As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 13.73 tf Situação: GE As = 3.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.43 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	L301 PAR5-A	Md = 1130 kgf.m/m  As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 13.73 tf Situação: PE As = 1.85 cm <sup>2</sup> /m A's = 1.31 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	PAR1 L301	Md = 1416 kgf.m/m  As = 2.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 13.20 tf Situação: GE As = 1.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.94 tf Situação: GE As = 4.56 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.56 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.10 mm
Barra	L301 PAR1	Md = 1130 kgf.m/m  As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 1.58 cm <sup>2</sup> /m A's = 0.93 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm
Barra	PAR4-B L301	Md = 1130 kgf.m/m  As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.87 tf Situação: GE As = 0.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.46 tf Situação: GE As = 1.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	L301 PAR4-B	Md = 1130 kgf.m/m  As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.46 tf Situação: PE As = 0.45 cm <sup>2</sup> /m A's = 0.35 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L301 PAR2	Md = 1158 kgf.m/m  As = 2.40 cm <sup>2</sup> /m	Fd = 3.70 tf Situação: GE As = 1.86 cm <sup>2</sup> /m	Fd = 9.61 tf Situação: GE As = 3.83 cm <sup>2</sup> /m	As = 3.83 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m)




		A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m	fiss = 0.07 mm
Barra	PAR2 L302	Md = 1158 kgf.m/m As = 2.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.70 tf Situação: GE As = 1.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.61 tf Situação: GE As = 3.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.83 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	L302 L301	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.45 tf Situação: PE As = 0.97 cm <sup>2</sup> /m A's = 0.97 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR5-B L302	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 13.72 tf Situação: GE As = 3.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.43 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	L302 PAR5-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 13.72 tf Situação: PE As = 1.85 cm <sup>2</sup> /m A's = 1.31 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	PAR4-A L302	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.87 tf Situação: GE As = 0.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.46 tf Situação: GE As = 1.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	L302 PAR4-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.46 tf Situação: PE As = 0.45 cm <sup>2</sup> /m A's = 0.35 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	PAR3 L302	Md = 1416 kgf.m/m As = 2.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 13.20 tf Situação: GE As = 1.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.94 tf Situação: GE As = 4.56 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.56 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.10 mm
Barra	L302 PAR3	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 1.58 cm <sup>2</sup> /m A's = 0.93 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm
Barra	L401 L406	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.12 tf Situação: GE As = 0.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.45 tf Situação: GE As = 0.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L406 PAR4-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.82 tf Situação: PE As = 0.95 cm <sup>2</sup> /m A's = 0.62 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR4-A L401	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.82 tf Situação: PE As = 1.14 cm <sup>2</sup> /m A's = 0.43 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm

Barra	PAR3 PAR4-A	Md = 1180 kgf.m/m As = 2.45 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.70 tf Situação: GE As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.30 tf Situação: GE As = 3.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.23 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	PAR4-A PAR3	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.30 tf Situação: PE As = 0.79 cm <sup>2</sup> /m A's = 0.43 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR2 PAR4-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.40 tf Situação: GE As = 0.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.98 tf Situação: GE As = 2.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR4-B PAR4-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.98 tf Situação: PE As = 0.74 cm <sup>2</sup> /m A's = 0.64 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR4-A PAR2	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.40 tf Situação: GE As = 0.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.98 tf Situação: GE As = 2.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	L401 L402	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.12 tf Situação: GE As = 0.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.45 tf Situação: GE As = 0.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L402 PAR4-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.82 tf Situação: PE As = 0.95 cm <sup>2</sup> /m A's = 0.62 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR4-B L401	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.82 tf Situação: PE As = 1.14 cm <sup>2</sup> /m A's = 0.43 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	PAR1 PAR4-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.30 tf Situação: PE As = 0.79 cm <sup>2</sup> /m A's = 0.43 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR4-B PAR1	Md = 1180 kgf.m/m As = 2.45 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.70 tf Situação: GE As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.30 tf Situação: GE As = 3.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.23 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.05 mm
Barra	L404 L402	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.51 tf Situação: PE As = 0.07 cm <sup>2</sup> /m A's = 0.05 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L402 PAR5-A	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.51 tf Situação: GE As = 0.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.67 tf Situação: GE As = 2.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.84 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm

Barra	PAR5-A L404	Md = 2591 kgf.m/m As = 5.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.47 tf Situação: GE As = 5.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.67 tf Situação: GE As = 7.06 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 13.09 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR1 PAR5-A	Md = 1130 kgf.m/m As = 2.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.80 tf Situação: GE As = 0.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 13.48 tf Situação: GE As = 4.28 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.28 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.08 mm
Barra	PAR5-A PAR1	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 13.48 tf Situação: PE As = 1.62 cm <sup>2</sup> /m A's = 1.48 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm
Barra	PAR5-A PAR2	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.66 tf Situação: GE As = 0.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.56 tf Situação: GE As = 1.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR2 PAR5-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 2.66 tf Situação: GE As = 0.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.56 tf Situação: GE As = 1.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR5-B PAR5-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 4.26 tf Situação: PE As = 0.55 cm <sup>2</sup> /m A's = 0.43 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L404 L406	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.51 tf Situação: PE As = 0.07 cm <sup>2</sup> /m A's = 0.05 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L406 PAR5-B	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.51 tf Situação: GE As = 0.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.67 tf Situação: GE As = 2.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.84 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR5-B L404	Md = 2591 kgf.m/m As = 5.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.47 tf Situação: GE As = 5.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.67 tf Situação: GE As = 7.06 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 13.09 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR5-B PAR3	Md = 1130 kgf.m/m As = 2.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.80 tf Situação: GE As = 0.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 13.48 tf Situação: GE As = 4.28 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.28 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.08 mm
Barra	PAR3 PAR5-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 13.48 tf Situação: PE As = 1.62 cm <sup>2</sup> /m A's = 1.48 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm

Barra	L402 L406	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.40 tf Situação: GE As = 0.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	L406 PAR2	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.32 tf Situação: PE As = 0.62 cm <sup>2</sup> /m A's = 0.15 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR2 L402	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.32 tf Situação: PE As = 0.62 cm <sup>2</sup> /m A's = 0.15 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L403 L402	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.04 tf Situação: GE As = 0.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.63 tf Situação: GE As = 0.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L402 PAR1	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 2.27 cm <sup>2</sup> /m A's = 0.65 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR1 L403	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 2.01 cm <sup>2</sup> /m A's = 0.65 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L407 L406	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.04 tf Situação: GE As = 0.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.63 tf Situação: GE As = 0.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L406 PAR3	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 2.27 cm <sup>2</sup> /m A's = 0.65 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR3 L407	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.94 tf Situação: PE As = 2.01 cm <sup>2</sup> /m A's = 0.65 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
V402 1	L403 L404	Md = 3159 kgf.m/m As = 7.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.33 tf Situação: GE As = 6.82 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 13.04 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.08 mm
V405 1	L404 L405	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.04 tf Situação: GE As = 0.99 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.05 tf Situação: GE As = 1.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
V404 1	L404 L407	Md = 3160 kgf.m/m As = 7.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.34 tf Situação: GE As = 6.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 13.05 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.08 mm

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

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	CINNANTI ARQUITETURA E ENGENHARIA LTDA	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

# MEMÓRIA DE CÁLCULO DE ESTRUTURA DE CONCRETO ARMADO CED QUADRA 04 AE 02 - ESTRUTURAL GUARITA

**Autor do Projeto: Eng. Civil Dalmo Blanco Cinnanti**

**CREA: 7962/D-DF**

R01	29/12/2022	VERSÃO INICIAL	DALMO B. CINNANTI
REVISÃO	DATA	DESCRIÇÃO	RESPONSÁVEL
<i>Nome do projeto</i>		MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO (GUARITA)	
<i>Número do projeto</i>		<b>314-SEEDF-CED QD 04 ESTRUTURAL-MEM-EST-GUARITA-R01</b>	
<i>Local</i>		<b>Quadra 04 AE 02 - RA XXV - SCIA / ESTRUTURAL - Vila Estrutural - DF</b>	

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Sumário

Resumo de resultados .....	5
Deslocamentos Horizontais Devido à Ação do Vento .....	7
Imperfeições geométricas globais .....	8
Relatório de Esforços nas Fundações por Elementos.....	8
Quadro de Cargas dos Pilares .....	12
Análise dinâmica.....	12
Verificação do conforto perante a ação do vento.....	13
Pavimento NV-000 FUND .....	14
Resultado dos Blocos .....	14
Cálculo do Bloco B1 .....	14
Estimativa da carga solicitante .....	15
Determinação do número de estacas .....	15
Estimativa dos esforços nas estacas.....	15
Dimensionamento da armadura .....	15
Cálculo do Bloco B2 .....	15
Cálculo das dimensões do bloco .....	16
Estimativa da carga solicitante .....	16
Determinação do número de estacas .....	16
Estimativa dos esforços nas estacas.....	16
Dimensionamento da armadura .....	16
Cálculo do Bloco B4 .....	16
Cálculo das dimensões do bloco .....	17
Estimativa da carga solicitante .....	17
Determinação do número de estacas .....	17
Estimativa dos esforços nas estacas.....	17
Dimensionamento da armadura .....	17
Cálculo do Bloco B5 .....	18
Cálculo das dimensões do bloco .....	18
Estimativa da carga solicitante .....	18
Determinação do número de estacas .....	18
Estimativa dos esforços nas estacas.....	18
Dimensionamento da armadura .....	19
Resultados dos Pilares .....	19

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Cálculo dos Pilares .....	19
Vigas do pavimento NV-000 FUND.....	20
Esforços da Viga VB1 .....	20
Esforços da Viga VB2 .....	21
Esforços da Viga VB3 .....	22
Esforços da Viga VB4 .....	22
Esforços da Viga VB5 .....	22
Esforços da Viga VB6 .....	23
Resultados da Viga VB1 .....	23
Resultados da Viga VB2 .....	23
Resultados da Viga VB3 .....	24
Resultados da Viga VB4 .....	24
Resultados da Viga VB5 .....	24
Resultados da Viga VB6 .....	25
Pavimento NV-270.....	26
Resultados dos Pilares .....	26
Cálculo dos Pilares .....	26
Vigas do pavimento NV-270 .....	27
Esforços da Viga V101 .....	27
Esforços da Viga V102 .....	28
Esforços da Viga V103 .....	28
Esforços da Viga V104 .....	29
Esforços da Viga V105 .....	29
Esforços da Viga V106 .....	30
Esforços da Viga V107 .....	30
Esforços da Viga V108 .....	31
Esforços da Viga V109 .....	31
Esforços da Viga V110 .....	32
Resultados da Viga V101 .....	32
Resultados da Viga V102 .....	33
Resultados da Viga V103 .....	33
Resultados da Viga V104 .....	34
Resultados da Viga V105 .....	34
Resultados da Viga V106 .....	35



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

Resultados da Viga V107 .....	35
Resultados da Viga V108 .....	36
Resultados da Viga V109 .....	36
Resultados da Viga V110 .....	37
Dados das Lajes .....	37
Resultados da Laje .....	38
Cálculos das Lajes.....	39

## Resumo de resultados

### Cargas verticais:

Peso próprio = 14.38 tf

Adicional = 7.28 tf

Acidental = 2.91 tf

Total = 24.57 tf

Área aproximada = 19.41 m<sup>2</sup>

Relação = 1266.20 kgf/m<sup>2</sup>

### Deslocamento horizontal:

X+ = 0.01 cm (limite 0.21)

X- = 0.01 cm (limite 0.21)

Y+ = 0.02 cm (limite 0.21)

Y- = 0.02 cm (limite 0.21)

### Aceleração horizontal:

X+ = 0.231 m/s<sup>2</sup> (limite 0.147)

X- = 0.231 m/s<sup>2</sup> (limite 0.147)

Y+ = 0.162 m/s<sup>2</sup> (limite 0.147)

Y- = 0.162 m/s<sup>2</sup> (limite 0.147)

### AVISO: Acelerações excessivas

### Verificação de estabilidade (Gama-Z):

X+ = 1.01 (limite 1.10)

X- = 1.01 (limite 1.10)

Y+ = 1.01 (limite 1.10)

Y- = 1.02 (limite 1.10)

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

**Análise de 2ª ordem:**

Processo P-Delta

Deslocamentos no topo da edificação:

Vento X+: 0.04 »» 0.04 (+0.63%)

Vento X-: 0.04 »» 0.04 (+0.63%)

Vento Y+: 0.08 »» 0.08 (+1.32%)

Vento Y-: 0.08 »» 0.08 (+1.32%)

Desaprumo Y+: 0.01 »» 0.01 (+1.33%)

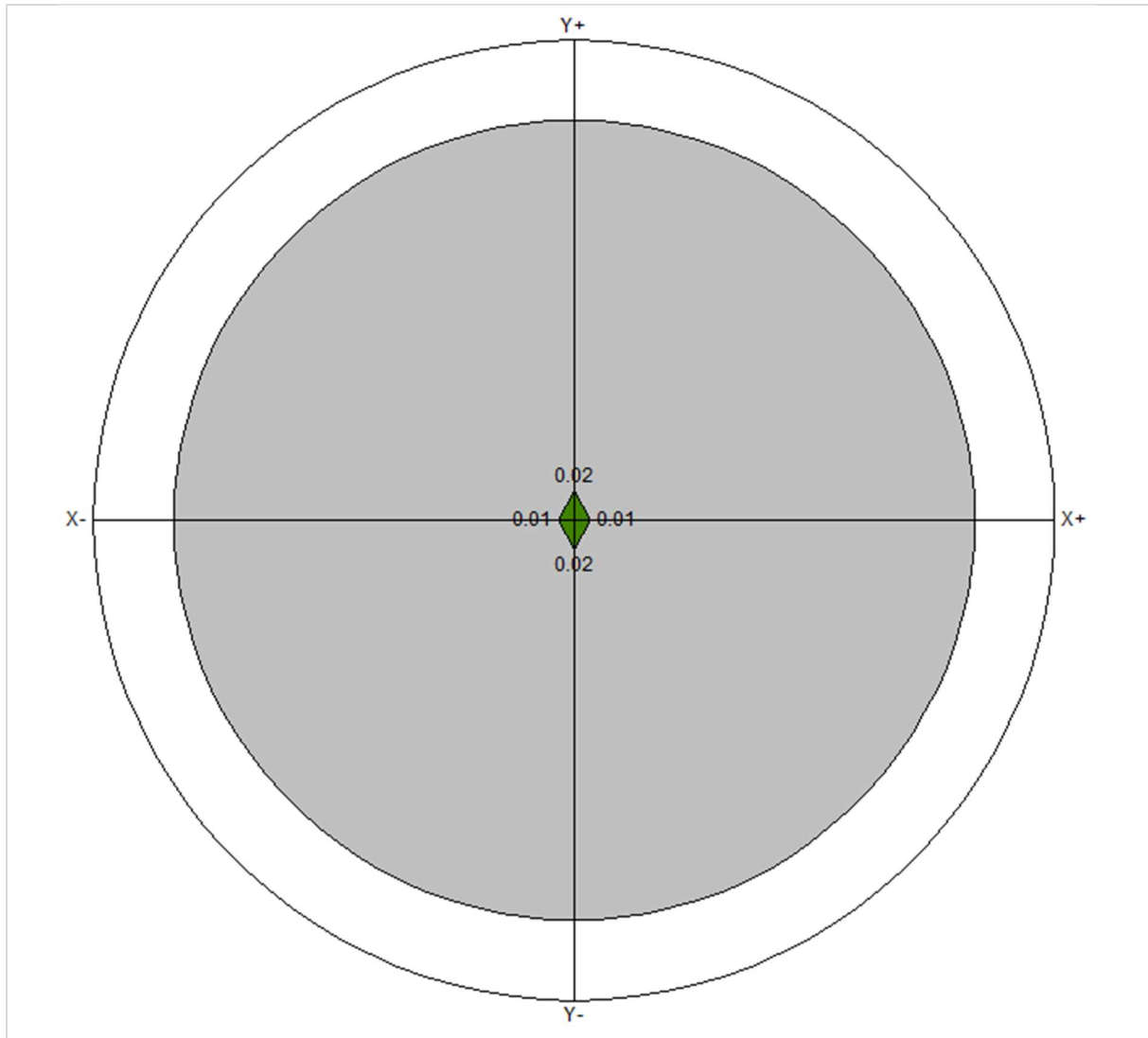
Desaprumo Y-: 0.01 »» 0.01 (+1.33%)

**Análise dinâmica:**

Frequência natural: 4.03 Hz

**AVISO: Participação modal da massa do pórtico menor que 90%**

### Deslocamentos Horizontais Devido à Ação do Vento



Verificações	X+	X-	Y+	Y-
Altura total da edificação (cm)	350.00			
Deslocamento limite (cm)	0.21			
Deslocamento característico (cm)	0.03	-0.03	0.05	-0.05
gf2	0.30	0.30	0.30	0.30
Deslocamento combinações frequentes (cm)	0.01	-0.01	0.02	-0.02

Pavimento	Altura (cm)	Deslocamento combinações frequentes (cm)				Diferença (cm)				Limite (cm)
		X+	X-	Y+	Y-	X+	X-	Y+	Y-	
NV-270	270.00	0.01	-0.01	0.02	-0.02	0.01	-0.01	0.01	-0.01	0.32
NV-000 FUND	80.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09

### Imperfeições geométricas globais

Parâmetros	
Altura total da edificação (cm)	350.00
Nº de pilares contínuos	4
Combinação vertical	G1+G2+A+Q
Tipo de estrutura	Estruturas usuais
Ângulo adotado	1/253

Pavimento	Carga vertical (tf)	Carga aplicada (tf)		Deslocamento (cm)	
		X	Y	X	Y
NV-270	16.97	0.07	0.07	0.00	0.01
NV-000 FUND	7.60	0.03	0.03	0.00	0.00

### Relatório de Esforços nas Fundações por Elementos

Fundação B1						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	1.85	-12.99	-13.49	-0.17	0.16	-3.04
Adicional (G2)	1.40	-96.78	-47.94	-0.09	0.72	44.44
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.24	6.04	1.69	-0.04	-0.02	-4.42
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.52	-4.39	207.15	0.16	0.01	2.28
Vento X- (V2)	0.52	4.39	-207.15	-0.16	-0.01	-2.28
Vento Y+ (V3)	0.08	-50.42	44.06	0.03	0.09	-0.85
Vento Y- (V4)	-0.08	50.42	-44.06	-0.03	-0.09	0.85
Desaprumo X+ (D1)	-0.06	-0.56	26.28	0.02	0.00	0.14
Desaprumo X- (D2)	0.06	0.56	-26.28	-0.02	0.00	-0.14
Desaprumo Y+ (D3)	0.02	-7.60	3.01	0.00	0.02	-0.30
Desaprumo Y- (D4)	-0.02	7.60	-3.01	0.00	-0.02	0.30
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	3.04	-108.74	90.32	-0.17	0.87	39.82
G1+G2+0.7Q+0.6V2+D2	3.79	-102.34	-210.81	-0.40	0.85	36.80
G1+G2+0.7Q+0.6V3+D3	3.49	-143.39	-30.80	-0.27	0.93	37.50
G1+G2+0.7Q+0.6V4+D4	3.35	-67.69	-89.69	-0.30	0.79	39.12
G1+G2+0.7Q+V1+0.6D1	2.85	-110.27	162.67	-0.11	0.87	40.68
G1+G2+0.7Q+V2+0.6D2	3.98	-100.81	-283.16	-0.46	0.85	35.94
G1+G2+0.7Q+V3+0.6D3	3.51	-160.52	-14.38	-0.26	0.96	37.28
G1+G2+0.7Q+V4+0.6D4	3.32	-50.56	-106.10	-0.31	0.76	39.34
G1+G2+D1	3.18	-110.33	-35.15	-0.24	0.88	41.55
G1+G2+D2	3.31	-109.21	-87.70	-0.28	0.87	41.26
G1+G2+D3	3.27	-117.37	-58.41	-0.26	0.89	41.11
G1+G2+D4	3.23	-102.17	-64.43	-0.26	0.86	41.70
G1+G2+Q+0.6V1+0.6D1	3.14	-106.70	80.32	-0.19	0.86	38.44
G1+G2+Q+0.6V2+0.6D2	3.84	-100.75	-199.79	-0.40	0.85	35.53
G1+G2+Q+0.6V3+0.6D3	3.55	-138.54	-31.50	-0.28	0.92	36.29
G1+G2+Q+0.6V4+0.6D4	3.43	-68.91	-87.98	-0.31	0.79	37.67
G1+G2+Q+D1	3.42	-104.29	-33.46	-0.27	0.85	37.13
G1+G2+Q+D2	3.55	-103.16	-86.01	-0.32	0.85	36.84
G1+G2+Q+D3	3.51	-111.33	-56.73	-0.29	0.87	36.69
G1+G2+Q+D4	3.47	-96.13	-62.75	-0.30	0.84	37.28

**Fundação B2**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	5.08	-52.15	20.16	0.15	0.15	13.12
Adicional (G2)	1.64	239.37	-5.19	0.02	0.04	14.28
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.26	-38.29	5.01	0.03	0.05	1.80
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.54	-10.38	48.33	0.17	-0.02	7.61
Vento X- (V2)	-0.54	10.38	-48.33	-0.17	0.02	-7.61
Vento Y+ (V3)	0.34	-387.01	6.66	0.01	0.26	-1.90
Vento Y- (V4)	-0.34	387.00	-6.66	-0.01	-0.26	1.90
Desaprumo X+ (D1)	0.07	-1.78	6.13	0.02	0.00	0.82
Desaprumo X- (D2)	-0.07	1.78	-6.13	-0.02	0.00	-0.82
Desaprumo Y+ (D3)	0.04	-53.81	0.26	0.00	0.04	-0.51
Desaprumo Y- (D4)	-0.04	53.81	-0.26	0.00	-0.04	0.51
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	7.99	152.42	53.61	0.32	0.21	34.05
G1+G2+0.7Q+0.6V2+D2	7.21	168.43	-16.66	0.07	0.24	23.28
G1+G2+0.7Q+0.6V3+D3	7.84	-125.59	22.74	0.20	0.42	27.01
G1+G2+0.7Q+0.6V4+D4	7.36	446.44	14.22	0.20	0.03	30.31
G1+G2+0.7Q+V1+0.6D1	8.18	148.97	70.49	0.38	0.20	36.77
G1+G2+0.7Q+V2+0.6D2	7.02	171.87	-33.54	0.01	0.25	20.56
G1+G2+0.7Q+V3+0.6D3	7.96	-258.87	25.29	0.20	0.51	26.46
G1+G2+0.7Q+V4+0.6D4	7.24	579.71	11.66	0.19	-0.06	30.87
G1+G2+D1	6.78	185.45	21.10	0.20	0.19	28.22
G1+G2+D2	6.65	189.00	8.84	0.15	0.19	26.58
G1+G2+D3	6.76	133.41	15.23	0.17	0.23	26.89
G1+G2+D4	6.68	241.03	14.71	0.18	0.15	27.91
G1+G2+Q+0.6V1+0.6D1	8.34	141.64	52.66	0.32	0.23	34.26
G1+G2+Q+0.6V2+0.6D2	7.62	156.23	-12.70	0.09	0.26	24.14
G1+G2+Q+0.6V3+0.6D3	8.21	-115.55	24.13	0.21	0.42	27.76
G1+G2+Q+0.6V4+0.6D4	7.76	413.43	15.82	0.20	0.06	30.65
G1+G2+Q+D1	8.05	147.16	26.11	0.23	0.24	30.02
G1+G2+Q+D2	7.91	150.71	13.84	0.19	0.25	28.39
G1+G2+Q+D3	8.02	95.13	20.24	0.21	0.28	28.70
G1+G2+Q+D4	7.94	202.75	19.71	0.21	0.21	29.71

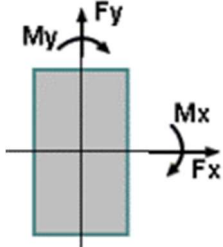
Fundação B4						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.25	38.68	-21.61	-0.64	-0.20	-22.49
Adicional (G2)	1.88	102.35	-51.36	-0.30	-0.71	-55.62
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.65	3.48	3.09	-0.09	0.00	-0.27
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.30	-4.91	187.21	0.18	0.01	1.70
Vento X- (V2)	0.30	4.91	-187.21	-0.18	-0.01	-1.70
Vento Y+ (V3)	-0.20	-53.60	-13.69	-0.02	0.12	5.03
Vento Y- (V4)	0.20	53.60	13.69	0.02	-0.12	-5.03
Desaprumo X+ (D1)	-0.04	-0.54	23.64	0.02	0.00	0.35
Desaprumo X- (D2)	0.04	0.54	-23.64	-0.02	0.00	-0.35
Desaprumo Y+ (D3)	-0.03	-8.09	0.52	0.00	0.02	0.44
Desaprumo Y- (D4)	0.03	8.09	-0.52	0.00	-0.02	-0.44
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00

Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	5.37	139.98	65.17	-0.87	-0.89	-76.93
G1+G2+0.7Q+0.6V2+D2	5.80	146.95	-206.77	-1.13	-0.91	-79.67
G1+G2+0.7Q+0.6V3+D3	5.43	103.21	-78.49	-1.02	-0.81	-74.84
G1+G2+0.7Q+0.6V4+D4	5.74	183.72	-63.11	-0.99	-1.00	-81.75
G1+G2+0.7Q+V1+0.6D1	5.27	138.23	130.60	-0.81	-0.89	-76.39
G1+G2+0.7Q+V2+0.6D2	5.90	148.70	-272.20	-1.19	-0.92	-80.21
G1+G2+0.7Q+V3+0.6D3	5.36	85.01	-84.18	-1.03	-0.77	-73.01
G1+G2+0.7Q+V4+0.6D4	5.81	201.92	-57.43	-0.98	-1.04	-83.59
G1+G2+D1	5.09	140.49	-49.32	-0.92	-0.90	-77.76
G1+G2+D2	5.16	141.57	-96.61	-0.97	-0.91	-78.46
G1+G2+D3	5.10	132.94	-72.44	-0.94	-0.89	-77.67
G1+G2+D4	5.16	149.13	-73.49	-0.94	-0.93	-78.55
G1+G2+Q+0.6V1+0.6D1	5.58	141.24	56.64	-0.91	-0.89	-77.15
G1+G2+Q+0.6V2+0.6D2	5.98	147.77	-196.39	-1.15	-0.91	-79.61
G1+G2+Q+0.6V3+0.6D3	5.64	107.49	-77.77	-1.04	-0.81	-75.10
G1+G2+Q+0.6V4+0.6D4	5.92	181.52	-61.97	-1.01	-0.99	-81.66
G1+G2+Q+D1	5.74	143.97	-46.23	-1.00	-0.90	-78.03
G1+G2+Q+D2	5.82	145.04	-93.52	-1.05	-0.90	-78.73
G1+G2+Q+D3	5.75	136.41	-69.35	-1.03	-0.88	-77.94
G1+G2+Q+D4	5.81	152.60	-70.39	-1.03	-0.92	-78.82

<b>Fundação B5</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	3.56	30.42	35.85	0.63	-0.06	-15.11
Adicional (G2)	1.35	26.36	-6.08	0.25	-0.12	-1.45
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.79	8.65	9.99	0.09	-0.01	-4.31
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.27	2.00	187.40	0.18	0.00	1.21
Vento X- (V2)	-0.27	-2.00	-187.40	-0.18	0.00	-1.21
Vento Y+ (V3)	-0.23	-26.49	-10.14	0.01	0.04	9.39
Vento Y- (V4)	0.23	26.49	10.14	-0.01	-0.04	-9.39
Desaprumo X+ (D1)	0.03	0.19	23.41	0.02	0.00	0.30
Desaprumo X- (D2)	-0.03	-0.19	-23.41	-0.02	0.00	-0.30
Desaprumo Y+ (D3)	-0.03	-5.01	1.08	0.00	0.01	0.82
Desaprumo Y- (D4)	0.03	5.01	-1.07	0.00	-0.01	-0.82
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	5.65	64.23	172.61	1.08	-0.19	-18.55
G1+G2+0.7Q+0.6V2+D2	5.26	61.45	-99.09	0.82	-0.19	-20.59
G1+G2+0.7Q+0.6V3+D3	5.29	41.93	31.75	0.96	-0.16	-13.12
G1+G2+0.7Q+0.6V4+D4	5.63	83.75	41.77	0.94	-0.22	-26.03
G1+G2+0.7Q+V1+0.6D1	5.75	64.95	238.20	1.14	-0.19	-18.19
G1+G2+0.7Q+V2+0.6D2	5.17	60.73	-164.68	0.76	-0.19	-20.96
G1+G2+0.7Q+V3+0.6D3	5.21	33.34	27.26	0.96	-0.15	-9.69
G1+G2+0.7Q+V4+0.6D4	5.71	92.34	46.26	0.94	-0.23	-29.45
G1+G2+D1	4.94	56.97	53.18	0.91	-0.18	-16.26
G1+G2+D2	4.87	56.59	6.36	0.86	-0.19	-16.85
G1+G2+D3	4.87	51.77	30.84	0.89	-0.18	-15.73
G1+G2+D4	4.93	61.79	28.69	0.88	-0.19	-17.38
G1+G2+Q+0.6V1+0.6D1	5.88	66.75	166.24	1.10	-0.19	-19.96
G1+G2+Q+0.6V2+0.6D2	5.51	64.12	-86.73	0.86	-0.19	-21.77
G1+G2+Q+0.6V3+0.6D3	5.54	46.53	34.32	0.98	-0.17	-14.74

G1+G2+Q+0.6V4+0.6D4	5.85	84.34	45.20	0.97	-0.22	-26.99
G1+G2+Q+D1	5.73	65.62	63.17	1.00	-0.19	-20.57
G1+G2+Q+D2	5.66	65.25	16.35	0.95	-0.19	-21.16
G1+G2+Q+D3	5.67	60.42	40.83	0.98	-0.18	-20.04
G1+G2+Q+D4	5.73	70.45	38.68	0.97	-0.20	-21.69

Fundação E1						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.65	45.75	-53.92	0.02	-0.05	1.64
Adicional (G2)	1.02	-25.71	-180.78	0.12	0.07	-36.42
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	-0.04	22.17	0.41	0.00	-0.03	3.74
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.01	3.15	16.10	0.01	0.00	-1.65
Vento X- (V2)	-0.01	-3.15	-16.10	-0.01	0.00	1.65
Vento Y+ (V3)	0.01	-72.23	27.32	-0.02	0.09	9.68
Vento Y- (V4)	-0.01	72.23	-27.32	0.02	-0.09	-9.68
Desaprumo X+ (D1)	0.00	0.45	7.25	0.01	0.00	0.18
Desaprumo X- (D2)	0.00	-0.45	-7.25	-0.01	0.00	-0.18
Desaprumo Y+ (D3)	0.00	-12.60	3.73	0.00	0.02	1.20
Desaprumo Y- (D4)	0.00	12.60	-3.73	0.00	-0.02	-1.20
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	1.65	37.90	-217.50	0.15	0.01	-32.97
G1+G2+0.7Q+0.6V2+D2	1.63	33.23	-251.31	0.13	0.01	-31.36
G1+G2+0.7Q+0.6V3+D3	1.65	-20.37	-214.28	0.13	0.08	-25.15
G1+G2+0.7Q+0.6V4+D4	1.63	91.50	-254.53	0.15	-0.06	-39.17
G1+G2+0.7Q+V1+0.6D1	1.65	38.98	-213.95	0.15	0.01	-33.71
G1+G2+0.7Q+V2+0.6D2	1.63	32.15	-254.86	0.13	0.01	-30.62
G1+G2+0.7Q+V3+0.6D3	1.65	-44.22	-204.85	0.12	0.11	-21.76
G1+G2+0.7Q+V4+0.6D4	1.63	115.35	-263.96	0.16	-0.09	-42.57
G1+G2+D1	1.67	20.49	-227.45	0.15	0.03	-34.60
G1+G2+D2	1.67	19.60	-241.94	0.14	0.03	-34.96
G1+G2+D3	1.67	7.45	-230.96	0.14	0.04	-33.58
G1+G2+D4	1.66	32.65	-238.43	0.14	0.01	-35.98
G1+G2+Q+0.6V1+0.6D1	1.63	44.38	-220.27	0.15	0.00	-31.92
G1+G2+Q+0.6V2+0.6D2	1.62	40.06	-248.29	0.13	0.00	-30.16
G1+G2+Q+0.6V3+0.6D3	1.64	-8.68	-215.65	0.13	0.06	-24.51
G1+G2+Q+0.6V4+0.6D4	1.62	93.11	-252.91	0.15	-0.06	-37.57
G1+G2+Q+D1	1.63	42.66	-227.03	0.15	0.00	-30.86
G1+G2+Q+D2	1.63	41.77	-241.53	0.13	0.00	-31.23
G1+G2+Q+D3	1.63	29.62	-230.55	0.14	0.01	-29.84
G1+G2+Q+D4	1.62	54.82	-238.01	0.14	-0.02	-32.24

Legenda	
	- Caso: indica o caso de carregamento no qual serão apresentados os esforços atuantes;
	- Elemento: nome da fundação;
	- N: esforço axial na fundação;
	- Mx: momento fletor na fundação, atuante em torno do eixo X global;
	- My: momento fletor na fundação, atuante em torno do eixo Y global;
	- Fx: esforço cortante na fundação, atuante no plano paralelo à direção X global;
	- Fy: esforço cortante na fundação, atuante no plano paralelo à direção Y global;
- Mt: momento de torção atuante.	



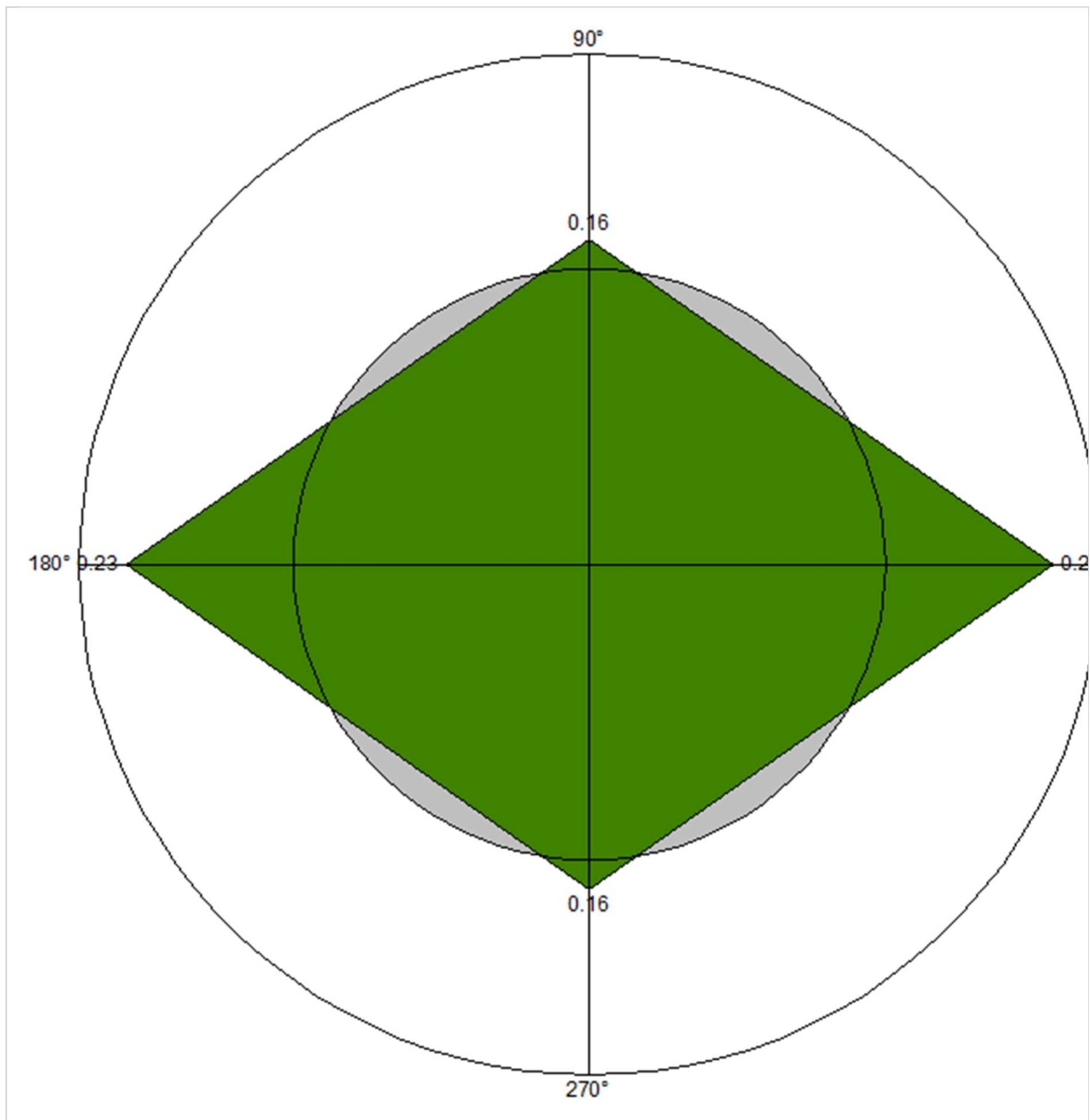
## Quadro de Cargas dos Pilares

Pilares	NV-000 FUND		NV-270	
	NPos (tf)	NNeg	NPos (tf)	NNeg
P1	3.98	0.00	1.78	0.00
P2	8.34	0.00	7.34	0.00
P4	5.98	0.00	3.98	0.00
P5	5.88	0.00	4.52	0.00

## Análise dinâmica

Modo	Período (s)	Frequência (Hz)
1	0.248	4.027
2	0.232	4.316
3	0.161	6.230
4	0.123	8.154
5	0.057	17.554
6	0.053	18.726
7	0.051	19.426
8	0.047	21.195
9	0.040	25.041
10	0.026	38.874
11	0.022	44.673
12	0.020	48.994

Modo	Fator de participação modal			Taxa de participação modal			Taxa acumulada de participação modal		
	FPx	FPy	FPz	TPMx	TPMy	TPMz	TaPMx	TaPMy	TaPMz
1	-0.36968	-3.80192	-0.05248	0.00593	0.62767	0.00012	0.00593	0.62767	0.00012
2	0.99830	-0.84995	0.05969	0.04328	0.03137	0.00015	0.04921	0.65904	0.00027
3	3.73697	-0.13998	-0.02208	0.60641	0.00085	0.00002	0.65562	0.65989	0.00030
4	0.24938	0.17411	1.06898	0.00270	0.00132	0.04962	0.65832	0.66121	0.04992
5	0.06650	-0.00072	-0.62567	0.00019	0.00000	0.01700	0.65851	0.66121	0.06692
6	-0.32468	0.10916	-1.57328	0.00458	0.00052	0.10748	0.66309	0.66173	0.17440
7	0.13862	0.21765	-0.17520	0.00083	0.00206	0.00133	0.66393	0.66378	0.17573
8	0.40545	0.04989	-1.84942	0.00714	0.00011	0.14853	0.67106	0.66389	0.32426
9	-1.79195	0.06279	-0.48058	0.13944	0.00017	0.01003	0.81050	0.66406	0.33429
10	0.41213	-0.07061	-1.32931	0.00738	0.00022	0.07673	0.81788	0.66428	0.41102
11	0.05848	0.18234	-1.34924	0.00015	0.00144	0.07905	0.81803	0.66572	0.49007
12	-0.05479	-1.92927	-0.06357	0.00013	0.16163	0.00018	0.81816	0.82735	0.49024



### Verificação do conforto perante a ação do vento

Pavimento	Aceleração (m/s <sup>2</sup> )				Percepção humana
	X+	Y+	X-	Y-	
NV-270	0.231	0.162	0.231	0.162	Incômodo
NV-000 FUND	0.026	0.074	0.026	0.074	Perceptível

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Pavimento NV-000 FUND

### Resultado dos Blocos

<b>NV-000 FUND</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 4.50 cm	

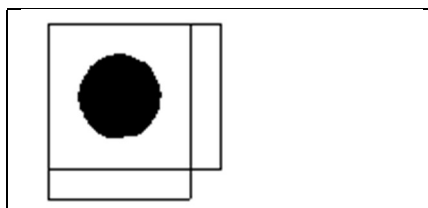
Blocos	ne Estaca	LB LH (cm)	hb (cm)	Principal (cm <sup>2</sup> )		Estribo (cm <sup>2</sup> )		Superior (cm <sup>2</sup> )		As dist. (cm <sup>2</sup> )
				X	Y	Hor.	Vert.	X	Y	
B1	1 C40-PROF:11M	70.00 70.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B2	1 C40-PROF:11M	70.00 70.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B4	1 C40-PROF:11M	70.00 70.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B5	1 C40-PROF:11M	70.00 70.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
E1	1 C40-PROF:11M	- -	-	-	-	-	-	-	-	-

### Cálculo do Bloco B1

Pavimento NV-000 FUND - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	50.00	LB	70.00
Seção	40.00	Total	65.00	LH	70.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	1.82 m <sup>2</sup>
Volume concreto	0.30 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.75	3.98	0.00	4.73

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	4.73	3.60	623	1.00
Limites					10.50	-0.53	3000	7.84

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E1-1	4.73	3.60	623	1.00

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

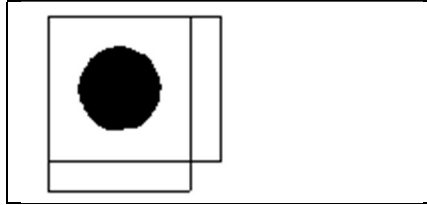
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.20	0.51	5 ø 10.0
Estribo vertical	0.20	0.31	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

### Cálculo do Bloco B2

Pavimento NV-000 FUND -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	50.00	LB	70.00
Seção	40.00	Total	65.00	LH	70.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	1.82 m <sup>2</sup>
Volume concreto	0.30 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.75	8.34	0.00	9.09

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	9.09	7.40	608	0.55
Limites					10.50	-0.53	3000	7.84

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E2-1	9.09	7.40	608	0.55

### Dimensionamento da armadura

Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.38	0.98	5 ø 10.0
Estribo vertical	0.38	0.59	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

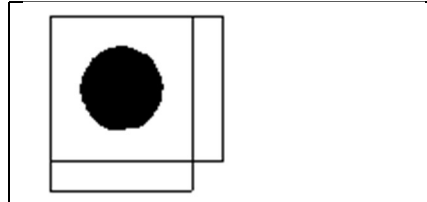
### Cálculo do Bloco B4

Pavimento NV-000 FUND - Lance 1

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	50.00	<b>LB</b>	70.00
<b>Seção</b>	40.00	<b>Total</b>	65.00	<b>LH</b>	70.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

Área de forma	1.82 m <sup>2</sup>
Volume concreto	0.30 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.75	5.98	0.00	6.73

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	6.73	5.84	879	1.50
Limites					10.50	-0.53	3000	7.84

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E4-1	6.73	5.84	879	1.50

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
<b>Estribo horizontal</b>	0.28	0.73	5 ø 10.0

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

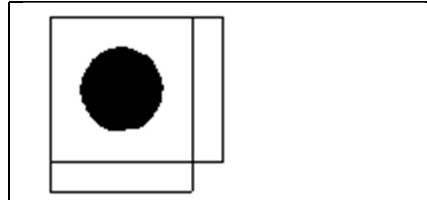
<b>Estribo vertical</b>	0.28	0.44	4 ø 10.0 (2 estribos)
<b>Armadura superior na direção X</b>	-	-	-
<b>Armadura superior na direção Y</b>	-	-	-
<b>Armadura distribuição</b>	-	-	-

## Cálculo do Bloco B5

Pavimento NV-000 FUND - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	50.00	<b>LB</b>	70.00
<b>Seção</b>	40.00	<b>Total</b>	65.00	<b>LH</b>	70.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.82 m <sup>2</sup>
<b>Volume concreto</b>	0.30 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.75	5.88	0.00	6.63

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	70x70	65	0.75	6.63	5.62	685	1.16
Limites					10.50	-0.53	3000	7.84

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E5-1	6.63	5.62	685	1.16

### Dimensionamento da armadura Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
<b>Estribo horizontal</b>	0.28	0.72	5 ø 10.0
<b>Estribo vertical</b>	0.28	0.43	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

### Resultados dos Pilares

<b>NV-000 FUND</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	

Dados				Resultados					
Pilar	Seção (cm)	Nível Altura (cm)	lib vñc lih vñc (cm)	Nd máx Nd mín (tf)	MBd topo MBd base (kgf.m)	MHd topo MHd base (kgf.m)	As b Armaduras As h % armad total	Estribo Topo Base cota	Esb b Esb h
P1 1:20	14.00 X 40.00	0.00 90.00	52.00 RR 52.00 RR	5.38 2.62	476 223	302 395	1.57 2 ø 10.0 2.36 3 ø 10.0 0.8 6 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	12.85 4.50
P2 1:20	14.00 X 40.00	0.00 90.00	52.00 RR 52.00 RR	11.17 6.55	173 97	766 817	1.57 2 ø 10.0 2.36 3 ø 10.0 0.8 6 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	12.85 4.50
P4 1:20	14.00 X 40.00	0.00 90.00	52.00 RR 52.00 RR	8.05 5.00	467 279	742 379	1.57 2 ø 10.0 2.36 3 ø 10.0 0.8 6 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	12.85 4.50
P5 1:20	14.00 X 40.00	0.00 90.00	52.00 RR 52.00 RR	7.88 4.78	61 126	752 330	1.57 2 ø 10.0 2.36 3 ø 10.0 0.8 6 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	12.85 4.50

### Cálculo dos Pilares

<b>NV-000 FUND</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	



Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm²)
P1	14.00 X 40.00	RR 12.85 RR 4.50	6.73 3.28	602 377	1134 710	1.88	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P2	14.00 X 40.00	RR 12.85 RR 4.50	13.97 8.19	237 996	870 3650	3.67	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P4	14.00 X 40.00	RR 12.85 RR 4.50	10.06 6.26	582 927	1044 1663	1.79	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P5	14.00 X 40.00	RR 12.85 RR 4.50	9.84 5.98	165 940	710 4042	4.30	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

### Vigas do pavimento NV-000 FUND

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	438.86	2 ø 8.0		-528.51 -0.04	2 ø 8.0 2 ø 8.0		Aviso 26
VB2	379.13	2 ø 8.0		-5.19 -594.66	2 ø 8.0 2 ø 8.0		Avisos 26, 82
VB3	229.39	2 ø 8.0		-406.72 -383.20	2 ø 8.0 2 ø 8.0		Aviso 26
VB4	814.63	2 ø 8.0		-878.26 -687.78	2 ø 8.0 2 ø 8.0		Aviso 26
VB5	41.80	2 ø 8.0		-901.71	2 ø 8.0		Aviso 26
VB6	99.02	2 ø 8.0		-431.96 -100.93	2 ø 8.0 2 ø 8.0		Avisos 26, 82

### Esforços da Viga VB1

fck = 300.00 kgf/cm²	Ecs = 268384 kgf/cm²
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m³

Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Dados		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Envoltória						
			Carga distribuída				Esforço axial	Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)	
			Perm. (kgf/m)	Acid. (kgf/m)									Nd (tf)
P1		40.00							0.78				
1	109.00 90.00	90.00	639.20	0.00			0.84	0.00	1.37			57.00 438.86	-528.51

P2	14.00							0.07
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## Esforços da Viga VB2

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trec ho	Apoi o 1 e 1o (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm . (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
VB4		14.0 0							0.56				
1	232. 00 213. 00	116. 00	639.2 0	0.00			0.0 9	0.0 0	0.8 2		379.1 3	4.41 322.6 6	-5.19
2		83.0 0	639.2 0	0.00			0.1 7	0.0 0	1.3 6			332.2 2	- 594.6 6
E1		40.0 0							0.90				

### Esforços da Viga VB3

$f_{ck} = 300.00 \text{ kgf/cm}^2$	$E_{cs} = 268384 \text{ kgf/cm}^2$
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
P4		40.00								0.68			
1	198.00 174.00	174.00	639.20	0.00			2.04	0.00	1.06		229.39	15.34 28.92	-406.72 -383.20
P5		40.00								0.66			

### Esforços da Viga VB4

$f_{ck} = 300.00 \text{ kgf/cm}^2$	$E_{cs} = 268384 \text{ kgf/cm}^2$
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
P4		14.00								1.23			
1	280.00 266.00	131.00	639.20	0.00			1.06	0.00	1.81			814.63	-878.26
		14.00											
2		121.00	639.20	0.00			1.08	0.00	1.64		799.91		-687.78
P1		14.00								1.15			

### Esforços da Viga VB5

$f_{ck} = 300.00 \text{ kgf/cm}^2$	$E_{cs} = 268384 \text{ kgf/cm}^2$
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
VB2		14.00								0.00			
1	114.00 95.00	95.00	639.20	0.00			0.02	-0.03	1.32		41.80	32.15	-901.71
P2		40.00								0.84			

### Esforços da Viga VB6

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados						Envoltória							
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
P5		14.00								0.60			
1	137.00 118.00	118.00	639.20	0.00			0.15	- 0.10	0.97		99.02		-431.96
E1		40.00								0.34		77.02	-100.93

### Resultados da Viga VB1

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P1	40.00			2 ø 8.0 0.84					0.01
1	90.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.01
P2	14.00			2 ø 8.0 0.84					0.00

### Resultados da Viga VB2

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
VB4	14.00			2 ø 8.0 0.84					0.00
1	213.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.01
E1	40.00			2 ø 8.0 0.84					0.02

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

### Resultados da Viga VB3

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P4	40.00			2 ø 8.0 0.84					0.00
1	174.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.00
P5	40.00			2 ø 8.0 0.84					0.00

### Resultados da Viga VB4

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P4	14.00			2 ø 8.0 0.84					0.03
1	266.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.04
P1	14.00			2 ø 8.0 0.84					0.02

### Resultados da Viga VB5

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
VB2	14.00								0.00
1	95.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.00
P2	40.00			2 ø 8.0 0.84					0.03

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB6

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio l e lo (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P5	14.00			2 ø 8.0 0.84					0.01
1	118.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.00
E1	40.00			2 ø 8.0 0.84					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Pavimento NV-270

### Resultados dos Pilares

NV-270	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 2		cobr = 3.00 cm	

Dados				Resultados							
Pilar	Seção (cm)	Nível Altura (cm)	lib lih	vínc vnc	Nd máx Nd mín (tf)	MBd topo MBd base (kgf.m)	MHd topo MHd base (kgf.m)	As b Armaduras As h% armad. total		Estribo Topo Base cota	Esb b Esb h
P1 1:20	14.00 X 40.00	270.00 270.00	270.00		2.37 0.76	170 202	1445 511	1.57	2 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	66.73 23.36
			RR					2.36	3 ø 10.0		
			270.00	RR				0.8	6 ø 10.0		
P2 1:20	14.00 X 40.00	270.00 270.00	270.00		9.78 5.42	787 482	1106 1019	1.57	2 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	66.73 23.36
			RR					2.36	3 ø 10.0		
			270.00	RR				0.8	6 ø 10.0		
P4 1:20	14.00 X 40.00	270.00 270.00	270.00		5.29 2.81	390 403	1488 849	1.57	2 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	66.73 23.36
			RR					2.36	3 ø 10.0		
			270.00	RR				0.8	6 ø 10.0		
P5 1:20	14.00 X 40.00	270.00 270.00	270.00		6.01 3.25	679 399	1572 768	1.57	2 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 40	66.73 23.36
			RR					2.36	3 ø 10.0		
			270.00	RR				0.8	6 ø 10.0		

### Cálculo dos Pilares

NV-270	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 2		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	14.00 X 40.00	RR	2.96 0.95	58 1833	118 3723	2.03	1.57
		66.73					(2 ø 10.0)
		23.36					2.36 (3 ø 10.0)
P2	14.00 X 40.00	RR	12.22 6.77	1127 948	1284 1080	1.14	1.57
		66.73					(2 ø 10.0)
		23.36					2.36 (3 ø 10.0)
P4	14.00 X 40.00	RR	6.61 3.51	572 1580	899 2482	1.57	1.57
		66.73					(2 ø 10.0)
		23.36					2.36 (3 ø 10.0)
P5	14.00 X 40.00	RR	7.51 4.06	944 1635	1040 1801	1.10	1.57
		66.73					(2 ø 10.0)
		23.36					2.36 (3 ø 10.0)

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

### Vigas do pavimento NV-270

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V101	0.11	3 ø 8.0		-394.31 -291.27	3 ø 8.0 3 ø 8.0		
V102	392.32 411.91	2 ø 8.0 2 ø 8.0	2 ø 8.0	-1387.43 -3569.29	3 ø 8.0 4 ø 10.0	2 ø 8.0	Aviso 48
V103	0.11 32.93	2 ø 8.0 2 ø 8.0	2 ø 8.0	-96.19 -775.33	2 ø 8.0 2 ø 8.0	2 ø 8.0	Aviso 08
V104	134.80 0.11 141.64	2 ø 8.0 2 ø 8.0 2 ø 8.0		-1778.92 -1897.88	3 ø 8.0 2 ø 10.0		Aviso 48
V105	546.02	3 ø 8.0		-132.80 -258.54	3 ø 8.0 3 ø 8.0		
V106	57.78 0.11 0.11	3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 8.0	-852.09 -904.11 -59.23	3 ø 8.0 2 ø 10.0 2 ø 10.0	2 ø 8.0 2 ø 8.0	
V107	354.66	2 ø 8.0		-371.45 -190.82	2 ø 8.0 2 ø 8.0		
V108	180.32	2 ø 8.0		-1846.52	3 ø 8.0		Aviso 02
V109	338.17	2 ø 8.0		-674.98	2 ø 8.0		
V110	0.11 0.11 59.23	3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 8.0 2 ø 8.0	-57.78 -1158.22 -637.71	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 8.0 2 ø 8.0 2 ø 8.0	Aviso 101

### Esforços da Viga V101

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados						Envoltória							
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
V106		14.00								0.39			
1	421.00 407.00	407.00	210.00	0.00			0.02	0.00	0.54				-394.31 -291.27
V110		14.00								0.30			



### Esforços da Viga V102

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	ados		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Carga distribuída				Nd (tf)	Rd (tf)					
			Perm. (kgf/m)	Acid. (kgf/m)									
		14.00											
1		76.50	122.50	0.00			0.00	-0.02	2.45			392.32	-1387.43
		40.00											
2		90.00	122.50	0.00			0.00	-0.48	3.40				-881.07
													-2887.25
P2		14.00								4.93			
3	200.50 186.50	186.50	122.50	0.00			0.00	-0.02	3.89			411.91	-3569.29
		14.00											

### Esforços da Viga V103

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Dados		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Carga distribuída				Nd (tf)	Rd (tf)					
			Perm. (kgf/m)	Acid. (kgf/m)									
		14.00											
1	130.00 116.00	116.00	140.00	0.00			0.00	-0.02	0.61				-96.19
													-775.33
V108		14.00								0.17			
2	110.00 96.00	96.00	140.00	0.00			0.04	0.00	1.02				-732.81
		14.00										32.93	

### Esforços da Viga V104

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
							14.00						
1	94.00 76.50	76.50	122.50	0.00			0.00	- 0.01	2.70			134.80	- 1778.92
P4		40.00								2.97			
2	195.00 174.00	174.00	122.50	0.00			0.00	- 0.73	1.67				-822.75 - 1039.30
P5		40.00								2.87			
3	94.00 76.50	76.50	122.50	0.00			0.00	- 0.01	2.76			141.64	- 1897.88
		14.00											

### Esforços da Viga V105

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
							14.00						
V106										0.54			
1	421.00 407.00	407.00	210.00	0.00			0.01	0.00	0.85		546.02		-132.80 -258.54
V110		14.00								0.60			

### Esforços da Viga V106

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
							14.00						
1	90.50 76.50	76.50	210.00	0.00			0.00	0.00	1.12			57.78	-852.09
V104		14.00								1.26			
2	280.00 266.00	266.00	210.00	0.00			0.00	- 0.07	0.69				-834.35 -882.58
V102		14.00								1.27			
3	90.50 76.50	76.50	210.00	0.00			0.00	0.00	1.08				-904.11 -59.23
		14.00											

### Esforços da Viga V107

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
							14.00						
P4										0.29			
1	280.00 266.00	131.00	140.00	0.00			0.34	0.00	0.56		354.66	10.57	-371.45
		14.00										342.72	
2		121.00	140.00	0.00			0.16	0.00	0.34		344.31	298.07	
												97.48	-190.82
P1		14.00								0.20			

### Esforços da Viga V108

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
V103		14.00								0.00			
1	114.00 95.00	95.00	140.00	0.00			0.41	0.00	2.54			180.32	- 1846.52
P2		40.00								1.63			

### Esforços da Viga V109

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (%)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
P5		14.00								0.89			
1	145.00 131.00	131.00	140.00	0.00			0.23	0.00	1.36		338.17	134.99	-674.98
V103		14.00								0.66			

### Esforços da Viga V110

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados						Envoltória							
Pilar Trecho	Apoio 1 e 1o (cm)	Larg Barra (cm)	Carga distribuída		Temperatura Caso T1 Caso T2 (°C)	Retração (‰)	Esforço axial		Vd (tf)	Rmáx (tf)	Mdmáx (kgf.m)	Md+ (kgf.m)	Md- (kgf.m)
			Perm. (kgf/m)	Acid. (kgf/m)			Nd (tf)	Rd (tf)					
		14.00											
1	90.50 76.50	76.50	210.00	0.00			0.00	0.00	1.28				-57.78 - 1110.52
V104		14.00								1.39			
2	280.00 266.00	266.00	210.00	0.00			0.05	0.00	0.68				- 1158.22 -560.13
V102		14.00								0.95			
3	90.50 76.50	76.50	210.00	0.00			0.00	0.00	0.93			59.23	-637.71
		14.00											

### Resultados da Viga V101

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
V106	14.00			3 ø 8.0 1.26					0.00
1	407.00	14.00 x 60.00	3 ø 8.0 1.26			ø 5.0 c/ 25		2x3 ø 6.3	0.00
V110	14.00			3 ø 8.0 1.26					0.00

## Resultados da Viga V102

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
	14.00								0.00
1	206.50	14.00 x 35.00	2 ø 8.0 0.74			ø 5.0 c/ 18			0.01
P2	14.00		2 ø 8.0 0.20	4 ø 10.0 3.25					0.12
2	186.50	14.00 x 35.00	2 ø 8.0 0.84	2 ø 8.0 0.19		ø 5.0 c/ 18			0.01
	14.00								0.00

## Resultados da Viga V103

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
	14.00			2 ø 8.0 0.84					0.00
1	116.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.00
V108	14.00		2 ø 8.0 0.23	2 ø 8.0 0.96					0.03
2	96.00	14.00 x 40.00	2 ø 8.0 0.84	2 ø 8.0 0.23		ø 5.0 c/ 21		2x2 ø 6.3	0.00
	14.00								0.00

## Resultados da Viga V104

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
	14.00								0.00
1	76.50	14.00 x 35.00	2 ø 8.0 0.74			ø 5.0 c/ 18			0.00
P4	40.00			3 ø 8.0 1.41					0.13
2	174.00	14.00 x 35.00	2 ø 8.0 0.74			ø 5.0 c/ 18			0.00
P5	40.00			2 ø 10.0 1.47					0.15
3	76.50	14.00 x 35.00	2 ø 8.0 0.74			ø 5.0 c/ 18			0.00
	14.00								0.00

## Resultados da Viga V105

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
V106	14.00			3 ø 8.0 1.26					0.00
1	407.00	14.00 x 60.00	3 ø 8.0 1.26			ø 5.0 c/ 25		2x3 ø 6.3	0.00
V110	14.00			3 ø 8.0 1.26					0.00

### Resultados da Viga V106

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
	14.00								0.00
1	76.50	14.00 x 60.00	3 ø 8.0 1.26			ø 5.0 c/ 25		2x3 ø 6.3	0.00
V104	14.00			3 ø 8.0 1.26					0.01
2	266.00	14.00 x 60.00	3 ø 8.0 1.26			ø 5.0 c/ 25		2x3 ø 6.3	0.00
V102	14.00		2 ø 8.0 0.38	2 ø 10.0 1.44					0.01
3	76.50	14.00 x 60.00	3 ø 8.0 1.26	2 ø 8.0 0.38		ø 5.0 c/ 14		2x3 ø 6.3	0.00
	14.00		2 ø 8.0 0.38	2 ø 10.0 1.44					0.00

### Resultados da Viga V107

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P4	14.00			2 ø 8.0 0.84					0.00
1	266.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.01
P1	14.00			2 ø 8.0 0.84					0.00



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga V108

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
V103	14.00								0.00
1	95.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.00
P2	40.00			3 ø 8.0 1.25					0.07

## Resultados da Viga V109

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P5	14.00			2 ø 8.0 0.84					0.02
1	131.00	14.00 x 40.00	2 ø 8.0 0.84			ø 5.0 c/ 21			0.01
V103	14.00								0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga V110

fck = 300.00 kgf/cm <sup>2</sup>	Ecs = 268384 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
	14.00		2 ø 8.0 0.38	2 ø 10.0 1.44					0.00
1	76.50	14.00 x 60.00	3 ø 8.0 1.26	2 ø 8.0 0.38		ø 5.0 c/ 22		2x3 ø 6.3	0.00
V104	14.00		2 ø 8.0 0.38	2 ø 10.0 1.44					0.02
2	266.00	14.00 x 60.00	3 ø 8.0 1.26			ø 5.0 c/ 25		2x3 ø 6.3	0.00
V102	14.00		2 ø 8.0 0.38	2 ø 10.0 1.44					0.01
3	76.50	14.00 x 60.00	3 ø 8.0 1.26	2 ø 8.0 0.38		ø 5.0 c/ 19		2x3 ø 6.3	0.00
	14.00								0.00

## Dados das Lajes

NV-270	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 2		coibr = 2.50 cm	

Laje	Tipo	Seção (cm)				Cargas (kgf/m <sup>2</sup> )				Temperatura Caso T1 Caso T2 (°C)	Retração Deform. X Deform. Y (‰)
		H	ee ec	enx eny	eex eey	Peso Próprio	Acidental Revestimento	Paredes Outras	Total		
L101	Maciça	10				250.00	150.00 100.00	0.00 0.00	500.00		
L102	Maciça	10				250.00	150.00 100.00	0.00 0.00	500.00		
L103	Maciça	10				250.00	150.00 100.00	0.00 0.00	500.00		
L104	Maciça	10				250.00	150.00 100.00	0.00 0.00	500.00		
L105	Maciça	10				250.00	150.00 100.00	0.00 0.00	500.00		
L106	Maciça	10				250.00	150.00 100.00	0.00 0.00	500.00		

## Resultados da Laje

NV-270	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 2		cobr = 2.50 cm	

Nome	Espessura (cm)	Carga (kgf/m <sup>2</sup> )	Mdx (kgf.m/m)	Mdy (kgf.m/m)	Asx	Asy
L101	10	500.00	14	39	As = 1.01 cm <sup>2</sup> /m (ø5.0 c/19 - 1.03 cm <sup>2</sup> /m)	As = 1.01 cm <sup>2</sup> /m (ø5.0 c/19 - 1.03 cm <sup>2</sup> /m)
L102	10	500.00	45	30	As = 1.01 cm <sup>2</sup> /m (ø5.0 c/19 - 1.03 cm <sup>2</sup> /m)	As = 1.01 cm <sup>2</sup> /m (ø5.0 c/19 - 1.03 cm <sup>2</sup> /m)
L103	10	500.00	38	284	As = 0.90 cm <sup>2</sup> /m (ø5.0 c/21 - 0.93 cm <sup>2</sup> /m)	As = 1.78 cm <sup>2</sup> /m (ø6.3 c/17 - 1.83 cm <sup>2</sup> /m)
L104	10	500.00	42	224	As = 0.90 cm <sup>2</sup> /m (ø5.0 c/21 - 0.93 cm <sup>2</sup> /m)	As = 1.78 cm <sup>2</sup> /m (ø6.3 c/17 - 1.83 cm <sup>2</sup> /m)
L105	10	500.00	427	48	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)	As = 0.90 cm <sup>2</sup> /m (ø5.0 c/21 - 0.93 cm <sup>2</sup> /m)
L106	10	500.00	41	29	As = 1.01 cm <sup>2</sup> /m (ø5.0 c/19 - 1.03 cm <sup>2</sup> /m)	As = 1.01 cm <sup>2</sup> /m (ø5.0 c/19 - 1.03 cm <sup>2</sup> /m)

ARMADURA NEGATIVA							
Dados				Resultados			
Viga	Trecho	Laje 1	Laje 2	Reação 1 (kgf/m)	Reação 2 (kgf/m)	Md (kgf.m/m)	As (cm <sup>2</sup> )
V109	1	L105	L104	490	423	-367	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V103	2	L105	L104	-215	-371	0	
V103	1	L105	L103	-64	-394	0	
V107	1	L105	L102	70	95	-144	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V104	2	L105	L106	522	354	-227	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V107	2	L103	L102	43	107	-83	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V108	1	L103	L104	697	465	-430	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V102	2	L103	L101	638	483	-336	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V102	1	L102	L101	246	129	-188	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V104	1	L102	L106	262	309	-138	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V102	3	L101	L104	425	333	-382	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)
V104	3	L106	L104	255	212	-133	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m)

VERIFICAÇÃO DAS VIBRAÇÕES			
f (Hz)	fcrit (Hz)	f/fcrit	Condição (f/fcrit > 1.2)
10.83	4.00	2.71	Ok

## Cálculos das Lajes

NV-270	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 2		cobr = 2.50 cm	

ARMADURAS POSITIVAS (LAJE)								
Laje	Direção	Momento positivo		Momento negativo		Armadura inferior	Armadura superior	Cisalhamento
		Seção	Flexão	Seção	Flexão			
L101	X	bw = 100.0 cm h = 10.0 cm	Md = 336 kgf.m/m As = 0.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 382 kgf.m/m As = 1.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.01 cm <sup>2</sup> /m ø5.0 c/19 (1.03 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 1.46 tf/m vrd1 = 5.04 tf/m Modelo I vrd2 = 34.37 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 336 kgf.m/m As = 0.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 461 kgf.m/m As = 1.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.01 cm <sup>2</sup> /m ø5.0 c/19 (1.03 cm <sup>2</sup> /m) fiss = 0.00 mm	A's = 1.35 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)	vsd = 1.14 tf/m vrd1 = 4.72 tf/m vrd2 = 31.82 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L102	X	bw = 100.0 cm h = 10.0 cm	Md = 336 kgf.m/m As = 0.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.01 cm <sup>2</sup> /m ø5.0 c/19 (1.03 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 0.41 tf/m vrd1 = 5.04 tf/m Modelo I vrd2 = 34.37 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 336 kgf.m/m As = 0.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.01 cm <sup>2</sup> /m ø5.0 c/19 (1.03 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 0.86 tf/m vrd1 = 4.72 tf/m vrd2 = 31.82 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L103	X	bw = 100.0 cm h = 10.0 cm	Md = 251 kgf.m/m As = 0.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 430 kgf.m/m As = 1.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 0.90 cm <sup>2</sup> /m ø5.0 c/21 (0.93 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 1.69 tf/m vrd1 = 5.02 tf/m Modelo I vrd2 = 34.37 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.78 cm <sup>2</sup> /m ø6.3 c/17 (1.83 cm <sup>2</sup> /m) fiss = 0.03 mm		vsd = 1.61 tf/m vrd1 = 4.86 tf/m vrd2 = 31.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L104	X	bw = 100.0 cm h = 10.0 cm	Md = 251 kgf.m/m As = 0.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 386 kgf.m/m As = 1.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 0.90 cm <sup>2</sup> /m ø5.0 c/21 (0.93 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 1.32 tf/m vrd1 = 5.02 tf/m Modelo I vrd2 = 34.37 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm	Md = 502 kgf.m/m	bw = 100.0 cm		As = 1.78 cm <sup>2</sup> /m		vsd = 0.93 tf/m vrd1 = 4.86 tf/m

		h = 10.0 cm	As = 1.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 10.0 cm		ø6.3 c/17 (1.83 cm <sup>2</sup> /m) fiss = 0.02 mm		vrd2 = 31.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L105	X	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.65 cm <sup>2</sup> /m ø6.3 c/18 (1.73 cm <sup>2</sup> /m) fiss = 0.07 mm		vsd = 1.12 tf/m vrd1 = 5.15 tf/m Modelo I vrd2 = 34.04 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 251 kgf.m/m As = 0.74 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 0.90 cm <sup>2</sup> /m ø5.0 c/21 (0.93 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 1.16 tf/m vrd1 = 4.62 tf/m vrd2 = 31.16 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L106	X	bw = 100.0 cm h = 10.0 cm	Md = 336 kgf.m/m As = 0.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.01 cm <sup>2</sup> /m ø5.0 c/19 (1.03 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 0.78 tf/m vrd1 = 5.04 tf/m Modelo I vrd2 = 34.37 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 336 kgf.m/m As = 0.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.01 cm <sup>2</sup> /m ø5.0 c/19 (1.03 cm <sup>2</sup> /m) fiss = 0.00 mm		vsd = 0.82 tf/m vrd1 = 4.72 tf/m vrd2 = 31.82 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

<b>ARMADURAS (-) (NA CONTINUIDADE)</b>						
<b>Viga</b>	<b>Trecho</b>	<b>Laje 1</b>	<b>Momento negativo</b>	<b>Flexão</b>	<b>Momento positivo</b>	<b>Armaduras finais</b>
		<b>Laje 2</b>	<b>Seção</b>		<b>Seção</b>	
V109 1	L105 L104	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.06 mm
V103 2	L105 L104	bw = 100.0 cm h = 10.0 cm			bw = 100.0 cm h = 10.0 cm	fiss = 0.00 mm
V103 1	L105 L103	bw = 100.0 cm h = 10.0 cm			bw = 100.0 cm h = 10.0 cm	fiss = 0.00 mm
V107 1	L105 L102	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.01 mm

V104 2	L105 L106	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.02 mm
V107 2	L103 L102	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.00 mm
V108 1	L103 L104	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.08 mm
V102 2	L103 L101	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.05 mm
V102 1	L102 L101	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.01 mm
V104 1	L102 L106	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.01 mm
V102 3	L101 L104	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.06 mm
V104 3	L106 L104	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 1.65 cm <sup>2</sup> /m (ø6.3 c/18 - 1.73 cm <sup>2</sup> /m) fiss = 0.01 mm

VERIFICAÇÃO DAS VIBRAÇÕES			
f (Hz)	fcrit (Hz)	f/fcrit	Condição (f/fcrit>1.2)
10.83	4.00	2.71	Ok

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

# MEMÓRIA DE CÁLCULO DE ESTRUTURA DE CONCRETO ARMADO CED QD 04 AE 02 - ESTRUTURAL MURO E GRADIL

**Autor do Projeto: Eng. Civil Dalmo Blanco Cinnanti**

**CREA: 7962/D-DF**

R00	29/12/2022	VERSÃO INICIAL	DALMO B CINNANTI
REVISÃO	DATA	DESCRIÇÃO	RESPONSÁVEL
<i>Nome do projeto</i>		MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO (MURO E GRADIL)	
<i>Número do projeto</i>		<b>314-SEEDF-CED QD 04 ESTRUTURAL-MEM-EST-MURO-R01</b>	
<i>Local</i>		<b>Quadra 04 AE 02 - RA XXV - SCIA / ESTRUTURAL - Vila Estrutural - DF</b>	

## SUMÁRIO

Resumo de resultados .....	23
Cargas verticais:.....	23
Deslocamento horizontal: .....	23
Aceleração horizontal: .....	23
Verificação de estabilidade (Gama-Z):.....	23
Análise de 2ª ordem: .....	24
Análise dinâmica:.....	24
Verificação da Estabilidade Global da Estrutura .....	25
Maior coeficiente Gama-Z.....	25
Limitações.....	25
Coeficiente Gama-Z por combinação .....	25
Deslocamentos Horizontais Devido à Ação do Vento.....	28
Análise da Não Linearidade Geométrica pelo Processo P-Delta.....	30
Imperfeições geométricas globais.....	32
Relatório de Esforços nas Fundações por Elementos .....	33
Quadro de Cargas dos Pilares .....	125
Análise dinâmica.....	129
Verificação do conforto perante a ação do vento.....	130
Pavimento FUNDAÇÕES .....	131



Resultado dos Blocos.....	132
Cálculo do Bloco B1.....	138
Cálculo das dimensões do bloco.....	138
Estimativa da carga solicitante.....	138
Determinação do número de estacas.....	138
Estimativa dos esforços nas estacas.....	139
Dimensionamento da armadura.....	139
Método de cálculo: biela-tirante.....	139
Cálculo do Bloco B69.....	140
Cálculo das dimensões do bloco.....	140
Estimativa da carga solicitante.....	140
Determinação do número de estacas.....	140
Estimativa dos esforços nas estacas.....	141
Dimensionamento da armadura.....	141
Método de cálculo: biela-tirante.....	141
Cálculo do Bloco B76.....	142
Cálculo das dimensões do bloco.....	142
Estimativa da carga solicitante.....	142
Determinação do número de estacas.....	142
Estimativa dos esforços nas estacas.....	143
Dimensionamento da armadura.....	143
Método de cálculo: biela-tirante.....	143

Cálculo do Bloco B92 .....	144
Cálculo das dimensões do bloco .....	144
Estimativa da carga solicitante.....	144
Determinação do número de estacas.....	144
Estimativa dos esforços nas estacas.....	145
Dimensionamento da armadura .....	145
Método de cálculo: biela-tirante .....	145
Cálculo do Bloco B93 .....	146
Cálculo das dimensões do bloco .....	146
Estimativa da carga solicitante.....	146
Determinação do número de estacas.....	146
Estimativa dos esforços nas estacas.....	147
Dimensionamento da armadura .....	147
Método de cálculo: biela-tirante .....	147
Cálculo do Bloco B106.....	148
Cálculo das dimensões do bloco .....	148
Estimativa da carga solicitante.....	148
Determinação do número de estacas.....	148
Estimativa dos esforços nas estacas.....	149
Dimensionamento da armadura .....	149
Método de cálculo: biela-tirante .....	149

Cálculo do Bloco B110.....	150
Cálculo das dimensões do bloco .....	150
Estimativa da carga solicitante.....	150
Determinação do número de estacas.....	150
Estimativa dos esforços nas estacas .....	151
Dimensionamento da armadura .....	151
Método de cálculo: biela-tirante .....	151
Cálculo do Bloco B113.....	152
Cálculo das dimensões do bloco .....	152
Estimativa da carga solicitante.....	152
Determinação do número de estacas.....	152
Estimativa dos esforços nas estacas.....	153
Dimensionamento da armadura .....	153
Método de cálculo: biela-tirante .....	153
Cálculo do Bloco B132.....	154
Cálculo das dimensões do bloco .....	154
Estimativa da carga solicitante.....	154
Determinação do número de estacas.....	154
Estimativa dos esforços nas estacas.....	155
Dimensionamento da armadura .....	155
Método de cálculo: biela-tirante .....	155
Cálculo do Bloco B133.....	156

Cálculo das dimensões do bloco .....	156
Estimativa da carga solicitante.....	156
Determinação do número de estacas.....	156
Estimativa dos esforços nas estacas.....	157
Dimensionamento da armadura .....	157
Método de cálculo: biela-tirante .....	157
Cálculo do Bloco B134.....	158
Cálculo das dimensões do bloco .....	158
Estimativa da carga solicitante.....	158
Determinação do número de estacas.....	158
Estimativa dos esforços nas estacas.....	159
Dimensionamento da armadura .....	159
Método de cálculo: biela-tirante .....	159
Cálculo do Bloco B135.....	160
Cálculo das dimensões do bloco .....	160
Estimativa da carga solicitante.....	160
Determinação do número de estacas.....	160
Estimativa dos esforços nas estacas.....	161
Dimensionamento da armadura .....	161
Método de cálculo: biela-tirante .....	161
Cálculo do Bloco B136.....	162

Cálculo das dimensões do bloco .....	162
Estimativa da carga solicitante.....	162
Determinação do número de estacas.....	162
Estimativa dos esforços nas estacas .....	163
Dimensionamento da armadura .....	163
Método de cálculo: biela-tirante .....	163
Cálculo do Bloco B137.....	164
Cálculo das dimensões do bloco .....	164
Estimativa da carga solicitante.....	164
Determinação do número de estacas.....	164
Estimativa dos esforços nas estacas.....	165
Dimensionamento da armadura .....	165
Método de cálculo: biela-tirante .....	165
Cálculo do Bloco B138.....	166
Cálculo das dimensões do bloco .....	166
Estimativa da carga solicitante.....	166
Determinação do número de estacas.....	166
Estimativa dos esforços nas estacas.....	167
Dimensionamento da armadura .....	167
Método de cálculo: biela-tirante .....	167
Cálculo do Bloco B141.....	168
Cálculo das dimensões do bloco .....	168

Estimativa da carga solicitante.....	168
Determinação do número de estacas.....	168
Estimativa dos esforços nas estacas.....	169
Dimensionamento da armadura .....	169
Método de cálculo: biela-tirante .....	169
Cálculo do Bloco B142.....	170
Cálculo das dimensões do bloco .....	170
Estimativa da carga solicitante.....	170
Determinação do número de estacas.....	170
Estimativa dos esforços nas estacas.....	171
Dimensionamento da armadura .....	171
Método de cálculo: biela-tirante .....	171
Cálculo do Bloco B143.....	172
Cálculo das dimensões do bloco .....	172
Estimativa da carga solicitante.....	172
Determinação do número de estacas.....	172
Estimativa dos esforços nas estacas.....	173
Dimensionamento da armadura .....	173
Método de cálculo: biela-tirante .....	173
Cálculo do Bloco B144.....	174
Cálculo das dimensões do bloco .....	174

Estimativa da carga solicitante.....	174
Determinação do número de estacas.....	174
Estimativa dos esforços nas estacas.....	175
Dimensionamento da armadura .....	175
Método de cálculo: biela-tirante .....	175
Cálculo do Bloco B145.....	176
Cálculo das dimensões do bloco .....	176
Estimativa da carga solicitante.....	176
Determinação do número de estacas.....	176
Estimativa dos esforços nas estacas.....	177
Dimensionamento da armadura .....	177
Método de cálculo: biela-tirante .....	177
Cálculo do Bloco B146.....	178
Cálculo das dimensões do bloco .....	178
Estimativa da carga solicitante.....	178
Determinação do número de estacas.....	178
Estimativa dos esforços nas estacas.....	179
Dimensionamento da armadura .....	179
Método de cálculo: biela-tirante .....	179
Cálculo do Bloco B147.....	180
Cálculo das dimensões do bloco .....	180
Estimativa da carga solicitante.....	180

Determinação do número de estacas.....	180
Estimativa dos esforços nas estacas.....	181
Dimensionamento da armadura .....	181
Método de cálculo: biela-tirante .....	181
Cálculo do Bloco B148.....	182
Cálculo das dimensões do bloco.....	182
Estimativa da carga solicitante.....	182
Determinação do número de estacas.....	182
Estimativa dos esforços nas estacas.....	183
Dimensionamento da armadura .....	183
Método de cálculo: biela-tirante .....	183
Cálculo do Bloco B149.....	184
Cálculo das dimensões do bloco.....	184
Estimativa da carga solicitante.....	184
Determinação do número de estacas.....	184
Estimativa dos esforços nas estacas.....	185
Dimensionamento da armadura .....	185
Método de cálculo: biela-tirante .....	185
Cálculo do Bloco B150.....	186
Cálculo das dimensões do bloco.....	186
Estimativa da carga solicitante.....	186



Determinação do número de estacas.....	186
Estimativa dos esforços nas estacas.....	187
Dimensionamento da armadura .....	187
Método de cálculo: biela-tirante .....	187
Cálculo do Bloco B151.....	188
Cálculo das dimensões do bloco.....	188
Estimativa da carga solicitante.....	188
Determinação do número de estacas.....	188
Estimativa dos esforços nas estacas.....	189
Dimensionamento da armadura .....	189
Método de cálculo: biela-tirante .....	189
Cálculo do Bloco B152.....	190
Cálculo das dimensões do bloco.....	190
Estimativa da carga solicitante.....	190
Determinação do número de estacas.....	190
Estimativa dos esforços nas estacas.....	191
Dimensionamento da armadura .....	191
Método de cálculo: biela-tirante .....	191
Cálculo do Bloco B155.....	192
Cálculo das dimensões do bloco.....	192
Estimativa da carga solicitante.....	192
Determinação do número de estacas.....	192

Estimativa dos esforços nas estacas.....	193
Dimensionamento da armadura .....	193
Método de cálculo: biela-tirante .....	193
Cálculo do Bloco B156.....	194
Cálculo das dimensões do bloco.....	194
Estimativa da carga solicitante.....	194
Determinação do número de estacas.....	194
Estimativa dos esforços nas estacas.....	195
Dimensionamento da armadura .....	195
Método de cálculo: biela-tirante .....	195
Cálculo do Bloco B157.....	196
Cálculo das dimensões do bloco.....	196
Estimativa da carga solicitante.....	196
Determinação do número de estacas.....	196
Estimativa dos esforços nas estacas.....	197
Dimensionamento da armadura .....	197
Método de cálculo: biela-tirante .....	197
Cálculo do Bloco B158.....	198
Cálculo das dimensões do bloco.....	198
Estimativa da carga solicitante.....	198
Determinação do número de estacas.....	198

Estimativa dos esforços nas estacas .....	199
Dimensionamento da armadura .....	199
Método de cálculo: biela-tirante .....	199
Cálculo do Bloco B159 .....	200
Cálculo das dimensões do bloco .....	200
Estimativa da carga solicitante.....	200
Determinação do número de estacas.....	200
Estimativa dos esforços nas estacas.....	201
Dimensionamento da armadura .....	201
Método de cálculo: biela-tirante .....	201
Cálculo do Bloco B160.....	202
Cálculo das dimensões do bloco .....	202
Estimativa da carga solicitante.....	202
Determinação do número de estacas.....	202
Estimativa dos esforços nas estacas.....	203
Dimensionamento da armadura .....	203
Método de cálculo: biela-tirante .....	203
Cálculo do Bloco B161.....	204
Cálculo das dimensões do bloco .....	204
Estimativa da carga solicitante.....	204
Determinação do número de estacas.....	204
Estimativa dos esforços nas estacas.....	205

Dimensionamento da armadura .....	205
Método de cálculo: biela-tirante .....	205
Cálculo do Bloco B162.....	206
Cálculo das dimensões do bloco.....	206
Estimativa da carga solicitante.....	206
Determinação do número de estacas.....	206
Estimativa dos esforços nas estacas.....	207
Dimensionamento da armadura .....	207
Método de cálculo: biela-tirante .....	207
Cálculo do Bloco B163.....	208
Cálculo das dimensões do bloco.....	208
Estimativa da carga solicitante.....	208
Determinação do número de estacas.....	208
Estimativa dos esforços nas estacas.....	209
Dimensionamento da armadura .....	209
Método de cálculo: biela-tirante .....	209
Cálculo do Bloco B164.....	210
Cálculo das dimensões do bloco.....	210
Estimativa da carga solicitante.....	210
Determinação do número de estacas.....	210
Estimativa dos esforços nas estacas.....	211

Dimensionamento da armadura .....	211
Método de cálculo: biela-tirante .....	211
Cálculo do Bloco B165.....	212
Cálculo das dimensões do bloco .....	212
Estimativa da carga solicitante.....	212
Determinação do número de estacas.....	212
Estimativa dos esforços nas estacas.....	213
Dimensionamento da armadura .....	213
Método de cálculo: biela-tirante .....	213
Cálculo do Bloco B166.....	214
Cálculo das dimensões do bloco .....	214
Estimativa da carga solicitante.....	214
Determinação do número de estacas.....	214
Estimativa dos esforços nas estacas.....	215
Dimensionamento da armadura .....	215
Método de cálculo: biela-tirante .....	215
Cálculo do Bloco B14-15.....	216
Cálculo das dimensões do bloco .....	216
Estimativa da carga solicitante.....	216
Determinação do número de estacas.....	216
Estimativa dos esforços nas estacas.....	217
Dimensionamento da armadura .....	217

Método de cálculo: biela-tirante .....	217
Cálculo do Bloco B28-29.....	218
Cálculo das dimensões do bloco .....	218
Estimativa da carga solicitante.....	218
Determinação do número de estacas.....	218
Estimativa dos esforços nas estacas.....	219
Dimensionamento da armadura .....	219
Método de cálculo: biela-tirante .....	219
Cálculo do Bloco B42-43.....	220
Cálculo das dimensões do bloco .....	220
Estimativa da carga solicitante.....	220
Determinação do número de estacas.....	220
Estimativa dos esforços nas estacas.....	221
Dimensionamento da armadura .....	221
Método de cálculo: biela-tirante .....	221
Cálculo do Bloco B56-57.....	222
Cálculo das dimensões do bloco .....	222
Estimativa da carga solicitante.....	222
Determinação do número de estacas.....	222
Estimativa dos esforços nas estacas.....	223
Dimensionamento da armadura .....	223

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Método de cálculo: biela-tirante .....	223
Cálculo do Bloco B83-84.....	224
Cálculo das dimensões do bloco .....	224
Estimativa da carga solicitante.....	224
Determinação do número de estacas.....	224
Estimativa dos esforços nas estacas.....	225
Dimensionamento da armadura .....	225
Método de cálculo: biela-tirante .....	225
Cálculo do Bloco B117-118.....	226
Cálculo das dimensões do bloco .....	226
Estimativa da carga solicitante.....	226
Determinação do número de estacas.....	226
Estimativa dos esforços nas estacas.....	227
Dimensionamento da armadura .....	227
Método de cálculo: biela-tirante .....	227
Cálculo do Bloco B139-140.....	228
Cálculo das dimensões do bloco .....	228
Estimativa da carga solicitante.....	228
Determinação do número de estacas.....	228
Estimativa dos esforços nas estacas.....	229
Dimensionamento da armadura .....	229
Método de cálculo: biela-tirante .....	229

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

Cálculo do Bloco B153-154.....	230
Cálculo das dimensões do bloco .....	230
Estimativa da carga solicitante.....	230
Determinação do número de estacas.....	230
Estimativa dos esforços nas estacas.....	231
Dimensionamento da armadura .....	231
Método de cálculo: biela-tirante .....	231
Resultados dos Pilares.....	232
Cálculo dos Pilares.....	238
Vigas do pavimento FUNDAÇÕES .....	242
Esforços da Viga VB1 .....	246
Esforços da Viga VB2 .....	247
Esforços da Viga VB3 .....	248
Esforços da Viga VB4 .....	249
Esforços da Viga VB5 .....	250
Esforços da Viga VB6 .....	251
Esforços da Viga VB7 .....	252
Esforços da Viga VB8 .....	253
Esforços da Viga VB9 .....	255
Esforços da Viga VB10 .....	258
Esforços da Viga VB11 .....	261



Esforços da Viga VB12 .....	264
Esforços da Viga VB13 .....	266
Esforços da Viga VB14 .....	270
Esforços da Viga VB15 .....	271
Esforços da Viga VB16 .....	272
Esforços da Viga VB17 .....	273
Esforços da Viga VB18 .....	275
Esforços da Viga VB19 .....	276
Esforços da Viga VB20 .....	277
Esforços da Viga VB21 .....	280
Esforços da Viga VB22 .....	283
Esforços da Viga VB23 .....	284
Esforços da Viga VB24 .....	286
Esforços da Viga VB25 .....	287
Esforços da Viga VB26 .....	288
Esforços da Viga VB27 .....	289
Esforços da Viga VB28 .....	290
Esforços da Viga VB29 .....	291
Esforços da Viga VB30 .....	292
Esforços da Viga VB31 .....	293
Esforços da Viga VB32 .....	294
Resultados da Viga VB1 .....	295

Resultados da Viga VB2 .....	296
Resultados da Viga VB3 .....	297
Resultados da Viga VB4 .....	298
Resultados da Viga VB5 .....	299
Resultados da Viga VB6 .....	300
Resultados da Viga VB7 .....	301
Resultados da Viga VB8 .....	302
Resultados da Viga VB9 .....	303
Resultados da Viga VB10 .....	305
Resultados da Viga VB11 .....	307
Resultados da Viga VB12 .....	309
Resultados da Viga VB13 .....	310
Resultados da Viga VB14 .....	313
Resultados da Viga VB15 .....	314
Resultados da Viga VB16 .....	315
Resultados da Viga VB17 .....	316
Resultados da Viga VB18 .....	317
Resultados da Viga VB19 .....	318
Resultados da Viga VB20 .....	319
Resultados da Viga VB21 .....	321
Resultados da Viga VB22 .....	323

Resultados da Viga VB23.....	324
Resultados da Viga VB24.....	325
Resultados da Viga VB25.....	326
Resultados da Viga VB26.....	327
Resultados da Viga VB27.....	328
Resultados da Viga VB28.....	329
Resultados da Viga VB29.....	330
Resultados da Viga VB30.....	331
Resultados da Viga VB31.....	332
Resultados da Viga VB32.....	333
Pavimento MURETA.....	334
Resultados dos Pilares.....	335
Cálculo dos Pilares.....	349
Pavimento MURO .....	358
Resultados dos Pilares.....	359
Cálculo dos Pilares.....	364
Vigas do pavimento MURO .....	367
Esforços da Viga V100.....	368
Esforços da Viga V101 .....	369
Esforços da Viga V102.....	371
Esforços da Viga V103 .....	372
Esforços da Viga V104.....	373

Esforços da Viga V105 .....	376
Resultados da Viga V100.....	379
Resultados da Viga V101.....	380
Resultados da Viga V102.....	381
Resultados da Viga V103.....	382
Resultados da Viga V104.....	383
Resultados da Viga V105.....	385

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## Resumo de resultados

### **Cargas verticais:**

Peso próprio = 103.02 tf

Adicional = 64.32 tf

Total = 167.34 tf

### **Deslocamento horizontal:**

X+ = 0.02 cm (limite 0.16)

X- = 0.02 cm (limite 0.16)

Y+ = 0.41 cm (limite 0.16)

Y- = 0.41 cm (limite 0.16)

### **AVISO: Deslocamento horizontal excessivo**

### **Aceleração horizontal:**

X+ = 0.000 m/s<sup>2</sup> (limite 0.147)

X- = 0.000 m/s<sup>2</sup> (limite 0.147)

Y+ = 3.905 m/s<sup>2</sup> (limite 0.147)

Y- = 3.905 m/s<sup>2</sup> (limite 0.147)

### **AVISO: Acelerações excessivas**

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

**Verificação de estabilidade (Gama-Z):**

X+ = 1.00 (limite 1.10)

X- = 1.00 (limite 1.10)

Y+ = 1.01 (limite 1.10)

Y- = 1.01 (limite 1.10)

**Análise de 2ª ordem:**

Processo P-Delta

Deslocamentos no topo da edificação:

Vento X+: 0.08 »» 0.08 (+0.16%)

Vento X-: 0.08 »» 0.08 (+0.16%)

Vento Y+: 1.65 »» 1.68 (+1.66%)

Vento Y-: 1.65 »» 1.68 (+1.66%)

Desaprumo Y+: 0.01 »» 0.01 (+1.71%)

Desaprumo Y-: 0.01 »» 0.01 (+1.71%)

**Análise dinâmica:**

Frequência natural: 3.55 Hz

**AVISO: Participação modal da massa do pórtico menor que 90%**

## Verificação da Estabilidade Global da Estrutura

### Maior coeficiente Gama-Z

Combinação: 1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4							
Pavimento	Altura relativa (cm)	Carga vertical (tf)	Carga horizontal (tf)	Deslocamento horizontal (cm)	Momento 2a. ordem (kgf.m)	Momento tombamento (kgf.m)	Gama-Z
MURO	280.00	22.70	8.47	1.39	314.98	23709.18	1.01 (lim=1.10)
MURETA	60.00	10.14	10.71	0.03	3.43	6424.06	
FUNDAÇÕES	10.00	191.14	0.72	0.00	3.58	71.63	
<b>TOTAL</b>					<b>322.00</b>	<b>30204.87</b>	

### Limitações

Em estruturas com Gama-Z maior que 1.10 é necessário fazer a verificação dos efeitos de 2ª ordem com a análise P-Delta.

O Gama-Z é um parâmetro de estabilidade para avaliação de estruturas simétricas (tanto geometria quanto carregamento) e edificações com mais de 4 pavimentos. Nos demais casos, recomenda-se a verificação dos efeitos de 2ª ordem com a análise P-Delta.

### Coefficiente Gama-Z por combinação

Combinação	Momento 2a. ordem (kgf.m)	Momento tombamento (kgf.m)	Gama-Z
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.4D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.4D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.4D3	321.93	30204.87	1.01
<b>1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4</b>	<b>322.00</b>	<b>30204.87</b>	<b>1.01</b>
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.4D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.84D1	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.84D2	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.84D3	536.57	50341.46	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.84D4	536.64	50341.46	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.4D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.4D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.4D3	321.93	30204.87	1.01



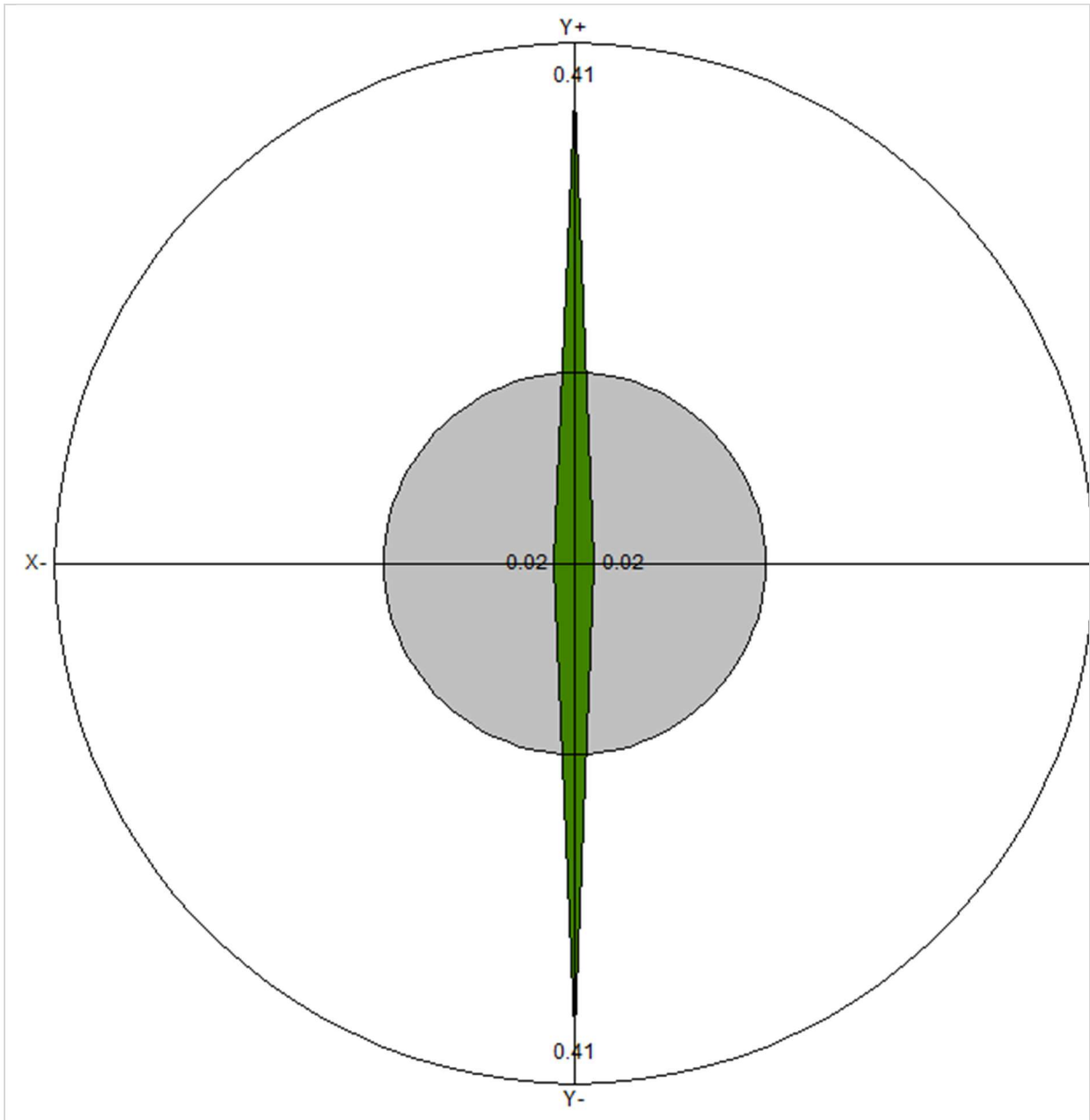
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.4D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.84D1	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.84D2	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.84D3	536.57	50341.46	1.01
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.84D4	536.64	50341.46	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.4D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.4D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.4D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.4D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.84D1	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.84D2	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.84D3	536.57	50341.46	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.84D4	536.64	50341.46	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.4D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.4D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.4D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.4D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.4D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.84D1	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.84D2	26.15	21956.98	1.00
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.84D3	536.57	50341.46	1.01
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.84D4	536.64	50341.46	1.01
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	322.00	30204.87	1.01
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	15.69	13174.19	1.00
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	321.93	30204.87	1.01
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	322.00	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.4D1	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.4D2	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	247.55	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.4D3	247.55	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	247.59	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.4D4	247.59	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.84D1	20.11	21956.98	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.84D2	20.10	21956.98	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.84D3	412.60	50341.46	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.84D4	412.64	50341.46	1.01



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.4D1	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.4D2	12.06	13174.19	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	247.55	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.4D3	247.55	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	247.59	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.4D4	247.59	30204.87	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.84D1	20.11	21956.98	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.84D2	20.10	21956.98	1.00
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.84D3	412.60	50341.46	1.01
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.84D4	412.64	50341.46	1.01
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	12.06	13174.19	1.00
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	12.06	13174.19	1.00
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	247.55	30204.87	1.01
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	247.59	30204.87	1.01
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	12.06	13174.19	1.00
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	12.06	13174.19	1.00
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	247.55	30204.87	1.01
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	247.59	30204.87	1.01

### Deslocamentos Horizontais Devido à Ação do Vento



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

<b>Verificações</b>	<b>X+</b>	<b>X-</b>	<b>Y+</b>	<b>Y-</b>
Altura total da edificação (cm)	280.00			
Deslocamento limite (cm)	0.16			
Deslocamento característico (cm)	0.06	-0.06	1.36	-1.36
gf2	0.30	0.30	0.30	0.30
Deslocamento combinações frequentes (cm)	0.02	-0.02	0.41	-0.41

<b>Pavimento</b>	<b>Altura (cm)</b>	<b>Deslocamento combinações frequentes (cm)</b>				<b>Diferença (cm)</b>				<b>Limite (cm)</b>
		<b>X+</b>	<b>X-</b>	<b>Y+</b>	<b>Y-</b>	<b>X+</b>	<b>X-</b>	<b>Y+</b>	<b>Y-</b>	
MURO	220.00	0.02	-0.02	0.41	-0.41	0.02	-0.02	0.40	-0.40	0.26
MURETA	50.00	0.00	0.00	0.01	-0.01	0.00	0.00	0.01	-0.01	0.06
FUNDAÇÕES	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

## Análise da Não Linearidade Geométrica pelo Processo P-Delta

Vento X+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	0.08	0.00	0.08	0.00	4.67	0.00	4.68	0.00
MURETA	0.00	0.00	0.00	0.00	4.29	0.00	4.29	0.00
FUNDAÇÕES	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.00

Variação no deslocamento do topo da edificação: 0.16%

Vento X-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	-0.08	0.00	-0.08	0.00	-4.67	0.00	-4.68	0.00
MURETA	0.00	0.00	0.00	0.00	-4.29	0.00	-4.29	0.00
FUNDAÇÕES	0.00	0.00	0.00	0.00	-0.21	0.00	-0.21	0.00

Variação no deslocamento do topo da edificação: 0.16%

Vento Y+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	0.00	1.65	0.00	1.68	0.00	10.08	0.00	10.26
MURETA	0.00	0.04	0.00	0.04	0.00	12.75	0.00	12.63
FUNDAÇÕES	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.84

Variação no deslocamento do topo da edificação: 1.66%

Vento Y-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	0.00	-1.65	0.00	-1.68	0.00	-10.08	0.00	-10.26
MURETA	0.00	-0.04	0.00	-0.04	0.00	-12.75	0.00	-12.63
FUNDAÇÕES	0.00	0.00	0.00	0.00	0.00	-0.85	0.00	-0.84

Variação no deslocamento do topo da edificação: 1.66%

Desaprumo X+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.00
MURETA	0.00	0.00	0.00	0.00	0.04	0.00	0.04	0.00
FUNDAÇÕES	0.00	0.00	0.00	0.00	0.71	0.00	0.71	0.00

Variação no deslocamento do topo da edificação: 0.15%

Desaprumo X-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	0.00	0.00	0.00	0.00	-0.09	0.00	-0.09	0.00
MURETA	0.00	0.00	0.00	0.00	-0.04	0.00	-0.04	0.00
FUNDAÇÕES	0.00	0.00	0.00	0.00	-0.71	0.00	-0.71	0.00

Variação no deslocamento do topo da edificação: 0.15%

Desaprumo Y+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	0.00	0.01	0.00	0.01	0.00	0.09	0.00	0.09
MURETA	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.04
FUNDAÇÕES	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.71

Variação no deslocamento do topo da edificação: 1.71%

Desaprumo Y-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
MURO	0.00	-0.01	0.00	-0.01	0.00	-0.09	0.00	-0.09
MURETA	0.00	0.00	0.00	0.00	0.00	-0.04	0.00	-0.04
FUNDAÇÕES	0.00	0.00	0.00	0.00	0.00	-0.71	0.00	-0.71

Variação no deslocamento do topo da edificação: 1.71%

## Imperfeições geométricas globais

Parâmetros	
Altura total da edificação (cm)	280.00
Nº de pilares contínuos	37
Combinação vertical	G1+G2+Q+A
Tipo de estrutura	Predominância em laje plana
Ângulo adotado	1/200

Pavimento	Carga vertical (tf)	Carga aplicada (tf)		Deslocamento (cm)	
		X	Y	X	Y
MURO	17.46	0.09	0.09	0.00	0.01
MURETA	7.80	0.04	0.04	0.00	0.00
FUNDAÇÕES	142.08	0.71	0.71	0.00	0.00

## Relatório de Esforços nas Fundações por Elementos

Fundação B1						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.20	-9.45	55.39	-0.02	0.00	-1.35
Adicional (G2)	0.11	-6.99	40.84	-0.02	0.00	-1.01
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.23	21.73	0.15	0.00	7.40
Vento X- (V2)	0.00	-0.23	-21.73	-0.15	0.00	-7.40
Vento Y+ (V3)	0.00	-49.46	0.07	0.00	0.10	-6.40
Vento Y- (V4)	0.00	49.46	-0.07	0.00	-0.10	6.40
Desaprumo X+ (D1)	0.00	0.01	1.53	0.02	0.00	0.96
Desaprumo X- (D2)	0.00	-0.01	-1.53	-0.02	0.00	-0.96
Desaprumo Y+ (D3)	0.00	-0.33	0.01	0.00	0.00	-0.24
Desaprumo Y- (D4)	0.00	0.33	-0.01	0.00	0.00	0.24
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.31	-16.29	110.79	0.07	0.00	3.04
G1+G2+0.6V2+D2	0.31	-16.59	81.66	-0.15	0.00	-7.76
G1+G2+0.6V3+D3	0.31	-46.44	96.28	-0.04	0.06	-6.44
G1+G2+0.6V4+D4	0.31	13.57	96.18	-0.04	-0.06	1.72
G1+G2+D1	0.31	-16.43	97.75	-0.02	0.00	-1.40
G1+G2+D2	0.31	-16.45	94.70	-0.06	0.00	-3.32
G1+G2+D3	0.31	-16.77	96.23	-0.04	0.00	-2.61
G1+G2+D4	0.31	-16.11	96.22	-0.04	0.00	-2.12
G1+G2+V1+0.6D1	0.31	-16.20	118.87	0.12	0.00	5.62
G1+G2+V2+0.6D2	0.31	-16.68	73.58	-0.20	0.00	-10.34
G1+G2+V3+0.6D3	0.31	-66.09	96.30	-0.04	0.10	-8.91
G1+G2+V4+0.6D4	0.31	33.22	96.15	-0.04	-0.10	4.19

Fundação B69						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.28	68.52	-15.70	-0.02	0.01	-1.08
Adicional (G2)	0.17	50.53	-11.22	-0.01	0.01	-0.78
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.01	-0.51	20.08	0.16	0.00	4.96
Vento X- (V2)	-0.01	0.51	-20.08	-0.16	0.00	-4.96
Vento Y+ (V3)	0.01	-73.24	-0.11	0.00	0.42	14.28
Vento Y- (V4)	-0.01	73.24	0.11	0.00	-0.42	-14.28
Desaprumo X+ (D1)	0.00	-0.02	1.54	0.02	0.00	0.66
Desaprumo X- (D2)	0.00	0.02	-1.54	-0.02	0.00	-0.66
Desaprumo Y+ (D3)	0.00	-1.64	-0.01	0.00	0.02	0.48
Desaprumo Y- (D4)	0.00	1.64	0.01	0.00	-0.02	-0.48
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00

Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.45	118.71	-13.33	0.08	0.01	1.78
G1+G2+0.6V2+D2	0.44	119.37	-40.50	-0.14	0.01	-5.50
G1+G2+0.6V3+D3	0.45	73.46	-26.99	-0.04	0.28	7.19
G1+G2+0.6V4+D4	0.44	164.62	-26.85	-0.03	-0.25	-10.91
G1+G2+D1	0.45	119.02	-25.38	-0.02	0.01	-1.20
G1+G2+D2	0.45	119.06	-28.46	-0.05	0.01	-2.52
G1+G2+D3	0.45	117.40	-26.93	-0.03	0.03	-1.38
G1+G2+D4	0.45	120.68	-26.91	-0.03	0.00	-2.34
G1+G2+V1+0.6D1	0.46	118.51	-5.92	0.13	0.01	3.50
G1+G2+V2+0.6D2	0.44	119.57	-47.92	-0.20	0.01	-7.22
G1+G2+V3+0.6D3	0.45	44.82	-27.03	-0.04	0.45	12.71
G1+G2+V4+0.6D4	0.44	193.27	-26.81	-0.03	-0.42	-16.43

<b>Fundação B76</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.16	0.00	73.00	-0.01	0.00	0.00
Adicional (G2)	0.11	0.00	53.81	-0.01	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	7.44	0.09	0.00	0.00
Vento X- (V2)	0.00	0.00	-7.44	-0.09	0.00	0.00
Vento Y+ (V3)	0.00	-3.20	0.00	0.00	0.02	-6.88
Vento Y- (V4)	0.00	3.20	0.00	0.00	-0.02	6.88
Desaprumo X+ (D1)	0.00	0.00	1.11	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.11	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-0.19	0.00	0.00	0.00	-0.26
Desaprumo Y- (D4)	0.00	0.19	0.00	0.00	0.00	0.26
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.27	0.00	132.39	0.05	0.00	0.00
G1+G2+0.6V2+D2	0.27	0.00	121.23	-0.08	0.00	0.00
G1+G2+0.6V3+D3	0.27	-2.11	126.81	-0.02	0.01	-4.38
G1+G2+0.6V4+D4	0.27	2.11	126.81	-0.02	-0.01	4.38
G1+G2+D1	0.27	0.00	127.93	-0.01	0.00	0.00
G1+G2+D2	0.27	0.00	125.70	-0.03	0.00	0.00
G1+G2+D3	0.27	-0.19	126.81	-0.02	0.00	-0.26
G1+G2+D4	0.27	0.19	126.81	-0.02	0.00	0.26
G1+G2+V1+0.6D1	0.27	0.00	134.93	0.08	0.00	0.00
G1+G2+V2+0.6D2	0.27	0.00	118.70	-0.12	0.00	0.00
G1+G2+V3+0.6D3	0.27	-3.31	126.81	-0.02	0.02	-7.03
G1+G2+V4+0.6D4	0.27	3.31	126.81	-0.02	-0.02	7.03

<b>Fundação B92</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.65	0.00	63.48	-0.04	0.00	0.00
Adicional (G2)	0.29	0.00	47.15	-0.03	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	316.26	0.22	0.00	0.00



Vento X- (V2)	0.00	0.00	-316.26	-0.22	0.00	0.00
Vento Y+ (V3)	0.00	-813.11	0.00	0.00	0.37	5.17
Vento Y- (V4)	0.00	813.11	0.00	0.00	-0.37	-5.17
Desaprumo X+ (D1)	0.00	0.00	3.90	0.02	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.90	-0.02	0.00	0.00
Desaprumo Y+ (D3)	0.00	-3.45	0.00	0.00	0.00	0.23
Desaprumo Y- (D4)	0.00	3.45	0.00	0.00	0.00	-0.23
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.93	0.00	304.29	0.08	0.00	0.00
G1+G2+0.6V2+D2	0.93	0.00	-83.02	-0.21	0.00	0.00
G1+G2+0.6V3+D3	0.93	-491.31	110.64	-0.06	0.23	3.33
G1+G2+0.6V4+D4	0.93	491.31	110.64	-0.06	-0.23	-3.33
G1+G2+D1	0.93	0.00	114.53	-0.05	0.00	0.00
G1+G2+D2	0.93	0.00	106.74	-0.08	0.00	0.00
G1+G2+D3	0.93	-3.45	110.64	-0.06	0.00	0.23
G1+G2+D4	0.93	3.45	110.64	-0.06	0.00	-0.23
G1+G2+V1+0.6D1	0.93	0.00	429.23	0.16	0.00	0.00
G1+G2+V2+0.6D2	0.93	0.00	-207.96	-0.29	0.00	0.00
G1+G2+V3+0.6D3	0.93	-815.18	110.64	-0.06	0.37	5.30
G1+G2+V4+0.6D4	0.93	815.18	110.64	-0.06	-0.37	-5.30

<b>Fundação B93</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.64	0.00	-70.13	0.04	0.00	0.00
Adicional (G2)	0.28	0.00	-52.09	0.03	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	317.70	0.25	0.00	0.00
Vento X- (V2)	0.00	0.00	-317.70	-0.25	0.00	0.00
Vento Y+ (V3)	0.00	-813.00	0.00	0.00	0.37	-5.66
Vento Y- (V4)	0.00	813.00	0.00	0.00	-0.37	5.66
Desaprumo X+ (D1)	0.00	0.00	4.21	0.02	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-4.21	-0.02	0.00	0.00
Desaprumo Y+ (D3)	0.00	-3.44	0.00	0.00	0.00	-0.24
Desaprumo Y- (D4)	0.00	3.44	0.00	0.00	0.00	0.24
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.92	0.00	72.62	0.25	0.00	0.00
G1+G2+0.6V2+D2	0.92	0.00	-317.05	-0.09	0.00	0.00
G1+G2+0.6V3+D3	0.92	-491.24	-122.21	0.08	0.23	-3.64
G1+G2+0.6V4+D4	0.92	491.24	-122.21	0.08	-0.23	3.64
G1+G2+D1	0.92	0.00	-118.00	0.10	0.00	0.00
G1+G2+D2	0.92	0.00	-126.43	0.06	0.00	0.00
G1+G2+D3	0.92	-3.44	-122.21	0.08	0.00	-0.24
G1+G2+D4	0.92	3.44	-122.21	0.08	0.00	0.24
G1+G2+V1+0.6D1	0.92	0.00	198.02	0.34	0.00	0.00
G1+G2+V2+0.6D2	0.92	0.00	-442.44	-0.19	0.00	0.00
G1+G2+V3+0.6D3	0.92	-815.06	-122.21	0.08	0.37	-5.81
G1+G2+V4+0.6D4	0.92	815.06	-122.21	0.08	-0.37	5.81

Fundação B106						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.28	58.93	-9.01	-0.03	0.06	-3.05
Adicional (G2)	0.16	43.48	-5.95	-0.02	0.04	-2.25
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.01	0.06	25.10	0.17	0.00	-1.81
Vento X- (V2)	-0.01	-0.06	-25.10	-0.17	0.00	1.81
Vento Y+ (V3)	0.01	-42.11	0.46	0.00	0.16	15.78
Vento Y- (V4)	-0.01	42.11	-0.46	0.00	-0.16	-15.78
Desaprumo X+ (D1)	0.00	0.01	1.84	0.02	0.00	-0.21
Desaprumo X- (D2)	0.00	-0.01	-1.84	-0.02	0.00	0.21
Desaprumo Y+ (D3)	0.00	-0.58	0.00	0.00	0.01	0.46
Desaprumo Y- (D4)	0.00	0.58	0.00	0.00	-0.01	-0.46
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.44	102.46	1.95	0.07	0.10	-6.61
G1+G2+0.6V2+D2	0.43	102.36	-31.86	-0.17	0.10	-4.01
G1+G2+0.6V3+D3	0.44	76.56	-14.68	-0.05	0.20	4.62
G1+G2+0.6V4+D4	0.43	128.26	-15.24	-0.05	0.00	-15.24
G1+G2+D1	0.44	102.42	-13.11	-0.03	0.10	-5.52
G1+G2+D2	0.44	102.40	-16.80	-0.07	0.10	-5.09
G1+G2+D3	0.44	101.83	-14.95	-0.05	0.10	-4.85
G1+G2+D4	0.44	102.99	-14.96	-0.05	0.09	-5.77
G1+G2+V1+0.6D1	0.45	102.48	11.25	0.13	0.10	-7.25
G1+G2+V2+0.6D2	0.43	102.34	-41.16	-0.23	0.10	-3.37
G1+G2+V3+0.6D3	0.45	59.95	-14.50	-0.05	0.26	10.75
G1+G2+V4+0.6D4	0.43	144.87	-15.42	-0.05	-0.06	-21.36

Fundação B110						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.36	-68.67	53.62	-0.04	-0.05	2.38
Adicional (G2)	0.22	-50.65	39.53	-0.03	-0.04	1.75
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.28	14.18	0.06	0.00	0.51
Vento X- (V2)	0.00	0.28	-14.18	-0.06	0.00	-0.51
Vento Y+ (V3)	0.00	-48.50	-0.18	0.00	0.15	-6.01
Vento Y- (V4)	0.00	48.50	0.18	0.00	-0.15	6.01
Desaprumo X+ (D1)	0.00	-0.02	0.69	0.01	0.00	0.02
Desaprumo X- (D2)	0.00	0.02	-0.69	-0.01	0.00	-0.02
Desaprumo Y+ (D3)	0.00	-0.63	-0.01	0.00	0.01	-0.23
Desaprumo Y- (D4)	0.00	0.63	0.01	0.00	-0.01	0.23
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.58	-119.50	102.35	-0.03	-0.08	4.46
G1+G2+0.6V2+D2	0.59	-119.14	83.95	-0.11	-0.09	3.81
G1+G2+0.6V3+D3	0.58	-149.05	93.03	-0.07	0.01	0.29
G1+G2+0.6V4+D4	0.59	-89.59	93.27	-0.07	-0.18	7.97
G1+G2+D1	0.58	-119.34	93.84	-0.06	-0.09	4.15

G1+G2+D2	0.59	-119.30	92.46	-0.08	-0.09	4.11
G1+G2+D3	0.58	-119.95	93.14	-0.07	-0.08	3.90
G1+G2+D4	0.59	-118.69	93.16	-0.07	-0.09	4.36
G1+G2+V1+0.6D1	0.58	-119.61	107.75	-0.01	-0.08	4.65
G1+G2+V2+0.6D2	0.59	-119.03	78.55	-0.13	-0.09	3.61
G1+G2+V3+0.6D3	0.58	-168.19	92.96	-0.07	0.07	-2.02
G1+G2+V4+0.6D4	0.59	-70.44	93.34	-0.07	-0.24	10.28

<b>Fundação B113</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.50	-32.97	-32.69	0.02	-0.06	3.37
Adicional (G2)	0.33	-24.51	-23.94	0.01	-0.05	2.50
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.06	17.98	0.07	0.00	-1.43
Vento X- (V2)	0.00	-0.06	-17.98	-0.07	0.00	1.43
Vento Y+ (V3)	0.01	-59.67	0.62	0.00	0.51	-14.78
Vento Y- (V4)	-0.01	59.67	-0.62	0.00	-0.51	14.78
Desaprumo X+ (D1)	0.00	0.01	0.99	0.01	0.00	-0.12
Desaprumo X- (D2)	0.00	-0.01	-0.99	-0.01	0.00	0.12
Desaprumo Y+ (D3)	0.00	-1.81	0.01	0.00	0.02	-0.71
Desaprumo Y- (D4)	0.00	1.81	-0.01	0.00	-0.02	0.71
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.82	-57.43	-44.84	0.09	-0.11	4.89
G1+G2+0.6V2+D2	0.82	-57.51	-68.40	-0.02	-0.11	6.85
G1+G2+0.6V3+D3	0.83	-95.09	-56.24	0.04	0.22	-3.70
G1+G2+0.6V4+D4	0.82	-19.86	-57.01	0.03	-0.44	15.44
G1+G2+D1	0.82	-57.47	-55.63	0.04	-0.11	5.75
G1+G2+D2	0.82	-57.48	-57.62	0.03	-0.11	5.99
G1+G2+D3	0.82	-59.28	-56.61	0.03	-0.09	5.17
G1+G2+D4	0.82	-55.67	-56.64	0.03	-0.13	6.58
G1+G2+V1+0.6D1	0.83	-57.41	-38.05	0.11	-0.11	4.36
G1+G2+V2+0.6D2	0.82	-57.53	-75.20	-0.04	-0.11	7.38
G1+G2+V3+0.6D3	0.83	-118.23	-56.00	0.04	0.42	-9.33
G1+G2+V4+0.6D4	0.82	3.29	-57.25	0.03	-0.63	21.07

<b>Fundação B132</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.52	0.00	32.00	-0.03	0.00	0.00
Adicional (G2)	0.49	0.00	182.15	-0.07	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.11	0.00	170.35	0.14	0.00	0.00
Vento X- (V2)	0.11	0.00	-170.35	-0.14	0.00	0.00
Vento Y+ (V3)	0.00	-820.45	0.00	0.00	0.37	-0.61
Vento Y- (V4)	0.00	820.45	0.00	0.00	-0.37	0.61
Desaprumo X+ (D1)	0.00	0.00	3.40	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.40	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-5.99	0.00	0.00	0.01	-0.32
Desaprumo Y- (D4)	0.00	5.99	0.00	0.00	-0.01	0.32

Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.94	0.00	319.76	-0.02	0.00	0.00
G1+G2+0.6V2+D2	1.07	0.00	108.55	-0.20	0.00	0.00
G1+G2+0.6V3+D3	1.01	-498.26	214.16	-0.11	0.22	-0.68
G1+G2+0.6V4+D4	1.01	498.26	214.16	-0.11	-0.22	0.68
G1+G2+D1	1.00	0.00	217.55	-0.10	0.00	0.00
G1+G2+D2	1.01	0.00	210.76	-0.11	0.00	0.00
G1+G2+D3	1.01	-5.99	214.16	-0.11	0.01	-0.32
G1+G2+D4	1.01	5.99	214.16	-0.11	-0.01	0.32
G1+G2+V1+0.6D1	0.90	0.00	386.54	0.04	0.00	0.00
G1+G2+V2+0.6D2	1.11	0.00	41.77	-0.25	0.00	0.00
G1+G2+V3+0.6D3	1.01	-824.04	214.16	-0.11	0.37	-0.80
G1+G2+V4+0.6D4	1.01	824.04	214.16	-0.11	-0.37	0.80

<b>Fundação B133</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.86	0.00	9.57	0.00	0.00	0.00
Adicional (G2)	1.07	0.00	42.70	0.04	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.04	0.00	175.25	0.17	0.00	0.00
Vento X- (V2)	-0.04	0.00	-175.25	-0.17	0.00	0.00
Vento Y+ (V3)	0.00	-821.90	0.00	0.00	0.36	-0.55
Vento Y- (V4)	0.00	821.90	0.00	0.00	-0.36	0.55
Desaprumo X+ (D1)	0.00	0.00	3.80	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.80	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-7.37	0.00	0.00	0.01	-0.29
Desaprumo Y- (D4)	0.00	7.37	0.00	0.00	-0.01	0.29
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	1.95	0.00	161.23	0.16	0.00	0.00
G1+G2+0.6V2+D2	1.91	0.00	-56.68	-0.06	0.00	0.00
G1+G2+0.6V3+D3	1.93	-500.51	52.27	0.05	0.23	-0.62
G1+G2+0.6V4+D4	1.93	500.51	52.27	0.05	-0.23	0.62
G1+G2+D1	1.93	0.00	56.08	0.06	0.00	0.00
G1+G2+D2	1.93	0.00	48.47	0.04	0.00	0.00
G1+G2+D3	1.93	-7.37	52.27	0.05	0.01	-0.29
G1+G2+D4	1.93	7.37	52.27	0.05	-0.01	0.29
G1+G2+V1+0.6D1	1.97	0.00	229.81	0.22	0.00	0.00
G1+G2+V2+0.6D2	1.89	0.00	-125.26	-0.12	0.00	0.00
G1+G2+V3+0.6D3	1.93	-826.32	52.27	0.05	0.37	-0.72
G1+G2+V4+0.6D4	1.93	826.32	52.27	0.05	-0.37	0.72

<b>Fundação B134</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.88	0.00	-1.42	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.19	0.02	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00

Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	172.21	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-172.21	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.03	0.00	0.00	0.37	-0.18
Vento Y- (V4)	0.00	823.03	0.00	0.00	-0.37	0.18
Desaprumo X+ (D1)	0.00	0.00	3.78	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.78	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.01	0.00	0.00	0.01	-0.10
Desaprumo Y- (D4)	0.00	8.01	0.00	0.00	-0.01	0.10
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	105.88	0.13	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-108.34	-0.09	0.00	0.00
G1+G2+0.6V3+D3	2.01	-501.82	-1.23	0.02	0.23	-0.21
G1+G2+0.6V4+D4	2.01	501.82	-1.23	0.02	-0.23	0.21
G1+G2+D1	2.01	0.00	2.55	0.03	0.00	0.00
G1+G2+D2	2.01	0.00	-5.02	0.01	0.00	0.00
G1+G2+D3	2.01	-8.01	-1.23	0.02	0.01	-0.10
G1+G2+D4	2.01	8.01	-1.23	0.02	-0.01	0.10
G1+G2+V1+0.6D1	2.01	0.00	173.25	0.19	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-175.71	-0.15	0.00	0.00
G1+G2+V3+0.6D3	2.01	-827.83	-1.23	0.02	0.37	-0.24
G1+G2+V4+0.6D4	2.01	827.83	-1.23	0.02	-0.37	0.24

<b>Fundação B135</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.88	0.00	-1.64	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.19	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	173.03	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-173.03	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.32	0.00	0.00	0.37	-0.04
Vento Y- (V4)	0.00	823.32	0.00	0.00	-0.37	0.04
Desaprumo X+ (D1)	0.00	0.00	3.80	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.80	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.16	0.00	0.00	0.01	-0.02
Desaprumo Y- (D4)	0.00	8.16	0.00	0.00	-0.01	0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	106.17	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-109.07	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.15	-1.45	0.00	0.23	-0.04
G1+G2+0.6V4+D4	2.01	502.15	-1.45	0.00	-0.23	0.04
G1+G2+D1	2.01	0.00	2.35	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-5.25	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.16	-1.45	0.00	0.01	-0.02
G1+G2+D4	2.01	8.16	-1.45	0.00	-0.01	0.02
G1+G2+V1+0.6D1	2.01	0.00	173.86	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-176.76	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.22	-1.45	0.00	0.37	-0.05
G1+G2+V4+0.6D4	2.01	828.22	-1.45	0.00	-0.37	0.05

Fundação B136						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	-2.11	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.21	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	172.97	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-172.97	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.39	0.00	0.00	0.37	-0.02
Vento Y- (V4)	0.00	823.39	0.00	0.00	-0.37	0.02
Desaprumo X+ (D1)	0.00	0.00	3.80	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.80	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.20	0.00	0.00	0.01	-0.01
Desaprumo Y- (D4)	0.00	8.20	0.00	0.00	-0.01	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	105.69	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-109.49	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.23	-1.90	0.00	0.23	-0.02
G1+G2+0.6V4+D4	2.01	502.23	-1.90	0.00	-0.23	0.02
G1+G2+D1	2.01	0.00	1.90	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-5.70	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.20	-1.90	0.00	0.01	-0.01
G1+G2+D4	2.01	8.20	-1.90	0.00	-0.01	0.01
G1+G2+V1+0.6D1	2.01	0.00	173.35	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-177.16	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.30	-1.90	0.00	0.37	-0.02
G1+G2+V4+0.6D4	2.01	828.30	-1.90	0.00	-0.37	0.02

Fundação B137						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.87	0.00	-0.42	0.01	0.00	0.00
Adicional (G2)	1.13	0.00	-0.89	0.05	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	173.03	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-173.03	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.50	0.00	0.00	0.37	-0.04
Vento Y- (V4)	0.00	823.50	0.00	0.00	-0.37	0.04
Desaprumo X+ (D1)	0.00	0.00	3.80	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.80	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.24	0.00	0.00	0.01	-0.02
Desaprumo Y- (D4)	0.00	8.24	0.00	0.00	-0.01	0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	1.99	0.00	106.31	0.17	0.00	0.00
G1+G2+0.6V2+D2	1.99	0.00	-108.94	-0.05	0.00	0.00
G1+G2+0.6V3+D3	1.99	-502.34	-1.31	0.06	0.23	-0.05

G1+G2+0.6V4+D4	1.99	502.34	-1.31	0.06	-0.23	0.05
G1+G2+D1	1.99	0.00	2.49	0.07	0.00	0.00
G1+G2+D2	1.99	0.00	-5.12	0.05	0.00	0.00
G1+G2+D3	1.99	-8.24	-1.31	0.06	0.01	-0.02
G1+G2+D4	1.99	8.24	-1.31	0.06	-0.01	0.02
G1+G2+V1+0.6D1	1.99	0.00	174.00	0.23	0.00	0.00
G1+G2+V2+0.6D2	1.99	0.00	-176.63	-0.11	0.00	0.00
G1+G2+V3+0.6D3	1.99	-828.44	-1.31	0.06	0.37	-0.06
G1+G2+V4+0.6D4	1.99	828.44	-1.31	0.06	-0.37	0.06

Fundação B138						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.97	0.00	15.79	-0.05	0.00	0.00
Adicional (G2)	1.28	0.00	113.38	-0.21	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.01	0.00	177.02	0.16	0.00	0.00
Vento X- (V2)	-0.01	0.00	-177.02	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.17	0.00	0.00	0.36	0.30
Vento Y- (V4)	0.00	823.17	0.00	0.00	-0.36	-0.30
Desaprumo X+ (D1)	0.00	0.00	3.96	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.96	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.26	0.00	0.00	0.01	0.16
Desaprumo Y- (D4)	0.00	8.26	0.00	0.00	-0.01	-0.16
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.26	0.00	239.34	-0.16	0.00	0.00
G1+G2+0.6V2+D2	2.24	0.00	18.98	-0.37	0.00	0.00
G1+G2+0.6V3+D3	2.25	-502.16	129.16	-0.26	0.23	0.34
G1+G2+0.6V4+D4	2.25	502.16	129.16	-0.26	-0.23	-0.34
G1+G2+D1	2.25	0.00	133.13	-0.25	0.00	0.00
G1+G2+D2	2.25	0.00	125.20	-0.27	0.00	0.00
G1+G2+D3	2.25	-8.26	129.16	-0.26	0.01	0.16
G1+G2+D4	2.25	8.26	129.16	-0.26	-0.01	-0.16
G1+G2+V1+0.6D1	2.26	0.00	308.56	-0.10	0.00	0.00
G1+G2+V2+0.6D2	2.24	0.00	-50.24	-0.43	0.00	0.00
G1+G2+V3+0.6D3	2.25	-828.13	129.16	-0.26	0.37	0.40
G1+G2+V4+0.6D4	2.25	828.13	129.16	-0.26	-0.37	-0.40

Fundação B141						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.89	0.00	2.94	0.02	0.00	0.00
Adicional (G2)	1.14	0.00	-0.88	0.10	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.02	0.00	172.99	0.16	0.00	0.00
Vento X- (V2)	-0.02	0.00	-172.99	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-822.32	0.00	0.00	0.36	-0.48
Vento Y- (V4)	0.00	822.32	0.00	0.00	-0.36	0.48
Desaprumo X+ (D1)	0.00	0.00	3.90	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.90	-0.01	0.00	0.00

Desaprumo Y+ (D3)	0.00	-7.66	0.00	0.00	0.01	-0.25
Desaprumo Y- (D4)	0.00	7.66	0.00	0.00	-0.01	0.25
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.04	0.00	109.75	0.22	0.00	0.00
G1+G2+0.6V2+D2	2.02	0.00	-105.64	0.01	0.00	0.00
G1+G2+0.6V3+D3	2.03	-501.05	2.05	0.12	0.23	-0.54
G1+G2+0.6V4+D4	2.03	501.05	2.05	0.12	-0.23	0.54
G1+G2+D1	2.03	0.00	5.96	0.13	0.00	0.00
G1+G2+D2	2.03	0.00	-1.85	0.11	0.00	0.00
G1+G2+D3	2.03	-7.66	2.05	0.12	0.01	-0.25
G1+G2+D4	2.03	7.66	2.05	0.12	-0.01	0.25
G1+G2+V1+0.6D1	2.05	0.00	177.39	0.28	0.00	0.00
G1+G2+V2+0.6D2	2.02	0.00	-173.28	-0.05	0.00	0.00
G1+G2+V3+0.6D3	2.03	-826.92	2.05	0.12	0.37	-0.63
G1+G2+V4+0.6D4	2.03	826.92	2.05	0.12	-0.37	0.63

<b>Fundação B142</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.87	0.00	-0.29	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.63	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.41	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.41	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.19	0.00	0.00	0.37	-0.11
Vento Y- (V4)	0.00	823.19	0.00	0.00	-0.37	0.11
Desaprumo X+ (D1)	0.00	0.00	3.83	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.83	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.09	0.00	0.00	0.01	-0.06
Desaprumo Y- (D4)	0.00	8.09	0.00	0.00	-0.01	0.06
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.00	0.00	105.82	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-105.14	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.00	-502.00	0.34	0.00	0.23	-0.12
G1+G2+0.6V4+D4	2.00	502.00	0.34	0.00	-0.23	0.12
G1+G2+D1	2.00	0.00	4.17	0.01	0.00	0.00
G1+G2+D2	2.00	0.00	-3.49	-0.01	0.00	0.00
G1+G2+D3	2.00	-8.09	0.34	0.00	0.01	-0.06
G1+G2+D4	2.00	8.09	0.34	0.00	-0.01	0.06
G1+G2+V1+0.6D1	2.00	0.00	172.05	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-171.37	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.00	-828.04	0.34	0.00	0.37	-0.14
G1+G2+V4+0.6D4	2.00	828.04	0.34	0.00	-0.37	0.14

<b>Fundação B143</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.88	0.00	0.00	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.33	0.00	0.00	0.00



Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.86	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.86	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.34	0.00	0.00	0.37	-0.02
Vento Y- (V4)	0.00	823.34	0.00	0.00	-0.37	0.02
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	0.00	0.00	0.01	-0.01
Desaprumo Y- (D4)	0.00	8.17	0.00	0.00	-0.01	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	106.10	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-105.43	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.17	0.33	0.00	0.23	-0.02
G1+G2+0.6V4+D4	2.01	502.17	0.33	0.00	-0.23	0.02
G1+G2+D1	2.01	0.00	4.18	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-3.51	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.17	0.33	0.00	0.01	-0.01
G1+G2+D4	2.01	8.17	0.33	0.00	-0.01	0.01
G1+G2+V1+0.6D1	2.01	0.00	172.50	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-171.84	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.24	0.33	0.00	0.37	-0.02
G1+G2+V4+0.6D4	2.01	828.24	0.33	0.00	-0.37	0.02

<b>Fundação B144</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.88	0.00	-0.25	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.27	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.73	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.73	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.35	0.00	0.00	0.37	0.00
Vento Y- (V4)	0.00	823.35	0.00	0.00	-0.37	0.00
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.18	0.00	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.18	0.00	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	105.71	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-105.66	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.19	0.02	0.00	0.23	0.00
G1+G2+0.6V4+D4	2.01	502.19	0.02	0.00	-0.23	0.00
G1+G2+D1	2.01	0.00	3.87	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-3.82	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.18	0.02	0.00	0.01	0.00
G1+G2+D4	2.01	8.18	0.02	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	172.06	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-172.02	-0.17	0.00	0.00

G1+G2+V3+0.6D3	2.01	-828.26	0.02	0.00	0.37	0.00
G1+G2+V4+0.6D4	2.01	828.26	0.02	0.00	-0.37	0.00

Fundação B145						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	-0.41	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.18	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.72	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.72	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.34	0.00	0.00	0.37	0.00
Vento Y- (V4)	0.00	823.34	0.00	0.00	-0.37	0.00
Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	0.00	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.17	0.00	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	105.45	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-105.91	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.18	-0.23	0.00	0.23	0.00
G1+G2+0.6V4+D4	2.01	502.18	-0.23	0.00	-0.23	0.00
G1+G2+D1	2.01	0.00	3.62	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-4.08	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.17	-0.23	0.00	0.01	0.00
G1+G2+D4	2.01	8.17	-0.23	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	171.80	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-172.26	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.25	-0.23	0.00	0.37	0.00
G1+G2+V4+0.6D4	2.01	828.25	-0.23	0.00	-0.37	0.00

Fundação B146						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	-0.59	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.10	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.73	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.73	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.34	0.00	0.00	0.37	0.00
Vento Y- (V4)	0.00	823.34	0.00	0.00	-0.37	0.00
Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	0.00	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.17	0.00	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	105.19	0.11	0.00	0.00

G1+G2+0.6V2+D2	2.01	0.00	-106.18	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.18	-0.49	0.00	0.23	0.00
G1+G2+0.6V4+D4	2.01	502.18	-0.49	0.00	-0.23	0.00
G1+G2+D1	2.01	0.00	3.35	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-4.34	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.17	-0.49	0.00	0.01	0.00
G1+G2+D4	2.01	8.17	-0.49	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	171.54	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-172.53	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.25	-0.49	0.00	0.37	0.00
G1+G2+V4+0.6D4	2.01	828.25	-0.49	0.00	-0.37	0.00

Fundação B147						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	-0.78	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.02	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.76	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.76	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.34	0.00	0.00	0.37	0.00
Vento Y- (V4)	0.00	823.34	0.00	0.00	-0.37	0.00
Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	0.00	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.17	0.00	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	104.95	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-106.46	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.18	-0.76	0.00	0.23	0.00
G1+G2+0.6V4+D4	2.01	502.18	-0.76	0.00	-0.23	0.00
G1+G2+D1	2.01	0.00	3.09	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-4.61	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.17	-0.76	0.00	0.01	0.00
G1+G2+D4	2.01	8.17	-0.76	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	171.31	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-172.83	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.25	-0.76	0.00	0.37	0.00
G1+G2+V4+0.6D4	2.01	828.25	-0.76	0.00	-0.37	0.00

Fundação B148						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	-0.97	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	-0.06	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.82	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.82	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.34	0.00	0.00	0.37	0.00
Vento Y- (V4)	0.00	823.34	0.00	0.00	-0.37	0.00

Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	0.00	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.17	0.00	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	104.71	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-106.77	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.18	-1.03	0.00	0.23	0.00
G1+G2+0.6V4+D4	2.01	502.18	-1.03	0.00	-0.23	0.00
G1+G2+D1	2.01	0.00	2.82	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-4.88	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.17	-1.03	0.00	0.01	0.00
G1+G2+D4	2.01	8.17	-1.03	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	171.10	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-173.16	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.25	-1.03	0.00	0.37	0.00
G1+G2+V4+0.6D4	2.01	828.25	-1.03	0.00	-0.37	0.00

Fundação B149						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	-1.12	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	-0.16	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	169.91	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-169.91	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.35	0.00	0.00	0.37	-0.01
Vento Y- (V4)	0.00	823.35	0.00	0.00	-0.37	0.01
Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.18	0.00	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.18	0.00	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	104.52	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-107.07	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.19	-1.27	0.00	0.23	-0.01
G1+G2+0.6V4+D4	2.01	502.19	-1.27	0.00	-0.23	0.01
G1+G2+D1	2.01	0.00	2.58	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-5.13	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.18	-1.27	0.00	0.01	0.00
G1+G2+D4	2.01	8.18	-1.27	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	170.94	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-173.49	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.26	-1.27	0.00	0.37	-0.01
G1+G2+V4+0.6D4	2.01	828.26	-1.27	0.00	-0.37	0.01

Fundação B150						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)

Peso próprio (G1)	0.88	0.00	-1.61	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	-0.12	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	170.03	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-170.03	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.38	0.00	0.00	0.37	-0.01
Vento Y- (V4)	0.00	823.38	0.00	0.00	-0.37	0.01
Desaprumo X+ (D1)	0.00	0.00	3.86	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.86	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.19	0.00	0.00	0.01	-0.01
Desaprumo Y- (D4)	0.00	8.19	0.00	0.00	-0.01	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	104.14	0.10	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-107.60	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.22	-1.73	0.00	0.23	-0.02
G1+G2+0.6V4+D4	2.01	502.22	-1.73	0.00	-0.23	0.02
G1+G2+D1	2.01	0.00	2.13	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-5.58	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.19	-1.73	0.00	0.01	-0.01
G1+G2+D4	2.01	8.19	-1.73	0.00	-0.01	0.01
G1+G2+V1+0.6D1	2.01	0.00	170.61	0.16	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-174.07	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.30	-1.73	0.00	0.37	-0.02
G1+G2+V4+0.6D4	2.01	828.30	-1.73	0.00	-0.37	0.02

<b>Fundação B151</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.87	0.00	0.07	0.01	0.00	0.00
Adicional (G2)	1.13	0.00	-1.22	0.05	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	170.11	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-170.11	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.49	0.00	0.00	0.37	-0.04
Vento Y- (V4)	0.00	823.49	0.00	0.00	-0.37	0.04
Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.24	0.00	0.00	0.01	-0.02
Desaprumo Y- (D4)	0.00	8.24	0.00	0.00	-0.01	0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	1.99	0.00	104.78	0.16	0.00	0.00
G1+G2+0.6V2+D2	1.99	0.00	-107.06	-0.05	0.00	0.00
G1+G2+0.6V3+D3	1.99	-502.33	-1.14	0.06	0.23	-0.05
G1+G2+0.6V4+D4	1.99	502.33	-1.14	0.06	-0.23	0.05
G1+G2+D1	1.99	0.00	2.71	0.07	0.00	0.00
G1+G2+D2	1.99	0.00	-5.00	0.05	0.00	0.00
G1+G2+D3	1.99	-8.24	-1.14	0.06	0.01	-0.02
G1+G2+D4	1.99	8.24	-1.14	0.06	-0.01	0.02

G1+G2+V1+0.6D1	1.99	0.00	171.28	0.22	0.00	0.00
G1+G2+V2+0.6D2	1.99	0.00	-173.57	-0.11	0.00	0.00
G1+G2+V3+0.6D3	1.99	-828.44	-1.14	0.06	0.37	-0.06
G1+G2+V4+0.6D4	1.99	828.44	-1.14	0.06	-0.37	0.06

Fundação B152						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.97	0.00	16.29	-0.05	0.00	0.00
Adicional (G2)	1.28	0.00	113.05	-0.21	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.01	0.00	174.07	0.16	0.00	0.00
Vento X- (V2)	-0.01	0.00	-174.07	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.17	0.00	0.00	0.36	0.30
Vento Y- (V4)	0.00	823.17	0.00	0.00	-0.36	-0.30
Desaprumo X+ (D1)	0.00	0.00	4.02	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-4.02	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.26	0.00	0.00	0.01	0.16
Desaprumo Y- (D4)	0.00	8.26	0.00	0.00	-0.01	-0.16
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.26	0.00	237.79	-0.16	0.00	0.00
G1+G2+0.6V2+D2	2.24	0.00	20.88	-0.37	0.00	0.00
G1+G2+0.6V3+D3	2.25	-502.16	129.34	-0.26	0.23	0.34
G1+G2+0.6V4+D4	2.25	502.16	129.34	-0.26	-0.23	-0.34
G1+G2+D1	2.25	0.00	133.35	-0.25	0.00	0.00
G1+G2+D2	2.25	0.00	125.32	-0.27	0.00	0.00
G1+G2+D3	2.25	-8.26	129.34	-0.26	0.01	0.16
G1+G2+D4	2.25	8.26	129.34	-0.26	-0.01	-0.16
G1+G2+V1+0.6D1	2.26	0.00	305.81	-0.10	0.00	0.00
G1+G2+V2+0.6D2	2.24	0.00	-47.14	-0.43	0.00	0.00
G1+G2+V3+0.6D3	2.25	-828.13	129.34	-0.26	0.37	0.40
G1+G2+V4+0.6D4	2.25	828.13	129.34	-0.26	-0.37	-0.40

Fundação B155						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.89	0.00	4.73	0.02	0.00	0.00
Adicional (G2)	1.14	0.00	-0.83	0.10	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.02	0.00	177.71	0.16	0.00	0.00
Vento X- (V2)	-0.02	0.00	-177.71	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-822.32	-3.38	0.00	0.36	-0.48
Vento Y- (V4)	0.00	822.32	3.38	0.00	-0.36	0.48
Desaprumo X+ (D1)	0.00	0.00	3.90	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.90	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-7.66	-0.03	0.00	0.01	-0.25
Desaprumo Y- (D4)	0.00	7.66	0.03	0.00	-0.01	0.25
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00

Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.04	0.00	114.42	0.23	0.00	0.00
G1+G2+0.6V2+D2	2.02	0.00	-106.62	0.01	0.00	0.00
G1+G2+0.6V3+D3	2.03	-501.05	1.85	0.12	0.23	-0.54
G1+G2+0.6V4+D4	2.03	501.05	5.95	0.12	-0.23	0.54
G1+G2+D1	2.03	0.00	7.80	0.13	0.00	0.00
G1+G2+D2	2.03	0.00	0.00	0.11	0.00	0.00
G1+G2+D3	2.03	-7.66	3.87	0.12	0.01	-0.25
G1+G2+D4	2.03	7.66	3.93	0.12	-0.01	0.25
G1+G2+V1+0.6D1	2.05	0.00	183.95	0.29	0.00	0.00
G1+G2+V2+0.6D2	2.02	0.00	-176.15	-0.05	0.00	0.00
G1+G2+V3+0.6D3	2.03	-826.91	0.50	0.11	0.37	-0.63
G1+G2+V4+0.6D4	2.03	826.91	7.30	0.12	-0.37	0.63

Fundação B156						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.87	0.00	1.48	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.68	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	174.07	0.17	0.00	0.00
Vento X- (V2)	0.00	0.00	-174.07	-0.17	0.00	0.00
Vento Y+ (V3)	0.00	-823.18	-3.34	0.00	0.37	-0.11
Vento Y- (V4)	0.00	823.18	3.34	0.00	-0.37	0.11
Desaprumo X+ (D1)	0.00	0.00	3.83	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.83	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.09	-0.03	0.00	0.01	-0.06
Desaprumo Y- (D4)	0.00	8.09	0.03	0.00	-0.01	0.06
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.00	0.00	110.43	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-106.11	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.00	-502.00	0.13	0.00	0.23	-0.12
G1+G2+0.6V4+D4	2.00	502.00	4.19	0.00	-0.23	0.12
G1+G2+D1	2.00	0.00	5.99	0.01	0.00	0.00
G1+G2+D2	2.00	0.00	-1.67	-0.01	0.00	0.00
G1+G2+D3	2.00	-8.09	2.14	0.00	0.01	-0.06
G1+G2+D4	2.00	8.09	2.19	0.00	-0.01	0.06
G1+G2+V1+0.6D1	2.00	0.00	178.53	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-174.21	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.00	-828.04	-1.20	0.00	0.37	-0.14
G1+G2+V4+0.6D4	2.00	828.04	5.52	0.00	-0.37	0.14

Fundação B157						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	1.81	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.38	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	174.61	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-174.61	-0.16	0.00	0.00

Vento Y+ (V3)	0.00	-823.34	-3.40	0.00	0.37	-0.02
Vento Y- (V4)	0.00	823.34	3.40	0.00	-0.37	0.02
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	-0.03	0.00	0.01	-0.01
Desaprumo Y- (D4)	0.00	8.17	0.03	0.00	-0.01	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	110.80	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-106.41	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.17	0.12	0.00	0.23	-0.02
G1+G2+0.6V4+D4	2.01	502.17	4.26	0.00	-0.23	0.02
G1+G2+D1	2.01	0.00	6.03	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-1.65	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.17	2.17	0.00	0.01	-0.01
G1+G2+D4	2.01	8.17	2.22	0.00	-0.01	0.01
G1+G2+V1+0.6D1	2.01	0.00	179.10	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-174.72	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.24	-1.23	0.00	0.37	-0.02
G1+G2+V4+0.6D4	2.01	828.24	5.61	0.00	-0.37	0.02

<b>Fundação B158</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.88	0.00	1.59	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.32	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	174.57	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-174.57	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.35	-3.47	0.00	0.37	0.00
Vento Y- (V4)	0.00	823.35	3.47	0.00	-0.37	0.00
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.18	-0.03	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.18	0.03	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	110.50	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-106.67	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.19	-0.19	0.00	0.23	0.00
G1+G2+0.6V4+D4	2.01	502.19	4.03	0.00	-0.23	0.00
G1+G2+D1	2.01	0.00	5.76	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-1.92	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.18	1.89	0.00	0.01	0.00
G1+G2+D4	2.01	8.18	1.94	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	178.80	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-174.96	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.26	-1.57	0.00	0.37	0.00
G1+G2+V4+0.6D4	2.01	828.26	5.40	0.00	-0.37	0.00

<b>Fundação B159</b>
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Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	1.47	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.24	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	174.69	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-174.69	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.38	-3.56	0.00	0.37	-0.02
Vento Y- (V4)	0.00	823.38	3.56	0.00	-0.37	0.02
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	-0.03	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.17	0.03	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	110.37	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-106.94	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.20	-0.45	0.00	0.23	-0.01
G1+G2+0.6V4+D4	2.01	502.20	3.87	0.00	-0.23	0.01
G1+G2+D1	2.01	0.00	5.55	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-2.13	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.17	1.69	0.00	0.01	0.00
G1+G2+D4	2.01	8.17	1.74	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	178.70	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-175.28	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.28	-1.86	0.00	0.37	-0.02
G1+G2+V4+0.6D4	2.01	828.28	5.29	0.00	-0.37	0.02

Fundação B160						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	1.35	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.16	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	174.84	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-174.84	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-823.56	-3.67	0.00	0.37	-0.10
Vento Y- (V4)	0.00	823.56	3.67	0.00	-0.37	0.10
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.17	-0.03	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.17	0.03	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	110.25	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-107.24	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.31	-0.72	0.00	0.23	-0.06
G1+G2+0.6V4+D4	2.01	502.31	3.73	0.00	-0.23	0.06
G1+G2+D1	2.01	0.00	5.35	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-2.34	-0.01	0.00	0.00

G1+G2+D3	2.01	-8.18	1.48	0.00	0.01	0.00
G1+G2+D4	2.01	8.17	1.53	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	178.65	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-175.64	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-828.47	-2.18	0.00	0.37	-0.10
G1+G2+V4+0.6D4	2.01	828.46	5.19	0.00	-0.37	0.10

Fundação B161						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	1.24	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.08	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	175.05	0.16	0.00	0.00
Vento X- (V2)	0.00	0.00	-175.05	-0.16	0.00	0.00
Vento Y+ (V3)	0.00	-824.09	-3.78	0.00	0.37	-0.19
Vento Y- (V4)	0.00	824.09	3.78	0.00	-0.37	0.19
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.18	-0.03	0.00	0.01	0.00
Desaprumo Y- (D4)	0.00	8.18	0.03	0.00	-0.01	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	0.00	110.19	0.11	0.00	0.00
G1+G2+0.6V2+D2	2.01	0.00	-107.56	-0.11	0.00	0.00
G1+G2+0.6V3+D3	2.01	-502.64	-0.98	0.00	0.23	-0.12
G1+G2+0.6V4+D4	2.01	502.64	3.61	0.00	-0.23	0.12
G1+G2+D1	2.01	0.00	5.16	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-2.53	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.18	1.29	0.00	0.01	0.00
G1+G2+D4	2.01	8.18	1.34	0.00	-0.01	0.00
G1+G2+V1+0.6D1	2.01	0.00	178.67	0.17	0.00	0.00
G1+G2+V2+0.6D2	2.01	0.00	-176.04	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.01	-829.00	-2.49	0.00	0.37	-0.19
G1+G2+V4+0.6D4	2.01	829.00	5.11	0.00	-0.37	0.19

Fundação B162						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.88	0.00	1.10	0.00	0.00	0.00
Adicional (G2)	1.13	0.00	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.02	175.30	0.17	0.00	-0.02
Vento X- (V2)	0.00	0.02	-175.30	-0.17	0.00	0.02
Vento Y+ (V3)	0.00	-824.14	-3.99	0.00	0.37	0.65
Vento Y- (V4)	0.00	824.14	3.99	0.00	-0.37	-0.65
Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.18	-0.03	0.00	0.01	0.01
Desaprumo Y- (D4)	0.00	8.18	0.03	0.00	-0.01	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00

Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	-0.01	110.14	0.11	0.00	-0.01
G1+G2+0.6V2+D2	2.01	0.02	-107.92	-0.11	0.00	0.01
G1+G2+0.6V3+D3	2.01	-502.66	-1.31	0.00	0.23	0.40
G1+G2+0.6V4+D4	2.01	502.66	3.53	0.00	-0.23	-0.40
G1+G2+D1	2.01	0.00	4.96	0.01	0.00	0.00
G1+G2+D2	2.01	0.00	-2.74	-0.01	0.00	0.00
G1+G2+D3	2.01	-8.18	1.08	0.00	0.01	0.01
G1+G2+D4	2.01	8.18	1.14	0.00	-0.01	-0.01
G1+G2+V1+0.6D1	2.01	-0.02	178.72	0.17	0.00	-0.01
G1+G2+V2+0.6D2	2.01	0.03	-176.50	-0.17	0.00	0.02
G1+G2+V3+0.6D3	2.01	-829.04	-2.89	0.00	0.37	0.66
G1+G2+V4+0.6D4	2.01	829.05	5.11	0.00	-0.37	-0.66

<b>Fundação B163</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.88	0.03	1.15	0.00	0.00	0.02
Adicional (G2)	1.13	0.01	-0.15	0.00	0.00	0.01
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.14	175.68	0.17	0.00	-0.06
Vento X- (V2)	0.00	0.14	-175.68	-0.17	0.00	0.06
Vento Y+ (V3)	0.00	-814.49	-3.78	0.00	0.36	7.72
Vento Y- (V4)	0.00	814.49	3.78	0.00	-0.36	-7.72
Desaprumo X+ (D1)	0.00	0.00	3.85	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.85	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-8.06	-0.03	0.00	0.01	0.09
Desaprumo Y- (D4)	0.00	8.06	0.03	0.00	-0.01	-0.09
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.01	-0.04	110.26	0.11	0.00	-0.01
G1+G2+0.6V2+D2	2.01	0.12	-108.26	-0.11	0.00	0.06
G1+G2+0.6V3+D3	2.01	-496.71	-1.30	0.00	0.23	4.75
G1+G2+0.6V4+D4	2.01	496.79	3.30	0.00	-0.23	-4.70
G1+G2+D1	2.01	0.04	4.85	0.01	0.00	0.03
G1+G2+D2	2.01	0.04	-2.85	-0.01	0.00	0.03
G1+G2+D3	2.01	-8.02	0.97	0.00	0.01	0.12
G1+G2+D4	2.01	8.10	1.03	0.00	-0.01	-0.07
G1+G2+V1+0.6D1	2.01	-0.10	178.99	0.17	0.00	-0.04
G1+G2+V2+0.6D2	2.01	0.18	-177.00	-0.17	0.00	0.09
G1+G2+V3+0.6D3	2.00	-819.29	-2.80	0.00	0.37	7.81
G1+G2+V4+0.6D4	2.01	819.36	4.80	0.01	-0.37	-7.75

<b>Fundação B164</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.88	0.18	0.10	-0.01	0.00	0.08
Adicional (G2)	1.14	0.04	0.39	-0.05	0.00	0.01
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00

Vento X+ (V1)	0.00	-0.44	175.66	0.16	0.00	-0.10
Vento X- (V2)	0.00	0.44	-175.66	-0.16	0.00	0.10
Vento Y+ (V3)	0.01	-751.67	-6.51	-0.01	0.35	37.94
Vento Y- (V4)	-0.01	751.67	6.51	0.01	-0.35	-37.94
Desaprumo X+ (D1)	0.00	0.00	3.84	0.01	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-3.84	-0.01	0.00	0.00
Desaprumo Y+ (D3)	0.00	-7.32	-0.05	0.00	0.01	0.45
Desaprumo Y- (D4)	0.00	7.32	0.05	0.00	-0.01	-0.45
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.02	-0.05	109.72	0.05	0.00	0.04
G1+G2+0.6V2+D2	2.02	0.49	-108.76	-0.17	0.00	0.15
G1+G2+0.6V3+D3	2.03	-458.10	-3.47	-0.06	0.22	23.31
G1+G2+0.6V4+D4	2.01	458.54	4.43	-0.06	-0.22	-23.12
G1+G2+D1	2.02	0.22	4.33	-0.05	0.00	0.10
G1+G2+D2	2.02	0.22	-3.36	-0.07	0.00	0.09
G1+G2+D3	2.02	-7.10	0.44	-0.06	0.01	0.54
G1+G2+D4	2.02	7.53	0.53	-0.06	-0.01	-0.35
G1+G2+V1+0.6D1	2.02	-0.23	178.45	0.11	0.00	0.00
G1+G2+V2+0.6D2	2.02	0.66	-177.48	-0.23	0.00	0.19
G1+G2+V3+0.6D3	2.03	-755.84	-6.05	-0.07	0.35	38.30
G1+G2+V4+0.6D4	2.01	756.28	7.02	-0.05	-0.35	-38.11

<b>Fundação B165</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.78	0.49	-25.83	0.01	0.00	0.14
Adicional (G2)	0.94	0.08	-120.48	0.02	0.00	0.06
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.06	-0.27	166.74	0.16	0.00	0.34
Vento X- (V2)	0.06	0.27	-166.74	-0.16	0.00	-0.34
Vento Y+ (V3)	-0.08	-532.58	-11.81	-0.13	0.28	93.27
Vento Y- (V4)	0.08	532.58	11.81	0.13	-0.28	-93.27
Desaprumo X+ (D1)	0.00	0.01	3.51	0.01	0.00	-0.01
Desaprumo X- (D2)	0.00	-0.01	-3.51	-0.01	0.00	0.01
Desaprumo Y+ (D3)	0.00	-4.73	-0.14	0.00	0.01	0.99
Desaprumo Y- (D4)	0.00	4.73	0.14	0.00	-0.01	-0.99
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	1.68	0.41	-42.75	0.14	0.00	0.40
G1+G2+0.6V2+D2	1.75	0.72	-249.86	-0.07	0.00	0.00
G1+G2+0.6V3+D3	1.67	-323.71	-153.53	-0.05	0.17	57.15
G1+G2+0.6V4+D4	1.76	324.84	-139.09	0.11	-0.17	-56.75
G1+G2+D1	1.72	0.57	-142.80	0.04	0.00	0.19
G1+G2+D2	1.72	0.56	-149.81	0.03	0.00	0.21
G1+G2+D3	1.72	-4.16	-146.44	0.03	0.01	1.19
G1+G2+D4	1.72	5.29	-146.17	0.04	-0.01	-0.79
G1+G2+V1+0.6D1	1.65	0.30	22.54	0.20	0.00	0.53
G1+G2+V2+0.6D2	1.78	0.83	-315.15	-0.13	0.00	-0.13
G1+G2+V3+0.6D3	1.64	-534.85	-158.20	-0.10	0.28	94.06
G1+G2+V4+0.6D4	1.79	535.98	-134.42	0.17	-0.28	-93.66

<b>Fundação B166</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.50	-22.55	-11.55	0.01	0.02	-0.56
Adicional (G2)	0.37	-5.22	-47.18	0.04	0.02	-1.89
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.13	8.27	45.34	0.10	0.00	5.88
Vento X- (V2)	-0.13	-8.27	-45.34	-0.10	0.00	-5.88
Vento Y+ (V3)	-0.05	-1047.53	19.98	0.16	0.76	79.77
Vento Y- (V4)	0.05	1047.53	-19.98	-0.16	-0.76	-79.77
Desaprumo X+ (D1)	0.00	0.14	1.08	0.01	0.00	0.40
Desaprumo X- (D2)	0.00	-0.14	-1.08	-0.01	0.00	-0.40
Desaprumo Y+ (D3)	0.00	-8.40	0.20	0.00	0.02	0.82
Desaprumo Y- (D4)	0.00	8.40	-0.20	0.00	-0.02	-0.82
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.95	-22.67	-30.44	0.12	0.04	1.47
G1+G2+0.6V2+D2	0.79	-32.87	-87.01	-0.01	0.04	-6.38
G1+G2+0.6V3+D3	0.84	-664.70	-46.54	0.15	0.52	46.22
G1+G2+0.6V4+D4	0.90	609.15	-70.91	-0.05	-0.44	-51.13
G1+G2+D1	0.87	-27.63	-57.64	0.06	0.04	-2.06
G1+G2+D2	0.87	-27.92	-59.80	0.05	0.04	-2.85
G1+G2+D3	0.87	-36.18	-58.53	0.05	0.06	-1.64
G1+G2+D4	0.87	-19.37	-58.92	0.05	0.02	-3.27
G1+G2+V1+0.6D1	1.01	-19.42	-12.73	0.15	0.04	3.67
G1+G2+V2+0.6D2	0.74	-36.12	-104.71	-0.05	0.04	-8.58
G1+G2+V3+0.6D3	0.82	-1080.35	-38.62	0.22	0.81	77.81
G1+G2+V4+0.6D4	0.92	1024.80	-78.82	-0.11	-0.74	-82.71

<b>Fundação B14-15</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.45	0.00	-35.61	0.03	0.00	0.00
Adicional (G2)	0.25	0.00	-26.47	0.02	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	203.46	0.31	0.00	0.00
Vento X- (V2)	0.00	0.00	-203.46	-0.31	0.00	0.00
Vento Y+ (V3)	0.00	-194.36	-0.15	0.00	0.19	-2.71
Vento Y- (V4)	0.00	194.36	0.15	0.00	-0.19	2.71
Desaprumo X+ (D1)	0.00	0.00	19.18	0.03	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-19.18	-0.03	0.00	0.00
Desaprumo Y+ (D3)	0.00	-0.82	-0.01	0.00	0.00	-0.09
Desaprumo Y- (D4)	0.00	0.82	0.01	0.00	0.00	0.09
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.71	0.00	79.17	0.27	0.00	0.00
G1+G2+0.6V2+D2	0.71	0.00	-203.33	-0.16	0.00	0.00
G1+G2+0.6V3+D3	0.71	-117.44	-62.18	0.05	0.12	-1.71
G1+G2+0.6V4+D4	0.71	117.44	-61.99	0.05	-0.12	1.71
G1+G2+D1	0.71	0.00	-42.91	0.08	0.00	0.00

G1+G2+D2	0.71	0.00	-81.26	0.02	0.00	0.00
G1+G2+D3	0.71	-0.82	-62.09	0.05	0.00	-0.09
G1+G2+D4	0.71	0.82	-62.08	0.05	0.00	0.09
G1+G2+V1+0.6D1	0.71	0.00	152.88	0.38	0.00	0.00
G1+G2+V2+0.6D2	0.71	0.00	-277.05	-0.27	0.00	0.00
G1+G2+V3+0.6D3	0.71	-194.85	-62.23	0.05	0.19	-2.76
G1+G2+V4+0.6D4	0.71	194.85	-61.93	0.05	-0.19	2.76

Fundação B28-29						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.45	0.00	-32.76	0.03	0.00	0.00
Adicional (G2)	0.25	0.00	-24.35	0.02	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	203.25	0.31	0.00	0.00
Vento X- (V2)	0.00	0.00	-203.25	-0.31	0.00	0.00
Vento Y+ (V3)	0.00	-194.45	0.00	0.00	0.19	-2.53
Vento Y- (V4)	0.00	194.45	0.00	0.00	-0.19	2.53
Desaprumo X+ (D1)	0.00	0.00	19.15	0.03	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-19.15	-0.03	0.00	0.00
Desaprumo Y+ (D3)	0.00	-0.82	0.00	0.00	0.00	-0.08
Desaprumo Y- (D4)	0.00	0.82	0.00	0.00	0.00	0.08
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.70	0.00	83.99	0.26	0.00	0.00
G1+G2+0.6V2+D2	0.70	0.00	-198.21	-0.17	0.00	0.00
G1+G2+0.6V3+D3	0.70	-117.49	-57.11	0.05	0.12	-1.60
G1+G2+0.6V4+D4	0.70	117.49	-57.11	0.05	-0.12	1.60
G1+G2+D1	0.70	0.00	-37.96	0.08	0.00	0.00
G1+G2+D2	0.70	0.00	-76.26	0.01	0.00	0.00
G1+G2+D3	0.70	-0.82	-57.11	0.05	0.00	-0.08
G1+G2+D4	0.70	0.82	-57.11	0.05	0.00	0.08
G1+G2+V1+0.6D1	0.70	0.00	157.63	0.37	0.00	0.00
G1+G2+V2+0.6D2	0.70	0.00	-271.85	-0.28	0.00	0.00
G1+G2+V3+0.6D3	0.70	-194.94	-57.11	0.05	0.19	-2.57
G1+G2+V4+0.6D4	0.70	194.94	-57.11	0.05	-0.19	2.57

Fundação B42-43						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.45	0.00	-32.76	0.03	0.00	0.00
Adicional (G2)	0.25	0.00	-24.35	0.02	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	203.25	0.31	0.00	0.00
Vento X- (V2)	0.00	0.00	-203.25	-0.31	0.00	0.00
Vento Y+ (V3)	0.00	-194.45	0.00	0.00	0.19	-2.53
Vento Y- (V4)	0.00	194.45	0.00	0.00	-0.19	2.53
Desaprumo X+ (D1)	0.00	0.00	19.15	0.03	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-19.15	-0.03	0.00	0.00
Desaprumo Y+ (D3)	0.00	-0.82	0.00	0.00	0.00	-0.08
Desaprumo Y- (D4)	0.00	0.82	0.00	0.00	0.00	0.08

Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.70	0.00	83.99	0.26	0.00	0.00
G1+G2+0.6V2+D2	0.70	0.00	-198.21	-0.17	0.00	0.00
G1+G2+0.6V3+D3	0.70	-117.49	-57.11	0.05	0.12	-1.60
G1+G2+0.6V4+D4	0.70	117.49	-57.11	0.05	-0.12	1.60
G1+G2+D1	0.70	0.00	-37.96	0.08	0.00	0.00
G1+G2+D2	0.70	0.00	-76.26	0.01	0.00	0.00
G1+G2+D3	0.70	-0.82	-57.11	0.05	0.00	-0.08
G1+G2+D4	0.70	0.82	-57.11	0.05	0.00	0.08
G1+G2+V1+0.6D1	0.70	0.00	157.63	0.37	0.00	0.00
G1+G2+V2+0.6D2	0.70	0.00	-271.85	-0.28	0.00	0.00
G1+G2+V3+0.6D3	0.70	-194.94	-57.11	0.05	0.19	-2.57
G1+G2+V4+0.6D4	0.70	194.94	-57.11	0.05	-0.19	2.57

Fundação B56-57						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.45	0.00	-33.52	0.03	0.00	0.00
Adicional (G2)	0.25	0.00	-24.90	0.02	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	199.50	0.30	0.00	0.00
Vento X- (V2)	0.00	0.00	-199.50	-0.30	0.00	0.00
Vento Y+ (V3)	0.00	-194.45	0.46	0.00	0.19	-2.53
Vento Y- (V4)	0.00	194.45	-0.46	0.00	-0.19	2.53
Desaprumo X+ (D1)	0.00	0.00	18.65	0.03	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-18.65	-0.03	0.00	0.00
Desaprumo Y+ (D3)	0.00	-0.82	0.02	0.00	0.00	-0.08
Desaprumo Y- (D4)	0.00	0.82	-0.02	0.00	0.00	0.08
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.70	0.00	79.93	0.25	0.00	0.00
G1+G2+0.6V2+D2	0.70	0.00	-196.77	-0.17	0.00	0.00
G1+G2+0.6V3+D3	0.70	-117.49	-58.12	0.04	0.12	-1.60
G1+G2+0.6V4+D4	0.70	117.49	-58.71	0.04	-0.12	1.60
G1+G2+D1	0.70	0.00	-39.77	0.07	0.00	0.00
G1+G2+D2	0.70	0.00	-77.07	0.01	0.00	0.00
G1+G2+D3	0.70	-0.82	-58.40	0.04	0.00	-0.08
G1+G2+D4	0.70	0.82	-58.43	0.04	0.00	0.08
G1+G2+V1+0.6D1	0.70	0.00	152.27	0.36	0.00	0.00
G1+G2+V2+0.6D2	0.70	0.00	-269.11	-0.27	0.00	0.00
G1+G2+V3+0.6D3	0.70	-194.94	-57.95	0.04	0.19	-2.57
G1+G2+V4+0.6D4	0.70	194.94	-58.89	0.04	-0.19	2.57

Fundação B83-84						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.43	0.00	-10.44	0.02	0.00	0.00
Adicional (G2)	0.23	0.00	-7.79	0.01	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00

Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	166.69	0.24	0.00	0.00
Vento X- (V2)	0.00	0.00	-166.69	-0.24	0.00	0.00
Vento Y+ (V3)	0.00	-195.11	0.00	0.00	0.19	-1.27
Vento Y- (V4)	0.00	195.11	0.00	0.00	-0.19	1.27
Desaprumo X+ (D1)	0.00	0.00	13.87	0.02	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-13.87	-0.02	0.00	0.00
Desaprumo Y+ (D3)	0.00	-0.82	0.00	0.00	0.00	-0.04
Desaprumo Y- (D4)	0.00	0.82	0.00	0.00	0.00	0.04
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.66	0.00	95.67	0.20	0.00	0.00
G1+G2+0.6V2+D2	0.66	0.00	-132.11	-0.14	0.00	0.00
G1+G2+0.6V3+D3	0.66	-117.89	-18.22	0.03	0.12	-0.81
G1+G2+0.6V4+D4	0.66	117.89	-18.22	0.03	-0.12	0.81
G1+G2+D1	0.66	0.00	-4.35	0.05	0.00	0.00
G1+G2+D2	0.66	0.00	-32.09	0.00	0.00	0.00
G1+G2+D3	0.66	-0.82	-18.22	0.03	0.00	-0.04
G1+G2+D4	0.66	0.82	-18.22	0.03	0.00	0.04
G1+G2+V1+0.6D1	0.66	0.00	156.79	0.29	0.00	0.00
G1+G2+V2+0.6D2	0.66	0.00	-193.23	-0.23	0.00	0.00
G1+G2+V3+0.6D3	0.66	-195.61	-18.22	0.03	0.19	-1.30
G1+G2+V4+0.6D4	0.66	195.61	-18.22	0.03	-0.19	1.30

<b>Fundação B117-118</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.45	-37.19	0.00	0.00	-0.02	0.00
Adicional (G2)	0.25	-27.62	0.00	0.00	-0.01	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.22	63.89	0.06	0.00	-0.86
Vento X- (V2)	0.00	0.22	-63.89	-0.06	0.00	0.86
Vento Y+ (V3)	0.00	-487.55	0.00	0.00	0.71	0.00
Vento Y- (V4)	0.00	487.55	0.00	0.00	-0.71	0.00
Desaprumo X+ (D1)	0.00	-0.02	0.82	0.00	0.00	-0.08
Desaprumo X- (D2)	0.00	0.02	-0.82	0.00	0.00	0.08
Desaprumo Y+ (D3)	0.00	-13.71	0.00	0.00	0.02	0.00
Desaprumo Y- (D4)	0.00	13.71	0.00	0.00	-0.02	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.70	-64.97	39.16	0.04	-0.03	-0.59
G1+G2+0.6V2+D2	0.70	-64.66	-39.16	-0.04	-0.03	0.59
G1+G2+0.6V3+D3	0.70	-371.05	0.00	0.00	0.42	0.00
G1+G2+0.6V4+D4	0.70	241.43	0.00	0.00	-0.48	0.00
G1+G2+D1	0.70	-64.83	0.82	0.00	-0.03	-0.08
G1+G2+D2	0.70	-64.79	-0.82	0.00	-0.03	0.08
G1+G2+D3	0.70	-78.52	0.00	0.00	-0.01	0.00
G1+G2+D4	0.70	-51.10	0.00	0.00	-0.06	0.00
G1+G2+V1+0.6D1	0.70	-65.05	64.39	0.06	-0.03	-0.90
G1+G2+V2+0.6D2	0.70	-64.58	-64.39	-0.06	-0.03	0.90
G1+G2+V3+0.6D3	0.70	-560.59	0.00	0.00	0.69	0.00
G1+G2+V4+0.6D4	0.70	430.97	0.00	0.00	-0.76	0.00



<b>Fundação B139-140</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	1.19	0.00	-17.42	0.03	0.00	0.00
Adicional (G2)	1.26	0.00	-118.74	0.07	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.02	0.00	445.33	0.26	0.00	0.00
Vento X- (V2)	0.02	0.00	-445.33	-0.26	0.00	0.00
Vento Y+ (V3)	0.00	-2007.63	0.00	0.00	0.73	-0.07
Vento Y- (V4)	0.00	2007.63	0.00	0.00	-0.73	0.07
Desaprumo X+ (D1)	0.00	0.00	6.73	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.73	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-13.06	0.00	0.00	0.00	-0.04
Desaprumo Y- (D4)	0.00	13.06	0.00	0.00	0.00	0.04
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.43	0.00	137.77	0.26	0.00	0.00
G1+G2+0.6V2+D2	2.46	0.00	-410.09	-0.06	0.00	0.00
G1+G2+0.6V3+D3	2.44	-1217.64	-136.16	0.10	0.44	-0.08
G1+G2+0.6V4+D4	2.44	1217.64	-136.16	0.10	-0.44	0.08
G1+G2+D1	2.44	0.00	-129.43	0.10	0.00	0.00
G1+G2+D2	2.44	0.00	-142.89	0.10	0.00	0.00
G1+G2+D3	2.44	-13.06	-136.16	0.10	0.00	-0.04
G1+G2+D4	2.44	13.06	-136.16	0.10	0.00	0.04
G1+G2+V1+0.6D1	2.42	0.00	313.21	0.36	0.00	0.00
G1+G2+V2+0.6D2	2.47	0.00	-585.53	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.44	-2015.47	-136.16	0.10	0.73	-0.09
G1+G2+V4+0.6D4	2.44	2015.47	-136.16	0.10	-0.73	0.09

<b>Fundação B153-154</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	1.18	0.00	-14.67	0.03	0.00	0.00
Adicional (G2)	1.25	0.00	-119.07	0.07	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.03	0.00	447.50	0.27	0.00	0.00
Vento X- (V2)	0.03	0.00	-447.50	-0.27	0.00	0.00
Vento Y+ (V3)	0.00	-2007.62	-4.06	0.00	0.73	-0.07
Vento Y- (V4)	0.00	2007.62	4.06	0.00	-0.73	0.07
Desaprumo X+ (D1)	0.00	0.00	6.79	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.79	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-13.06	-0.03	0.00	0.00	-0.04
Desaprumo Y- (D4)	0.00	13.06	0.03	0.00	0.00	0.04
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	2.42	0.00	141.55	0.26	0.00	0.00
G1+G2+0.6V2+D2	2.46	0.00	-409.03	-0.06	0.00	0.00
G1+G2+0.6V3+D3	2.44	-1217.63	-136.21	0.10	0.44	-0.08

G1+G2+0.6V4+D4	2.44	1217.63	-131.27	0.10	-0.44	0.08
G1+G2+D1	2.44	0.00	-126.95	0.10	0.00	0.00
G1+G2+D2	2.44	0.00	-140.53	0.10	0.00	0.00
G1+G2+D3	2.44	-13.06	-133.77	0.10	0.00	-0.04
G1+G2+D4	2.44	13.06	-133.71	0.10	0.00	0.04
G1+G2+V1+0.6D1	2.41	0.00	317.83	0.36	0.00	0.00
G1+G2+V2+0.6D2	2.47	0.00	-585.31	-0.17	0.00	0.00
G1+G2+V3+0.6D3	2.44	-2015.45	-137.82	0.10	0.73	-0.10
G1+G2+V4+0.6D4	2.44	2015.45	-129.66	0.10	-0.73	0.10

Fundação EP2						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.63	-0.07	6.77	0.01	0.00	0.03
Adicional (G2)	0.23	-0.05	5.08	0.01	0.00	0.02
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.29	3.03	0.00	0.00	-0.16
Vento X- (V2)	0.00	-0.29	-3.03	0.00	0.00	0.16
Vento Y+ (V3)	0.00	-146.76	-0.24	0.00	0.07	-5.76
Vento Y- (V4)	0.00	146.76	0.24	0.00	-0.07	5.76
Desaprumo X+ (D1)	0.00	0.04	0.76	0.00	0.00	-0.02
Desaprumo X- (D2)	0.00	-0.04	-0.76	0.00	0.00	0.02
Desaprumo Y+ (D3)	0.00	-6.27	-0.01	0.00	0.00	-0.21
Desaprumo Y- (D4)	0.00	6.27	0.01	0.00	0.00	0.21
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.86	0.09	14.42	0.02	0.00	-0.06
G1+G2+0.6V2+D2	0.86	-0.33	9.27	0.02	0.00	0.18
G1+G2+0.6V3+D3	0.86	-94.45	11.69	0.02	0.05	-3.61
G1+G2+0.6V4+D4	0.86	94.20	12.01	0.02	-0.05	3.73
G1+G2+D1	0.86	-0.08	12.61	0.02	0.00	0.04
G1+G2+D2	0.86	-0.16	11.09	0.02	0.00	0.08
G1+G2+D3	0.86	-6.39	11.84	0.02	0.00	-0.16
G1+G2+D4	0.86	6.15	11.86	0.02	0.00	0.27
G1+G2+V1+0.6D1	0.86	0.19	15.33	0.02	0.00	-0.12
G1+G2+V2+0.6D2	0.86	-0.43	8.36	0.02	0.00	0.23
G1+G2+V3+0.6D3	0.86	-150.64	11.60	0.02	0.08	-5.83
G1+G2+V4+0.6D4	0.86	150.40	12.10	0.02	-0.08	5.95

Fundação EP3						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	1.60	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	1.17	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	6.29	0.00	0.00	0.00
Vento X- (V2)	0.00	0.01	-6.29	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.05	-0.25	0.00	0.08	0.13
Vento Y- (V4)	0.00	155.05	0.25	0.00	-0.08	-0.13
Desaprumo X+ (D1)	0.00	0.00	1.21	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.21	0.00	0.00	0.00

Desaprumo Y+ (D3)	0.00	-6.42	-0.01	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	6.42	0.01	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	7.76	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.01	-2.22	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.45	2.61	0.00	0.05	0.09
G1+G2+0.6V4+D4	0.84	99.46	2.93	0.00	-0.05	-0.09
G1+G2+D1	0.84	0.00	3.98	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	1.56	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	2.76	0.00	0.00	0.01
G1+G2+D4	0.84	6.43	2.78	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	-0.01	9.79	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.01	-4.25	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.90	2.51	0.00	0.08	0.13
G1+G2+V4+0.6D4	0.84	158.91	3.03	0.00	-0.08	-0.13

Fundação EP4						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	1.60	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	1.17	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	9.22	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.22	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	-0.20	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.20	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.59	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.59	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	-0.01	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.01	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.89	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-4.35	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	2.64	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	2.90	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	4.35	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	1.18	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	2.76	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	2.78	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.94	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-7.40	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	2.56	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	2.97	0.00	-0.08	0.00

Fundação EP5						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	1.25	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.92	0.00	0.00	0.00

Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	11.28	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-11.28	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	-0.16	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.16	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.85	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.85	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	-0.01	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.01	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.79	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-6.44	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	2.07	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	2.28	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	4.03	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	0.32	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	2.17	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	2.18	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.56	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-10.22	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	2.01	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	2.34	0.00	-0.08	0.00

<b>Fundação EP6</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	1.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.73	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.61	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.61	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	-0.13	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.13	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.02	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.02	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	11.32	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.86	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	1.65	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	1.81	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	3.75	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.29	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	1.73	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	1.73	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	15.56	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.10	-0.01	0.00	0.00

G1+G2+V3+0.6D3	0.84	-158.56	1.60	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	1.86	0.00	-0.08	0.00

Fundação EP7						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.78	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.57	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	13.27	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-13.27	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	-0.10	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.10	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.11	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.11	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	11.43	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.72	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	1.29	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	1.42	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	3.47	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.76	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	1.35	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	1.36	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	15.89	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.18	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	1.25	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	1.46	0.00	-0.08	0.00

Fundação EP8						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.60	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.44	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	13.28	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-13.28	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	-0.08	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.08	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.12	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.12	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	11.12	0.01	0.00	0.00

G1+G2+0.6V2+D2	0.84	0.00	-9.05	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.99	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	1.09	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	3.15	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.08	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	1.04	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	1.04	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	15.59	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.51	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.95	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	1.12	0.00	-0.08	0.00

Fundação EP9						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.44	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.33	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.65	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.65	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	-0.06	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.06	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.04	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.04	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.39	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.86	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.72	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.81	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.80	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.27	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.76	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.77	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.64	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.11	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.70	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.83	0.00	-0.08	0.00

Fundação EP10						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.31	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.23	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	11.34	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-11.34	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	-0.05	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.05	0.00	-0.08	0.00

Desaprumo X+ (D1)	0.00	0.00	1.88	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.88	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.22	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.14	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.51	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.57	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.33	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.54	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.55	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.01	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-11.92	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.49	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.59	0.00	-0.08	0.00

Fundação EP11						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.00	0.06	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.04	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	9.31	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.31	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	-0.04	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.04	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.62	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.62	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	7.30	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.10	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.08	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.12	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.72	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.52	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.10	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.10	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.38	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-10.18	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	0.06	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	0.14	0.00	-0.08	0.00

Fundação EP12						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)

Peso próprio (G1)	0.61	0.00	1.57	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	1.17	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	6.49	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-6.49	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.97	-0.02	0.00	0.08	-0.11
Vento Y- (V4)	0.00	154.97	0.02	0.00	-0.08	0.11
Desaprumo X+ (D1)	0.00	0.00	1.26	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.26	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.40	0.00	0.00	0.00	-0.02
Desaprumo Y- (D4)	0.00	6.40	0.00	0.00	0.00	0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.83	0.00	7.89	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.83	0.00	-2.42	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.83	-99.38	2.72	0.01	0.05	-0.09
G1+G2+0.6V4+D4	0.83	99.38	2.75	0.01	-0.05	0.09
G1+G2+D1	0.83	0.00	4.00	0.01	0.00	0.00
G1+G2+D2	0.83	0.00	1.48	0.00	0.00	0.00
G1+G2+D3	0.83	-6.40	2.74	0.01	0.00	-0.02
G1+G2+D4	0.83	6.40	2.74	0.01	0.00	0.02
G1+G2+V1+0.6D1	0.83	0.00	9.98	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.83	0.00	-4.51	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.83	-158.81	2.71	0.01	0.08	-0.12
G1+G2+V4+0.6D4	0.83	158.81	2.76	0.01	-0.08	0.12

<b>Fundação EP13</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.66	0.00	-18.96	-0.04	0.00	0.00
Adicional (G2)	0.26	0.00	-14.08	-0.03	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	2.30	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-2.30	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-150.22	-0.01	0.00	0.07	3.81
Vento Y- (V4)	0.00	150.22	0.01	0.00	-0.07	-3.81
Desaprumo X+ (D1)	0.00	0.00	0.77	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.77	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.81	0.00	0.00	0.00	0.14
Desaprumo Y- (D4)	0.00	6.81	0.00	0.00	0.00	-0.14
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.92	0.00	-30.89	-0.07	0.00	0.00
G1+G2+0.6V2+D2	0.92	0.00	-35.19	-0.07	0.00	0.00
G1+G2+0.6V3+D3	0.92	-96.94	-33.05	-0.07	0.05	2.42
G1+G2+0.6V4+D4	0.92	96.94	-33.03	-0.07	-0.05	-2.42
G1+G2+D1	0.92	0.00	-32.27	-0.07	0.00	0.00
G1+G2+D2	0.92	0.00	-33.81	-0.07	0.00	0.00
G1+G2+D3	0.92	-6.81	-33.04	-0.07	0.00	0.14
G1+G2+D4	0.92	6.81	-33.04	-0.07	0.00	-0.14



G1+G2+V1+0.6D1	0.92	0.00	-30.28	-0.07	0.00	0.00
G1+G2+V2+0.6D2	0.92	0.00	-35.80	-0.06	0.00	0.00
G1+G2+V3+0.6D3	0.92	-154.31	-33.05	-0.07	0.08	3.89
G1+G2+V4+0.6D4	0.92	154.31	-33.03	-0.07	-0.08	-3.89

Fundação EP16						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.00	2.16	0.00	0.00	0.00
Adicional (G2)	0.23	0.00	1.67	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	1.56	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-1.56	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-146.70	0.00	0.00	0.07	-5.86
Vento Y- (V4)	0.00	146.70	0.00	0.00	-0.07	5.86
Desaprumo X+ (D1)	0.00	0.00	0.65	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.65	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.16	0.00	0.00	0.00	-0.22
Desaprumo Y- (D4)	0.00	6.16	0.00	0.00	0.00	0.22
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.41	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.85	0.00	2.25	0.01	0.00	0.00
G1+G2+0.6V3+D3	0.85	-94.18	3.83	0.01	0.05	-3.74
G1+G2+0.6V4+D4	0.85	94.18	3.83	0.01	-0.05	3.74
G1+G2+D1	0.85	0.00	4.48	0.01	0.00	0.00
G1+G2+D2	0.85	0.00	3.19	0.01	0.00	0.00
G1+G2+D3	0.85	-6.16	3.83	0.01	0.00	-0.22
G1+G2+D4	0.85	6.16	3.83	0.01	0.00	0.22
G1+G2+V1+0.6D1	0.84	0.00	5.78	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.85	0.00	1.89	0.01	0.00	0.00
G1+G2+V3+0.6D3	0.85	-150.39	3.83	0.01	0.07	-5.99
G1+G2+V4+0.6D4	0.85	150.39	3.83	0.01	-0.07	5.99

Fundação EP17						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.60	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.43	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	5.57	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-5.57	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.07	0.00	0.00	0.08	0.14
Vento Y- (V4)	0.00	155.07	0.00	0.00	-0.08	-0.14
Desaprumo X+ (D1)	0.00	0.00	1.14	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.14	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00

Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.52	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-3.45	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.47	1.04	0.00	0.05	0.09
G1+G2+0.6V4+D4	0.84	99.47	1.04	0.00	-0.05	-0.09
G1+G2+D1	0.84	0.00	2.18	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.10	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	1.04	0.00	0.00	0.01
G1+G2+D4	0.84	6.43	1.04	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	0.00	7.29	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-5.22	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.92	1.04	0.00	0.08	0.14
G1+G2+V4+0.6D4	0.84	158.92	1.04	0.00	-0.08	-0.14

<b>Fundação EP18</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.57	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.41	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	8.59	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-8.59	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.53	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.53	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	7.66	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-5.70	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.98	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.98	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.51	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.55	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.98	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.98	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.49	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-8.53	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	0.98	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	0.98	0.00	-0.08	0.00

<b>Fundação EP19</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.43	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.32	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	10.77	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-10.77	-0.01	0.00	0.00

Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.80	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.80	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.01	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.52	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.75	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.75	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.55	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.05	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.75	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.75	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.60	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-11.10	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.75	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.75	0.00	-0.08	0.00

<b>Fundação EP20</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.33	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.24	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.19	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.19	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.98	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.98	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.87	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.73	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.57	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.57	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.55	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.42	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.57	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.57	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.95	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.82	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.57	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.57	0.00	-0.08	0.00

**Fundação EP21**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.24	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.17	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.93	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.93	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.08	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.08	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.24	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.42	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.41	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.41	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.49	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.67	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.41	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.41	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.58	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.76	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.41	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.41	0.00	-0.08	0.00

Fundação EP22						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.15	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.11	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	13.00	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-13.00	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.09	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.09	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.15	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.62	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.27	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.27	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.36	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.82	0.00	0.00	0.00

G1+G2+D3	0.84	-6.42	0.27	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.27	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.52	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.98	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.27	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.27	0.00	-0.08	0.00

Fundação EP23						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.08	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.06	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.41	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.41	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.01	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.01	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.60	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.32	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.14	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.14	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.15	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.88	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.14	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.14	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.76	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.48	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.14	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.14	0.00	-0.08	0.00

Fundação EP24						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.02	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.01	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	11.14	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-11.14	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.85	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.85	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00

Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.57	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.51	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.03	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.03	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.89	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.82	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.03	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.03	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.29	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.22	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.03	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.03	0.00	-0.08	0.00

<b>Fundação EP25</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.62	0.00	-0.17	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.12	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	9.13	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.13	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.60	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.60	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.79	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.38	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.30	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.30	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.30	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.90	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.30	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.30	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	9.80	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-10.39	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	-0.30	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	-0.30	0.00	-0.08	0.00

<b>Fundação EP26</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	1.23	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.92	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00

Vento X+ (V1)	0.00	0.00	6.34	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-6.34	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.98	0.00	0.00	0.08	-0.11
Vento Y- (V4)	0.00	154.98	0.00	0.00	-0.08	0.11
Desaprumo X+ (D1)	0.00	0.00	1.24	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.24	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.41	0.00	0.00	0.00	-0.02
Desaprumo Y- (D4)	0.00	6.41	0.00	0.00	0.00	0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.83	0.00	7.20	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.83	0.00	-2.90	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.83	-99.39	2.15	0.00	0.05	-0.09
G1+G2+0.6V4+D4	0.83	99.39	2.15	0.00	-0.05	0.09
G1+G2+D1	0.83	0.00	3.39	0.01	0.00	0.00
G1+G2+D2	0.83	0.00	0.91	0.00	0.00	0.00
G1+G2+D3	0.83	-6.41	2.15	0.00	0.00	-0.02
G1+G2+D4	0.83	6.41	2.15	0.00	0.00	0.02
G1+G2+V1+0.6D1	0.83	0.00	9.23	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.83	0.00	-4.93	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.83	-158.82	2.15	0.00	0.08	-0.13
G1+G2+V4+0.6D4	0.83	158.82	2.15	0.00	-0.08	0.13

Fundação EP27						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.66	0.00	-17.34	-0.03	0.00	0.00
Adicional (G2)	0.26	0.00	-12.89	-0.03	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	2.19	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-2.19	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-150.01	0.00	0.00	0.07	3.95
Vento Y- (V4)	0.00	150.01	0.00	0.00	-0.07	-3.95
Desaprumo X+ (D1)	0.00	0.00	0.76	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.76	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.75	0.00	0.00	0.00	0.14
Desaprumo Y- (D4)	0.00	6.75	0.00	0.00	0.00	-0.14
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.91	0.00	-28.15	-0.06	0.00	0.00
G1+G2+0.6V2+D2	0.91	0.00	-32.30	-0.06	0.00	0.00
G1+G2+0.6V3+D3	0.91	-96.76	-30.23	-0.06	0.05	2.51
G1+G2+0.6V4+D4	0.91	96.76	-30.23	-0.06	-0.05	-2.51
G1+G2+D1	0.91	0.00	-29.47	-0.06	0.00	0.00
G1+G2+D2	0.91	0.00	-30.98	-0.06	0.00	0.00
G1+G2+D3	0.91	-6.75	-30.23	-0.06	0.00	0.14
G1+G2+D4	0.91	6.75	-30.23	-0.06	0.00	-0.14
G1+G2+V1+0.6D1	0.91	0.00	-27.58	-0.06	0.00	0.00
G1+G2+V2+0.6D2	0.91	0.00	-32.87	-0.06	0.00	0.00
G1+G2+V3+0.6D3	0.91	-154.06	-30.23	-0.06	0.08	4.03
G1+G2+V4+0.6D4	0.91	154.06	-30.23	-0.06	-0.08	-4.03

Fundação EP30						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.00	2.16	0.00	0.00	0.00
Adicional (G2)	0.23	0.00	1.67	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	1.56	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-1.56	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-146.70	0.00	0.00	0.07	-5.86
Vento Y- (V4)	0.00	146.70	0.00	0.00	-0.07	5.86
Desaprumo X+ (D1)	0.00	0.00	0.65	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.65	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.16	0.00	0.00	0.00	-0.22
Desaprumo Y- (D4)	0.00	6.16	0.00	0.00	0.00	0.22
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.41	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.85	0.00	2.25	0.01	0.00	0.00
G1+G2+0.6V3+D3	0.85	-94.18	3.83	0.01	0.05	-3.74
G1+G2+0.6V4+D4	0.85	94.18	3.83	0.01	-0.05	3.74
G1+G2+D1	0.85	0.00	4.48	0.01	0.00	0.00
G1+G2+D2	0.85	0.00	3.19	0.01	0.00	0.00
G1+G2+D3	0.85	-6.16	3.83	0.01	0.00	-0.22
G1+G2+D4	0.85	6.16	3.83	0.01	0.00	0.22
G1+G2+V1+0.6D1	0.84	0.00	5.78	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.85	0.00	1.89	0.01	0.00	0.00
G1+G2+V3+0.6D3	0.85	-150.39	3.83	0.01	0.07	-5.99
G1+G2+V4+0.6D4	0.85	150.39	3.83	0.01	-0.07	5.99

Fundação EP31						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.60	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.43	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	5.57	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-5.57	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.07	0.00	0.00	0.08	0.14
Vento Y- (V4)	0.00	155.07	0.00	0.00	-0.08	-0.14
Desaprumo X+ (D1)	0.00	0.00	1.14	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.14	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.52	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-3.45	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.47	1.04	0.00	0.05	0.09
G1+G2+0.6V4+D4	0.84	99.47	1.04	0.00	-0.05	-0.09
G1+G2+D1	0.84	0.00	2.18	0.00	0.00	0.00



G1+G2+D2	0.84	0.00	-0.10	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	1.04	0.00	0.00	0.01
G1+G2+D4	0.84	6.43	1.04	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	0.00	7.29	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-5.22	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.92	1.04	0.00	0.08	0.14
G1+G2+V4+0.6D4	0.84	158.92	1.04	0.00	-0.08	-0.14

Fundação EP32						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.57	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.41	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	8.59	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-8.59	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.53	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.53	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	7.66	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-5.70	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.98	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.98	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.51	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.55	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.98	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.98	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.49	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-8.53	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	0.98	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	0.98	0.00	-0.08	0.00

Fundação EP33						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.43	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.32	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	10.77	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-10.77	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.80	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.80	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00

Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.01	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.52	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.75	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.75	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.55	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.05	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.75	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.75	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.60	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-11.10	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.75	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.75	0.00	-0.08	0.00

<b>Fundação EP34</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.33	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.24	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.19	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.19	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.98	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.98	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.87	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.73	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.57	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.57	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.55	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.42	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.57	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.57	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.95	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.82	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.57	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.57	0.00	-0.08	0.00

<b>Fundação EP35</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.24	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.17	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00

Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.93	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.93	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.08	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.08	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.24	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.42	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.41	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.41	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.49	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.67	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.41	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.41	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.58	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.76	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.41	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.41	0.00	-0.08	0.00

<b>Fundação EP36</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.15	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.11	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	13.00	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-13.00	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.09	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.09	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.15	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.62	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.27	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.27	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.36	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.82	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.27	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.27	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.52	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.98	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.27	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.27	0.00	-0.08	0.00

Fundação EP37						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.08	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.06	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.41	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.41	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.01	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.01	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.60	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.32	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.14	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.14	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.15	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.88	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.14	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.14	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.76	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.48	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.14	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.14	0.00	-0.08	0.00

Fundação EP38						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.02	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.01	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	11.14	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-11.14	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.85	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.85	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.57	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.51	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.03	0.00	0.05	0.00

G1+G2+0.6V4+D4	0.84	99.24	0.03	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.89	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.82	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.03	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.03	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.29	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.22	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.03	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.03	0.00	-0.08	0.00

<b>Fundação EP39</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.62	0.00	-0.17	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.12	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	9.13	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.13	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.60	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.60	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.79	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.38	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.30	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.30	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.30	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.90	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.30	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.30	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	9.80	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-10.39	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	-0.30	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	-0.30	0.00	-0.08	0.00

<b>Fundação EP40</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	1.23	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.92	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	6.34	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-6.34	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.98	0.00	0.00	0.08	-0.11
Vento Y- (V4)	0.00	154.98	0.00	0.00	-0.08	0.11
Desaprumo X+ (D1)	0.00	0.00	1.24	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.24	0.00	0.00	0.00

Desaprumo Y+ (D3)	0.00	-6.41	0.00	0.00	0.00	-0.02
Desaprumo Y- (D4)	0.00	6.41	0.00	0.00	0.00	0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.83	0.00	7.20	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.83	0.00	-2.90	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.83	-99.39	2.15	0.00	0.05	-0.09
G1+G2+0.6V4+D4	0.83	99.39	2.15	0.00	-0.05	0.09
G1+G2+D1	0.83	0.00	3.39	0.01	0.00	0.00
G1+G2+D2	0.83	0.00	0.91	0.00	0.00	0.00
G1+G2+D3	0.83	-6.41	2.15	0.00	0.00	-0.02
G1+G2+D4	0.83	6.41	2.15	0.00	0.00	0.02
G1+G2+V1+0.6D1	0.83	0.00	9.23	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.83	0.00	-4.93	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.83	-158.82	2.15	0.00	0.08	-0.13
G1+G2+V4+0.6D4	0.83	158.82	2.15	0.00	-0.08	0.13

<b>Fundação EP41</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.66	0.00	-17.34	-0.03	0.00	0.00
Adicional (G2)	0.26	0.00	-12.89	-0.03	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	2.19	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-2.19	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-150.01	0.00	0.00	0.07	3.95
Vento Y- (V4)	0.00	150.01	0.00	0.00	-0.07	-3.95
Desaprumo X+ (D1)	0.00	0.00	0.76	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.76	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.75	0.00	0.00	0.00	0.14
Desaprumo Y- (D4)	0.00	6.75	0.00	0.00	0.00	-0.14
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.91	0.00	-28.15	-0.06	0.00	0.00
G1+G2+0.6V2+D2	0.91	0.00	-32.30	-0.06	0.00	0.00
G1+G2+0.6V3+D3	0.91	-96.76	-30.23	-0.06	0.05	2.51
G1+G2+0.6V4+D4	0.91	96.76	-30.23	-0.06	-0.05	-2.51
G1+G2+D1	0.91	0.00	-29.47	-0.06	0.00	0.00
G1+G2+D2	0.91	0.00	-30.98	-0.06	0.00	0.00
G1+G2+D3	0.91	-6.75	-30.23	-0.06	0.00	0.14
G1+G2+D4	0.91	6.75	-30.23	-0.06	0.00	-0.14
G1+G2+V1+0.6D1	0.91	0.00	-27.58	-0.06	0.00	0.00
G1+G2+V2+0.6D2	0.91	0.00	-32.87	-0.06	0.00	0.00
G1+G2+V3+0.6D3	0.91	-154.06	-30.23	-0.06	0.08	4.03
G1+G2+V4+0.6D4	0.91	154.06	-30.23	-0.06	-0.08	-4.03

<b>Fundação EP44</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.62	0.00	2.16	0.00	0.00	0.00
Adicional (G2)	0.23	0.00	1.67	0.00	0.00	0.00

Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	1.56	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-1.56	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-146.70	0.00	0.00	0.07	-5.86
Vento Y- (V4)	0.00	146.70	0.00	0.00	-0.07	5.86
Desaprumo X+ (D1)	0.00	0.00	0.65	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.65	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.16	0.00	0.00	0.00	-0.22
Desaprumo Y- (D4)	0.00	6.16	0.00	0.00	0.00	0.22
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.41	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.85	0.00	2.25	0.01	0.00	0.00
G1+G2+0.6V3+D3	0.85	-94.18	3.83	0.01	0.05	-3.74
G1+G2+0.6V4+D4	0.85	94.18	3.83	0.01	-0.05	3.74
G1+G2+D1	0.85	0.00	4.48	0.01	0.00	0.00
G1+G2+D2	0.85	0.00	3.19	0.01	0.00	0.00
G1+G2+D3	0.85	-6.16	3.83	0.01	0.00	-0.22
G1+G2+D4	0.85	6.16	3.83	0.01	0.00	0.22
G1+G2+V1+0.6D1	0.84	0.00	5.78	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.85	0.00	1.89	0.01	0.00	0.00
G1+G2+V3+0.6D3	0.85	-150.39	3.83	0.01	0.07	-5.99
G1+G2+V4+0.6D4	0.85	150.39	3.83	0.01	-0.07	5.99

Fundação EP45						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.60	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.43	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	5.57	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-5.57	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.07	0.00	0.00	0.08	0.14
Vento Y- (V4)	0.00	155.07	0.00	0.00	-0.08	-0.14
Desaprumo X+ (D1)	0.00	0.00	1.14	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.14	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.52	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-3.45	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.47	1.04	0.00	0.05	0.09
G1+G2+0.6V4+D4	0.84	99.47	1.04	0.00	-0.05	-0.09
G1+G2+D1	0.84	0.00	2.18	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.10	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	1.04	0.00	0.00	0.01
G1+G2+D4	0.84	6.43	1.04	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	0.00	7.29	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-5.22	0.00	0.00	0.00

G1+G2+V3+0.6D3	0.84	-158.92	1.04	0.00	0.08	0.14
G1+G2+V4+0.6D4	0.84	158.92	1.04	0.00	-0.08	-0.14

Fundação EP46						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.57	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.41	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	8.59	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-8.59	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.53	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.53	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	7.66	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-5.70	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.98	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.98	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.51	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.55	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.98	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.98	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.49	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-8.53	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	0.98	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	0.98	0.00	-0.08	0.00

Fundação EP47						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.43	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.32	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	10.77	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-10.77	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.80	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.80	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.01	0.01	0.00	0.00



G1+G2+0.6V2+D2	0.84	0.00	-7.52	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.75	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.75	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.55	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.05	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.75	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.75	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.60	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-11.10	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.75	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.75	0.00	-0.08	0.00

<b>Fundação EP48</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.33	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.24	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.19	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.19	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.98	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.98	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.87	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.73	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.57	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.57	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.55	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.42	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.57	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.57	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.95	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.82	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.57	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.57	0.00	-0.08	0.00

<b>Fundação EP49</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.24	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.17	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.93	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.93	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00

Desaprumo X+ (D1)	0.00	0.00	2.08	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.08	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.24	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.42	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.41	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.41	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.49	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.67	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.41	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.41	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.58	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.76	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.41	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.41	0.00	-0.08	0.00

<b>Fundação EP50</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.15	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.11	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	13.00	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-13.00	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.09	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.09	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	10.15	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.62	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.27	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.27	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.36	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.82	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.27	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.27	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	14.52	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.98	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.27	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.27	0.00	-0.08	0.00

<b>Fundação EP51</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>

Peso próprio (G1)	0.61	0.00	0.08	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.06	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.41	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.41	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	2.01	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-2.01	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.60	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.32	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.14	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.14	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.15	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.88	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.14	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.14	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.76	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.48	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.14	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.14	0.00	-0.08	0.00

<b>Fundação EP52</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.02	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.01	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	11.14	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-11.14	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.85	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.85	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.57	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.51	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.03	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.03	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.89	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.82	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.03	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.03	0.00	0.00	0.00

G1+G2+V1+0.6D1	0.84	0.00	12.29	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.22	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.03	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.03	0.00	-0.08	0.00

Fundação EP53						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.00	-0.17	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.12	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	9.13	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.13	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.60	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.60	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.79	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.38	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.30	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.30	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.30	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.90	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.30	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.30	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	9.80	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-10.39	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	-0.30	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	-0.30	0.00	-0.08	0.00

Fundação EP54						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	1.23	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.92	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	6.34	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-6.34	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.98	0.00	0.00	0.08	-0.11
Vento Y- (V4)	0.00	154.98	0.00	0.00	-0.08	0.11
Desaprumo X+ (D1)	0.00	0.00	1.24	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.24	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.41	0.00	0.00	0.00	-0.02
Desaprumo Y- (D4)	0.00	6.41	0.00	0.00	0.00	0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00

Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.83	0.00	7.20	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.83	0.00	-2.90	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.83	-99.39	2.15	0.00	0.05	-0.09
G1+G2+0.6V4+D4	0.83	99.39	2.15	0.00	-0.05	0.09
G1+G2+D1	0.83	0.00	3.39	0.01	0.00	0.00
G1+G2+D2	0.83	0.00	0.91	0.00	0.00	0.00
G1+G2+D3	0.83	-6.41	2.15	0.00	0.00	-0.02
G1+G2+D4	0.83	6.41	2.15	0.00	0.00	0.02
G1+G2+V1+0.6D1	0.83	0.00	9.23	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.83	0.00	-4.93	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.83	-158.82	2.15	0.00	0.08	-0.13
G1+G2+V4+0.6D4	0.83	158.82	2.15	0.00	-0.08	0.13

Fundação EP55						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.66	0.00	-17.34	-0.03	0.00	0.00
Adicional (G2)	0.26	0.00	-12.89	-0.03	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	2.19	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-2.19	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-150.01	0.00	0.00	0.07	3.95
Vento Y- (V4)	0.00	150.01	0.00	0.00	-0.07	-3.95
Desaprumo X+ (D1)	0.00	0.00	0.76	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.76	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.75	0.00	0.00	0.00	0.14
Desaprumo Y- (D4)	0.00	6.75	0.00	0.00	0.00	-0.14
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.91	0.00	-28.15	-0.06	0.00	0.00
G1+G2+0.6V2+D2	0.91	0.00	-32.30	-0.06	0.00	0.00
G1+G2+0.6V3+D3	0.91	-96.76	-30.23	-0.06	0.05	2.51
G1+G2+0.6V4+D4	0.91	96.76	-30.23	-0.06	-0.05	-2.51
G1+G2+D1	0.91	0.00	-29.47	-0.06	0.00	0.00
G1+G2+D2	0.91	0.00	-30.98	-0.06	0.00	0.00
G1+G2+D3	0.91	-6.75	-30.23	-0.06	0.00	0.14
G1+G2+D4	0.91	6.75	-30.23	-0.06	0.00	-0.14
G1+G2+V1+0.6D1	0.91	0.00	-27.58	-0.06	0.00	0.00
G1+G2+V2+0.6D2	0.91	0.00	-32.87	-0.06	0.00	0.00
G1+G2+V3+0.6D3	0.91	-154.06	-30.23	-0.06	0.08	4.03
G1+G2+V4+0.6D4	0.91	154.06	-30.23	-0.06	-0.08	-4.03

Fundação EP58						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.00	2.10	0.00	0.00	0.00
Adicional (G2)	0.23	0.00	1.64	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	1.29	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-1.29	0.00	0.00	0.00

Vento Y+ (V3)	0.00	-146.70	0.03	0.00	0.07	-5.86
Vento Y- (V4)	0.00	146.70	-0.03	0.00	-0.07	5.86
Desaprumo X+ (D1)	0.00	0.00	0.61	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.61	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.16	0.00	0.00	0.00	-0.22
Desaprumo Y- (D4)	0.00	6.16	0.00	0.00	0.00	0.22
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.12	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.85	0.00	2.36	0.01	0.00	0.00
G1+G2+0.6V3+D3	0.85	-94.18	3.76	0.01	0.05	-3.74
G1+G2+0.6V4+D4	0.85	94.18	3.72	0.01	-0.05	3.74
G1+G2+D1	0.85	0.00	4.35	0.01	0.00	0.00
G1+G2+D2	0.85	0.00	3.13	0.01	0.00	0.00
G1+G2+D3	0.85	-6.16	3.74	0.01	0.00	-0.22
G1+G2+D4	0.85	6.16	3.74	0.01	0.00	0.22
G1+G2+V1+0.6D1	0.84	0.00	5.39	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.85	0.00	2.09	0.01	0.00	0.00
G1+G2+V3+0.6D3	0.85	-150.39	3.77	0.01	0.07	-5.99
G1+G2+V4+0.6D4	0.85	150.39	3.70	0.01	-0.07	5.99

<b>Fundação EP59</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	0.49	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.36	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	5.03	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-5.03	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.07	0.07	0.00	0.08	0.14
Vento Y- (V4)	0.00	155.07	-0.07	0.00	-0.08	-0.14
Desaprumo X+ (D1)	0.00	0.00	1.07	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.07	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	4.94	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-3.24	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.47	0.89	0.00	0.05	0.09
G1+G2+0.6V4+D4	0.84	99.47	0.81	0.00	-0.05	-0.09
G1+G2+D1	0.84	0.00	1.92	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.22	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	0.85	0.00	0.00	0.01
G1+G2+D4	0.84	6.43	0.85	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	0.00	6.53	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-4.82	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.92	0.92	0.00	0.08	0.14
G1+G2+V4+0.6D4	0.84	158.92	0.78	0.00	-0.08	-0.14

**Fundação EP60**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.40	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.29	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	7.76	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-7.76	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.10	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	-0.10	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.76	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-5.38	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.75	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.63	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.11	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.73	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.69	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.69	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	9.30	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-7.92	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	0.79	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	0.59	0.00	-0.08	0.00

Fundação EP61						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.20	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.15	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	9.61	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.61	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.14	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	-0.14	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.65	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.65	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	7.76	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-7.07	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.44	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.25	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.99	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.30	0.00	0.00	0.00

G1+G2+D3	0.84	-6.42	0.35	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.34	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.94	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-10.25	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.49	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	0.20	0.00	-0.08	0.00

Fundação EP62						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.02	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.02	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	10.65	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-10.65	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.19	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	-0.19	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.78	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.78	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.01	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	-0.01	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.20	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.14	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.15	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.09	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.81	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-1.75	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.04	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.02	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	11.75	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-11.69	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	0.22	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.16	0.00	-0.08	0.00

Fundação EP63						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.17	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.12	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	10.94	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-10.94	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.24	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	-0.24	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.81	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.81	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.01	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	-0.01	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00



Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.09	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.66	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.13	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.44	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.53	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.09	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.27	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.29	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	11.75	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.31	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	-0.03	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.53	0.00	-0.08	0.00

<b>Fundação EP64</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	-0.35	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.25	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	10.48	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-10.48	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.31	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	-0.31	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.75	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.75	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.01	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	-0.01	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	7.43	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.65	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.41	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.80	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.14	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.36	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.60	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.62	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.93	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.14	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	-0.29	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.92	0.00	-0.08	0.00

<b>Fundação EP65</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	-0.57	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.41	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00

Vento X+ (V1)	0.00	0.00	9.26	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.26	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.39	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	-0.39	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.59	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.59	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.01	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	-0.01	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.17	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.12	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.73	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-1.22	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	0.62	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.57	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.96	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.99	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	9.24	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-11.18	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	-0.58	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-1.37	0.00	-0.08	0.00

<b>Fundação EP66</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	-0.69	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.50	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	7.22	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-7.22	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.72	0.48	0.00	0.08	-0.01
Vento Y- (V4)	0.00	154.72	-0.48	0.00	-0.08	0.01
Desaprumo X+ (D1)	0.00	0.00	1.33	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.33	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.02	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	-0.02	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	4.48	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-6.85	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.25	-0.88	0.00	0.05	-0.01
G1+G2+0.6V4+D4	0.84	99.25	-1.49	0.00	-0.05	0.01
G1+G2+D1	0.84	0.00	0.14	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.52	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-1.17	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-1.20	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	6.84	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-9.21	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.57	-0.69	0.00	0.08	-0.01
G1+G2+V4+0.6D4	0.84	158.57	-1.68	0.00	-0.08	0.01

<b>Fundação EP67</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.62	0.01	-2.25	0.00	0.00	0.01
Adicional (G2)	0.23	0.01	-1.63	0.00	0.00	0.01
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	4.14	0.00	0.00	-0.01
Vento X- (V2)	0.00	0.00	-4.14	0.00	0.00	0.01
Vento Y+ (V3)	0.00	-155.12	0.61	0.00	0.08	-0.01
Vento Y- (V4)	0.00	155.12	-0.61	0.00	-0.08	0.01
Desaprumo X+ (D1)	0.00	0.00	0.94	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.94	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.44	0.02	0.00	0.00	0.02
Desaprumo Y- (D4)	0.00	6.44	-0.02	0.00	0.00	-0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.85	0.02	-0.45	0.00	0.00	0.01
G1+G2+0.6V2+D2	0.84	0.02	-7.31	-0.01	0.00	0.02
G1+G2+0.6V3+D3	0.84	-99.50	-3.49	-0.01	0.05	0.03
G1+G2+0.6V4+D4	0.84	99.53	-4.27	-0.01	-0.05	0.00
G1+G2+D1	0.84	0.02	-2.94	-0.01	0.00	0.01
G1+G2+D2	0.84	0.02	-4.82	-0.01	0.00	0.02
G1+G2+D3	0.84	-6.42	-3.86	-0.01	0.00	0.04
G1+G2+D4	0.84	6.46	-3.90	-0.01	0.00	0.00
G1+G2+V1+0.6D1	0.85	0.02	0.83	-0.01	0.00	0.01
G1+G2+V2+0.6D2	0.84	0.02	-8.59	-0.01	0.00	0.02
G1+G2+V3+0.6D3	0.84	-158.97	-3.26	-0.01	0.08	0.02
G1+G2+V4+0.6D4	0.84	159.01	-4.50	-0.01	-0.08	0.02

<b>Fundação EP68</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.57	0.34	13.81	0.03	0.00	0.08
Adicional (G2)	0.19	0.25	10.06	0.02	0.00	0.06
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.01	-0.46	1.86	0.00	0.00	-0.15
Vento X- (V2)	0.01	0.46	-1.86	0.00	0.00	0.15
Vento Y+ (V3)	0.00	-127.00	0.59	0.00	0.06	13.72
Vento Y- (V4)	0.00	127.00	-0.59	0.00	-0.06	-13.72
Desaprumo X+ (D1)	0.00	-0.06	0.53	0.00	0.00	-0.02
Desaprumo X- (D2)	0.00	0.06	-0.53	0.00	0.00	0.02
Desaprumo Y+ (D3)	0.00	-4.87	0.02	0.00	0.00	0.48
Desaprumo Y- (D4)	0.00	4.87	-0.02	0.00	0.00	-0.48
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.75	0.26	25.52	0.05	0.00	0.04
G1+G2+0.6V2+D2	0.76	0.93	22.23	0.05	0.00	0.25
G1+G2+0.6V3+D3	0.75	-80.48	24.25	0.05	0.04	8.86
G1+G2+0.6V4+D4	0.75	81.67	23.50	0.05	-0.04	-8.57
G1+G2+D1	0.75	0.54	24.40	0.05	0.00	0.13

G1+G2+D2	0.75	0.66	23.34	0.05	0.00	0.16
G1+G2+D3	0.75	-4.28	23.90	0.05	0.00	0.63
G1+G2+D4	0.75	5.47	23.85	0.05	0.00	-0.34
G1+G2+V1+0.6D1	0.75	0.10	26.06	0.05	0.00	-0.01
G1+G2+V2+0.6D2	0.76	1.09	21.69	0.05	0.00	0.30
G1+G2+V3+0.6D3	0.75	-129.33	24.48	0.05	0.06	14.15
G1+G2+V4+0.6D4	0.75	130.52	23.27	0.05	-0.06	-13.86

Fundação EP70						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	1.99	-0.05	0.00	0.00	0.00
Adicional (G2)	0.23	1.55	-0.04	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.02	49.08	0.02	0.00	-2.14
Vento X- (V2)	0.00	0.02	-49.08	-0.02	0.00	2.14
Vento Y+ (V3)	0.00	-2.03	-0.59	0.00	-0.01	-0.33
Vento Y- (V4)	0.00	2.03	0.59	0.00	0.01	0.33
Desaprumo X+ (D1)	0.00	0.00	6.12	0.00	0.00	-0.24
Desaprumo X- (D2)	0.00	0.00	-6.12	0.00	0.00	0.24
Desaprumo Y+ (D3)	0.00	-0.53	-0.02	0.00	0.00	-0.01
Desaprumo Y- (D4)	0.00	0.53	0.02	0.00	0.00	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	3.52	35.48	0.02	-0.01	-1.52
G1+G2+0.6V2+D2	0.85	3.55	-35.66	-0.02	-0.01	1.53
G1+G2+0.6V3+D3	0.85	1.79	-0.47	0.00	-0.01	-0.20
G1+G2+0.6V4+D4	0.84	5.29	0.28	0.00	0.00	0.21
G1+G2+D1	0.84	3.54	6.03	0.00	-0.01	-0.24
G1+G2+D2	0.85	3.54	-6.21	0.00	-0.01	0.25
G1+G2+D3	0.85	3.00	-0.11	0.00	-0.01	-0.01
G1+G2+D4	0.84	4.07	-0.07	0.00	-0.01	0.02
G1+G2+V1+0.6D1	0.84	3.52	52.66	0.03	-0.01	-2.28
G1+G2+V2+0.6D2	0.85	3.56	-52.85	-0.03	-0.01	2.29
G1+G2+V3+0.6D3	0.85	1.19	-0.70	0.00	-0.01	-0.33
G1+G2+V4+0.6D4	0.84	5.88	0.51	0.00	0.00	0.34

Fundação EP71						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.49	-0.01	0.00	0.00	0.00
Adicional (G2)	0.22	0.35	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	52.22	0.03	0.00	0.05
Vento X- (V2)	0.00	0.01	-52.22	-0.03	0.00	-0.05
Vento Y+ (V3)	0.00	-11.26	0.01	0.00	0.00	0.00
Vento Y- (V4)	0.00	11.26	-0.01	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	0.00	6.43	0.00	0.00	0.01
Desaprumo X- (D2)	0.00	0.00	-6.43	0.00	0.00	-0.01
Desaprumo Y+ (D3)	0.00	-0.91	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	0.91	0.00	0.00	0.00	0.00

Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.83	37.75	0.02	0.00	0.03
G1+G2+0.6V2+D2	0.84	0.85	-37.77	-0.02	0.00	-0.04
G1+G2+0.6V3+D3	0.84	-6.83	0.00	0.00	0.00	0.00
G1+G2+0.6V4+D4	0.84	8.51	-0.02	0.00	0.00	-0.01
G1+G2+D1	0.84	0.84	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.84	-6.44	0.00	0.00	-0.01
G1+G2+D3	0.84	-0.07	-0.01	0.00	0.00	-0.01
G1+G2+D4	0.84	1.76	-0.01	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	0.83	56.07	0.03	0.00	0.04
G1+G2+V2+0.6D2	0.84	0.86	-56.09	-0.03	0.00	-0.06
G1+G2+V3+0.6D3	0.84	-10.97	0.01	0.00	0.00	0.00
G1+G2+V4+0.6D4	0.84	12.65	-0.02	0.00	0.00	-0.01

<b>Fundação EP72</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.42	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.30	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.02	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	0.02	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-17.33	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	17.33	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-1.17	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.17	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.70	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.73	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-10.85	0.00	0.00	0.00	0.00
G1+G2+0.6V4+D4	0.84	12.29	0.00	0.00	-0.01	0.00
G1+G2+D1	0.84	0.72	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.72	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-0.46	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	1.89	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.70	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.74	-55.94	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-17.31	0.00	0.00	0.01	0.00
G1+G2+V4+0.6D4	0.84	18.75	0.00	0.00	-0.01	0.00

<b>Fundação EP73</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.25	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.18	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00

Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.03	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	0.03	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-20.53	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	20.53	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-1.31	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.31	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.40	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.44	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-13.21	0.00	0.00	0.01	0.00
G1+G2+0.6V4+D4	0.84	14.05	0.00	0.00	-0.01	0.00
G1+G2+D1	0.84	0.42	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.42	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-0.89	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	1.73	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.40	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.45	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-20.90	0.00	0.00	0.01	0.00
G1+G2+V4+0.6D4	0.84	21.74	0.00	0.00	-0.01	0.00

<b>Fundação EP74</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.10	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.07	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.03	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	0.03	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-21.01	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	21.01	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-1.33	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.33	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.15	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.20	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-13.76	0.00	0.00	0.01	0.00
G1+G2+0.6V4+D4	0.84	14.11	0.00	0.00	-0.01	0.00
G1+G2+D1	0.84	0.17	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.18	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-1.15	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	1.51	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.14	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.21	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-21.63	0.00	0.00	0.01	0.00
G1+G2+V4+0.6D4	0.84	21.99	0.00	0.00	-0.01	0.00

Fundação EP75						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	-0.15	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	-0.11	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.04	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	0.04	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-18.78	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	18.78	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-1.24	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.24	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	-0.29	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	-0.23	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-12.77	0.00	0.00	0.01	0.00
G1+G2+0.6V4+D4	0.84	12.24	0.00	0.00	-0.01	0.00
G1+G2+D1	0.84	-0.27	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	-0.26	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-1.50	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	0.97	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	-0.31	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	-0.22	-55.94	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-19.79	0.00	0.00	0.01	0.00
G1+G2+V4+0.6D4	0.84	19.26	0.00	0.00	-0.01	0.00

Fundação EP77						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.00	2.05	0.00	0.00	0.00
Adicional (G2)	0.23	0.00	1.60	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	-0.58	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	0.58	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-146.41	0.00	0.00	0.07	-5.92
Vento Y- (V4)	0.00	146.41	0.00	0.00	-0.07	5.92
Desaprumo X+ (D1)	0.00	0.00	0.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.16	0.00	0.00	0.00	-0.22
Desaprumo Y- (D4)	0.00	6.16	0.00	0.00	0.00	0.22
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	3.72	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.85	0.00	3.57	0.01	0.00	0.00
G1+G2+0.6V3+D3	0.85	-94.01	3.65	0.01	0.05	-3.77

G1+G2+0.6V4+D4	0.85	94.01	3.65	0.01	-0.05	3.77
G1+G2+D1	0.85	0.00	4.07	0.01	0.00	0.00
G1+G2+D2	0.85	0.00	3.22	0.01	0.00	0.00
G1+G2+D3	0.85	-6.16	3.65	0.01	0.00	-0.22
G1+G2+D4	0.85	6.16	3.65	0.01	0.00	0.22
G1+G2+V1+0.6D1	0.84	0.00	3.31	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.85	0.00	3.98	0.01	0.00	0.00
G1+G2+V3+0.6D3	0.85	-150.11	3.65	0.01	0.07	-6.05
G1+G2+V4+0.6D4	0.85	150.11	3.65	0.01	-0.07	6.05

Fundação EP78						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.39	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.28	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	2.00	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-2.00	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.05	0.00	0.00	0.08	0.13
Vento Y- (V4)	0.00	155.05	0.00	0.00	-0.08	-0.13
Desaprumo X+ (D1)	0.00	0.00	0.70	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.70	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	2.57	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-1.22	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.46	0.67	0.00	0.05	0.08
G1+G2+0.6V4+D4	0.84	99.46	0.67	0.00	-0.05	-0.08
G1+G2+D1	0.84	0.00	1.38	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.03	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	0.67	0.00	0.00	0.01
G1+G2+D4	0.84	6.43	0.67	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	0.00	3.09	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-1.74	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.91	0.67	0.00	0.08	0.13
G1+G2+V4+0.6D4	0.84	158.91	0.67	0.00	-0.08	-0.13

Fundação EP79						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.24	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.18	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	3.13	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-3.13	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	0.84	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.84	0.00	0.00	0.00



Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	3.15	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-2.30	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	0.42	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	0.42	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.27	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.42	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.42	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	0.42	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	4.06	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-3.21	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	0.42	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	0.42	0.00	-0.08	0.00

Fundação EP80						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.07	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.05	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	3.20	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-3.20	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	0.85	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.85	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	2.65	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-2.89	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.12	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.12	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	0.73	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.97	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.12	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.12	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	3.59	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-3.83	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	-0.12	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	-0.12	0.00	-0.08	0.00

Fundação EP81						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.33	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.25	0.00	0.00	0.00

Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	2.21	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-2.21	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.02	0.00	0.00	0.08	-0.13
Vento Y- (V4)	0.00	155.02	0.00	0.00	-0.08	0.13
Desaprumo X+ (D1)	0.00	0.00	0.72	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.72	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	-0.01
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	2.64	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-1.46	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.43	0.59	0.00	0.05	-0.09
G1+G2+0.6V4+D4	0.84	99.43	0.59	0.00	-0.05	0.09
G1+G2+D1	0.84	0.00	1.31	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-0.14	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	0.59	0.00	0.00	-0.01
G1+G2+D4	0.84	6.42	0.59	0.00	0.00	0.01
G1+G2+V1+0.6D1	0.84	0.00	3.23	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-2.06	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.88	0.59	0.00	0.08	-0.13
G1+G2+V4+0.6D4	0.84	158.88	0.59	0.00	-0.08	0.13

Fundação EP82						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.63	0.00	-8.14	-0.02	0.00	0.00
Adicional (G2)	0.24	0.00	-6.09	-0.01	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	-0.10	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	0.10	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-148.43	0.00	0.00	0.07	4.90
Vento Y- (V4)	0.00	148.43	0.00	0.00	-0.07	-4.90
Desaprumo X+ (D1)	0.00	0.00	0.45	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.45	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.18
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	-0.18
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.87	0.00	-13.83	-0.03	0.00	0.00
G1+G2+0.6V2+D2	0.87	0.00	-14.62	-0.03	0.00	0.00
G1+G2+0.6V3+D3	0.87	-95.48	-14.23	-0.03	0.05	3.12
G1+G2+0.6V4+D4	0.87	95.48	-14.23	-0.03	-0.05	-3.12
G1+G2+D1	0.87	0.00	-13.77	-0.03	0.00	0.00
G1+G2+D2	0.87	0.00	-14.68	-0.03	0.00	0.00
G1+G2+D3	0.87	-6.42	-14.23	-0.03	0.00	0.18
G1+G2+D4	0.87	6.42	-14.23	-0.03	0.00	-0.18
G1+G2+V1+0.6D1	0.87	0.00	-14.05	-0.03	0.00	0.00
G1+G2+V2+0.6D2	0.87	0.00	-14.40	-0.02	0.00	0.00

G1+G2+V3+0.6D3	0.87	-152.28	-14.23	-0.03	0.08	5.01
G1+G2+V4+0.6D4	0.87	152.28	-14.23	-0.03	-0.08	-5.01

Fundação EP85						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.00	2.25	0.00	0.00	0.00
Adicional (G2)	0.23	0.00	1.75	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.57	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.57	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-146.70	0.00	0.00	0.07	-5.86
Vento Y- (V4)	0.00	146.70	0.00	0.00	-0.07	5.86
Desaprumo X+ (D1)	0.00	0.00	0.48	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.48	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.16	0.00	0.00	0.00	-0.22
Desaprumo Y- (D4)	0.00	6.16	0.00	0.00	0.00	0.22
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	4.81	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.85	0.00	3.18	0.01	0.00	0.00
G1+G2+0.6V3+D3	0.85	-94.18	4.00	0.01	0.05	-3.74
G1+G2+0.6V4+D4	0.85	94.18	4.00	0.01	-0.05	3.74
G1+G2+D1	0.85	0.00	4.47	0.01	0.00	0.00
G1+G2+D2	0.85	0.00	3.52	0.01	0.00	0.00
G1+G2+D3	0.85	-6.16	4.00	0.01	0.00	-0.22
G1+G2+D4	0.85	6.16	4.00	0.01	0.00	0.22
G1+G2+V1+0.6D1	0.84	0.00	4.85	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.85	0.00	3.14	0.01	0.00	0.00
G1+G2+V3+0.6D3	0.85	-150.39	4.00	0.01	0.07	-5.99
G1+G2+V4+0.6D4	0.85	150.39	4.00	0.01	-0.07	5.99

Fundação EP86						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.79	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.57	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	3.61	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-3.61	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.07	0.00	0.00	0.08	0.14
Vento Y- (V4)	0.00	155.07	0.00	0.00	-0.08	-0.14
Desaprumo X+ (D1)	0.00	0.00	0.81	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.81	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	4.34	0.00	0.00	0.00

G1+G2+0.6V2+D2	0.84	0.00	-1.60	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.47	1.37	0.00	0.05	0.09
G1+G2+0.6V4+D4	0.84	99.47	1.37	0.00	-0.05	-0.09
G1+G2+D1	0.84	0.00	2.17	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	0.56	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	1.37	0.00	0.00	0.01
G1+G2+D4	0.84	6.43	1.37	0.00	0.00	-0.01
G1+G2+V1+0.6D1	0.84	0.00	5.46	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-2.73	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.92	1.37	0.00	0.08	0.14
G1+G2+V4+0.6D4	0.84	158.92	1.37	0.00	-0.08	-0.14

Fundação EP87						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.86	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.63	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	5.56	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-5.56	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.70	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.70	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.01	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.01	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.83	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-2.85	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	1.49	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	1.49	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.49	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	0.48	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	1.49	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	1.49	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	7.65	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-4.67	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	1.49	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	1.49	0.00	-0.08	0.00

Fundação EP88						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.84	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.62	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	6.53	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-6.53	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00

Desaprumo X+ (D1)	0.00	0.00	1.08	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.08	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.45	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-3.53	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	1.46	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	1.46	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.54	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	0.38	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	1.46	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	1.46	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	8.63	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-5.71	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	1.46	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	1.46	0.00	-0.08	0.00

Fundação EP89						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	0.85	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.63	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	6.60	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-6.60	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.69	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.69	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.02	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.02	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.41	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.41	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.47	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-3.49	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.23	1.49	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.23	1.49	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	2.51	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	0.47	0.00	0.00	0.00
G1+G2+D3	0.84	-6.41	1.49	0.00	0.00	0.00
G1+G2+D4	0.84	6.41	1.49	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	8.70	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-5.72	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.54	1.49	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.54	1.49	0.00	-0.08	0.00

Fundação EP90						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)

Peso próprio (G1)	0.61	0.00	1.08	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	0.81	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	5.29	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-5.29	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.25	0.00	0.00	0.08	-0.29
Vento Y- (V4)	0.00	155.25	0.00	0.00	-0.08	0.29
Desaprumo X+ (D1)	0.00	0.00	0.83	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.83	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	-0.01
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.90	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-2.11	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.58	1.90	0.00	0.05	-0.18
G1+G2+0.6V4+D4	0.84	99.58	1.90	0.00	-0.05	0.18
G1+G2+D1	0.84	0.00	2.73	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	1.06	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	1.90	0.00	0.00	-0.01
G1+G2+D4	0.84	6.43	1.90	0.00	0.00	0.01
G1+G2+V1+0.6D1	0.84	0.00	7.69	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-3.89	0.00	0.00	0.00
G1+G2+V3+0.6D3	0.84	-159.10	1.90	0.00	0.08	-0.30
G1+G2+V4+0.6D4	0.84	159.10	1.90	0.00	-0.08	0.30

<b>Fundação EP91</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.62	0.00	-0.89	0.00	0.00	0.00
Adicional (G2)	0.23	0.00	-0.72	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.01	0.00	8.58	0.01	0.00	0.00
Vento X- (V2)	0.01	0.00	-8.58	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-152.32	0.00	0.00	0.07	4.34
Vento Y- (V4)	0.00	152.32	0.00	0.00	-0.07	-4.34
Desaprumo X+ (D1)	0.00	0.00	0.56	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.56	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.23	0.00	0.00	0.00	0.20
Desaprumo Y- (D4)	0.00	6.23	0.00	0.00	0.00	-0.20
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	4.09	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.86	0.00	-7.32	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.85	-97.62	-1.61	0.00	0.05	2.80
G1+G2+0.6V4+D4	0.85	97.62	-1.61	0.00	-0.05	-2.80
G1+G2+D1	0.85	0.00	-1.06	0.00	0.00	0.00
G1+G2+D2	0.85	0.00	-2.17	-0.01	0.00	0.00
G1+G2+D3	0.85	-6.23	-1.61	0.00	0.00	0.20
G1+G2+D4	0.85	6.23	-1.61	0.00	0.00	-0.20

G1+G2+V1+0.6D1	0.84	0.00	7.30	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.86	0.00	-10.53	-0.02	0.00	0.00
G1+G2+V3+0.6D3	0.85	-156.06	-1.61	0.00	0.08	4.46
G1+G2+V4+0.6D4	0.85	156.06	-1.61	0.00	-0.08	-4.46

Fundação EP94						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-2.18	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-1.54	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.01	0.00	10.07	0.01	0.00	0.00
Vento X- (V2)	-0.01	0.00	-10.07	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-151.68	0.00	0.00	0.07	-4.78
Vento Y- (V4)	0.00	151.68	0.00	0.00	-0.07	4.78
Desaprumo X+ (D1)	0.00	0.00	0.70	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.70	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.09	0.00	0.00	0.00	-0.22
Desaprumo Y- (D4)	0.00	6.09	0.00	0.00	0.00	0.22
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	3.02	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.82	0.00	-10.46	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.83	-97.10	-3.72	-0.01	0.05	-3.08
G1+G2+0.6V4+D4	0.83	97.10	-3.72	-0.01	-0.05	3.08
G1+G2+D1	0.83	0.00	-3.02	-0.01	0.00	0.00
G1+G2+D2	0.83	0.00	-4.42	-0.01	0.00	0.00
G1+G2+D3	0.83	-6.09	-3.72	-0.01	0.00	-0.22
G1+G2+D4	0.83	6.09	-3.72	-0.01	0.00	0.22
G1+G2+V1+0.6D1	0.85	0.00	6.77	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.82	0.00	-14.21	-0.02	0.00	0.00
G1+G2+V3+0.6D3	0.83	-155.34	-3.72	-0.01	0.08	-4.90
G1+G2+V4+0.6D4	0.83	155.34	-3.72	-0.01	-0.08	4.90

Fundação EP95						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.65	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.49	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	7.76	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-7.76	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.28	0.00	0.00	0.08	0.30
Vento Y- (V4)	0.00	155.28	0.00	0.00	-0.08	-0.30
Desaprumo X+ (D1)	0.00	0.00	1.13	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.13	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.43	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.43	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00

Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	4.66	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-6.92	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.60	-1.13	0.00	0.05	0.19
G1+G2+0.6V4+D4	0.84	99.60	-1.13	0.00	-0.05	-0.19
G1+G2+D1	0.84	0.00	0.00	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.26	0.00	0.00	0.00
G1+G2+D3	0.84	-6.43	-1.13	0.00	0.00	0.00
G1+G2+D4	0.84	6.43	-1.13	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	7.31	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-9.58	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-159.14	-1.13	0.00	0.08	0.31
G1+G2+V4+0.6D4	0.84	159.14	-1.13	0.00	-0.08	-0.31

Fundação EP96						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.65	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.48	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	10.55	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-10.55	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.69	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.69	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.50	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.50	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.41	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.41	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.70	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.96	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.23	-1.13	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.23	-1.13	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	0.37	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.63	0.00	0.00	0.00
G1+G2+D3	0.84	-6.41	-1.13	0.00	0.00	0.00
G1+G2+D4	0.84	6.41	-1.13	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.32	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-12.58	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.54	-1.13	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.54	-1.13	0.00	-0.08	0.00

Fundação EP97						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.56	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.41	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.11	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.11	-0.01	0.00	0.00



Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.75	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.75	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.41	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.41	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.04	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.99	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.97	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.97	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	0.78	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.72	0.00	0.00	0.00
G1+G2+D3	0.84	-6.41	-0.97	0.00	0.00	0.00
G1+G2+D4	0.84	6.41	-0.97	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.18	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-14.13	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	-0.97	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.97	0.00	-0.08	0.00

<b>Fundação EP98</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.00	-0.50	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.37	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	13.00	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-13.00	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.91	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.91	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.41	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.41	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.84	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-10.58	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.87	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.87	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.04	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.78	0.00	0.00	0.00
G1+G2+D3	0.84	-6.41	-0.87	0.00	0.00	0.00
G1+G2+D4	0.84	6.41	-0.87	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.27	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-15.01	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	-0.87	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.87	0.00	-0.08	0.00

**Fundação EP99**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.47	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.34	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	13.23	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-13.23	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.97	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.97	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	9.11	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-10.72	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.81	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.81	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.17	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.78	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.81	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.81	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.61	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-15.22	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	-0.81	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.81	0.00	-0.08	0.00

Fundação EP100						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.45	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.33	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	12.82	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-12.82	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.95	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.95	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.86	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-10.42	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.78	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.78	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.17	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.73	0.00	0.00	0.00

G1+G2+D3	0.84	-6.42	-0.78	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.78	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	13.21	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-14.77	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	-0.78	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.78	0.00	-0.08	0.00

Fundação EP101						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.45	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.33	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	11.74	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-11.74	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.84	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.84	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	8.10	0.01	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-9.66	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.78	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.78	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	1.06	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.62	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.78	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.78	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	12.06	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-13.62	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.56	-0.78	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.56	-0.78	0.00	-0.08	0.00

Fundação EP102						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.48	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.35	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	9.95	0.01	0.00	0.00
Vento X- (V2)	0.00	0.00	-9.95	-0.01	0.00	0.00
Vento Y+ (V3)	0.00	-154.71	0.00	0.00	0.08	0.00
Vento Y- (V4)	0.00	154.71	0.00	0.00	-0.08	0.00
Desaprumo X+ (D1)	0.00	0.00	1.63	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.63	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00

Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	6.77	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-8.43	-0.01	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.24	-0.83	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.84	99.24	-0.84	0.00	-0.05	0.00
G1+G2+D1	0.84	0.00	0.80	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.47	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.83	0.00	0.00	0.00
G1+G2+D4	0.84	6.42	-0.83	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	10.09	0.01	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-11.76	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.55	-0.83	0.00	0.08	0.00
G1+G2+V4+0.6D4	0.84	158.55	-0.84	0.00	-0.08	0.00

Fundação EP103						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.00	-0.41	0.00	0.00	0.00
Adicional (G2)	0.22	0.00	-0.29	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	7.37	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-7.37	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-154.73	0.00	0.00	0.08	-0.01
Vento Y- (V4)	0.00	154.73	0.00	0.00	-0.08	0.01
Desaprumo X+ (D1)	0.00	0.00	1.33	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-1.33	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.42	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	6.42	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.00	5.05	0.00	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.00	-6.45	0.00	0.00	0.00
G1+G2+0.6V3+D3	0.84	-99.26	-0.70	0.00	0.05	-0.01
G1+G2+0.6V4+D4	0.84	99.25	-0.70	0.00	-0.05	0.01
G1+G2+D1	0.84	0.00	0.63	0.00	0.00	0.00
G1+G2+D2	0.84	0.00	-2.02	0.00	0.00	0.00
G1+G2+D3	0.84	-6.42	-0.70	0.00	0.00	0.00
G1+G2+D4	0.84	6.41	-0.70	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.00	7.47	0.00	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.00	-8.87	-0.01	0.00	0.00
G1+G2+V3+0.6D3	0.84	-158.58	-0.69	0.00	0.08	-0.02
G1+G2+V4+0.6D4	0.84	158.58	-0.70	0.00	-0.08	0.01

Fundação EP104						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	0.04	-1.99	0.00	0.00	0.04
Adicional (G2)	0.23	0.03	-1.44	0.00	0.00	0.03
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00

Vento X+ (V1)	0.00	0.00	3.80	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-3.80	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-155.04	0.00	0.00	0.08	0.10
Vento Y- (V4)	0.00	155.04	0.00	0.00	-0.08	-0.10
Desaprumo X+ (D1)	0.00	0.00	0.90	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.90	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.44	0.00	0.00	0.00	0.03
Desaprumo Y- (D4)	0.00	6.44	0.00	0.00	0.00	-0.03
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.85	0.08	-0.26	0.00	0.00	0.06
G1+G2+0.6V2+D2	0.84	0.07	-6.61	-0.01	0.00	0.06
G1+G2+0.6V3+D3	0.85	-99.39	-3.43	-0.01	0.05	0.15
G1+G2+0.6V4+D4	0.85	99.54	-3.44	-0.01	-0.05	-0.03
G1+G2+D1	0.85	0.08	-2.54	-0.01	0.00	0.06
G1+G2+D2	0.85	0.08	-4.33	-0.01	0.00	0.06
G1+G2+D3	0.85	-6.36	-3.44	-0.01	0.00	0.09
G1+G2+D4	0.85	6.51	-3.44	-0.01	0.00	0.03
G1+G2+V1+0.6D1	0.85	0.08	0.91	-0.01	0.00	0.07
G1+G2+V2+0.6D2	0.84	0.07	-7.78	-0.01	0.00	0.06
G1+G2+V3+0.6D3	0.85	-158.83	-3.43	-0.01	0.08	0.18
G1+G2+V4+0.6D4	0.85	158.98	-3.44	-0.01	-0.08	-0.06

<b>Fundação EP105</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.55	1.31	17.15	0.04	0.00	0.29
Adicional (G2)	0.18	0.97	12.44	0.03	0.00	0.21
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.21	0.42	0.00	0.00	0.06
Vento X- (V2)	0.00	-0.21	-0.42	0.00	0.00	-0.06
Vento Y+ (V3)	0.00	-118.33	0.02	0.00	0.05	16.29
Vento Y- (V4)	0.00	118.33	-0.02	0.00	-0.05	-16.29
Desaprumo X+ (D1)	0.00	0.02	0.40	0.00	0.00	0.01
Desaprumo X- (D2)	0.00	-0.02	-0.40	0.00	0.00	-0.01
Desaprumo Y+ (D3)	0.00	-4.44	0.00	0.00	0.00	0.56
Desaprumo Y- (D4)	0.00	4.44	0.00	0.00	0.00	-0.56
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.73	2.43	30.25	0.06	0.00	0.55
G1+G2+0.6V2+D2	0.73	2.13	28.93	0.06	0.00	0.46
G1+G2+0.6V3+D3	0.73	-73.16	29.60	0.06	0.03	10.84
G1+G2+0.6V4+D4	0.73	77.72	29.58	0.06	-0.04	-9.83
G1+G2+D1	0.73	2.31	30.00	0.06	0.00	0.51
G1+G2+D2	0.73	2.26	29.19	0.06	0.00	0.50
G1+G2+D3	0.73	-2.16	29.59	0.06	0.00	1.07
G1+G2+D4	0.73	6.72	29.59	0.06	0.00	-0.06
G1+G2+V1+0.6D1	0.73	2.51	30.26	0.06	0.00	0.57
G1+G2+V2+0.6D2	0.73	2.06	28.93	0.06	0.00	0.44
G1+G2+V3+0.6D3	0.73	-118.72	29.61	0.06	0.05	17.13
G1+G2+V4+0.6D4	0.73	123.28	29.57	0.06	-0.06	-16.12

Fundação EP107						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	1.03	-0.01	0.00	0.00	0.00
Adicional (G2)	0.22	0.77	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.05	52.19	0.03	0.00	-0.04
Vento X- (V2)	0.00	0.05	-52.19	-0.03	0.00	0.04
Vento Y+ (V3)	0.00	-13.75	0.02	0.00	0.00	-0.01
Vento Y- (V4)	0.00	13.75	-0.02	0.00	0.00	0.01
Desaprumo X+ (D1)	0.00	0.00	6.41	0.00	0.00	-0.02
Desaprumo X- (D2)	0.00	0.00	-6.41	0.00	0.00	0.02
Desaprumo Y+ (D3)	0.00	-1.02	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.02	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.83	1.76	37.71	0.02	0.00	-0.04
G1+G2+0.6V2+D2	0.83	1.83	-37.73	-0.02	0.00	0.05
G1+G2+0.6V3+D3	0.83	-7.47	0.00	0.00	0.00	0.00
G1+G2+0.6V4+D4	0.83	11.06	-0.02	0.00	-0.01	0.01
G1+G2+D1	0.83	1.79	6.40	0.00	0.00	-0.02
G1+G2+D2	0.83	1.80	-6.42	0.00	0.00	0.03
G1+G2+D3	0.83	0.78	-0.01	0.00	0.00	0.00
G1+G2+D4	0.83	2.82	-0.01	0.00	0.00	0.01
G1+G2+V1+0.6D1	0.83	1.74	56.03	0.03	0.00	-0.05
G1+G2+V2+0.6D2	0.83	1.85	-56.05	-0.03	0.00	0.06
G1+G2+V3+0.6D3	0.83	-12.56	0.01	0.00	0.00	0.00
G1+G2+V4+0.6D4	0.83	16.16	-0.03	0.00	-0.01	0.01

Fundação EP108						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.65	4.19	0.53	0.00	-0.01	-0.07
Adicional (G2)	0.25	3.09	0.39	0.00	-0.01	-0.05
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.03	47.32	0.02	0.00	0.06
Vento X- (V2)	0.00	0.03	-47.32	-0.02	0.00	-0.06
Vento Y+ (V3)	0.00	8.03	-0.79	0.00	-0.02	-0.20
Vento Y- (V4)	0.00	-8.03	0.79	0.00	0.02	0.20
Desaprumo X+ (D1)	0.00	0.00	6.29	0.00	0.00	0.01
Desaprumo X- (D2)	0.00	0.00	-6.29	0.00	0.00	-0.01
Desaprumo Y+ (D3)	0.00	-0.08	-0.03	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	0.08	0.03	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.90	7.26	35.60	0.02	-0.01	-0.07
G1+G2+0.6V2+D2	0.90	7.31	-33.76	-0.02	-0.01	-0.16
G1+G2+0.6V3+D3	0.89	12.02	0.43	0.00	-0.02	-0.24
G1+G2+0.6V4+D4	0.90	2.54	1.42	0.00	0.00	0.01
G1+G2+D1	0.90	7.28	7.21	0.00	-0.01	-0.11

G1+G2+D2	0.90	7.29	-5.37	0.00	-0.01	-0.12
G1+G2+D3	0.90	7.21	0.90	0.00	-0.01	-0.12
G1+G2+D4	0.90	7.36	0.95	0.00	-0.01	-0.11
G1+G2+V1+0.6D1	0.90	7.24	52.01	0.03	-0.01	-0.05
G1+G2+V2+0.6D2	0.90	7.32	-50.17	-0.03	-0.01	-0.17
G1+G2+V3+0.6D3	0.89	15.27	0.12	0.00	-0.03	-0.31
G1+G2+V4+0.6D4	0.90	-0.70	1.73	0.00	0.01	0.09

Fundação EP109						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.65	-15.77	0.05	0.00	0.03	-0.05
Adicional (G2)	0.25	-11.75	0.04	0.00	0.02	-0.04
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.07	50.28	0.03	0.00	1.46
Vento X- (V2)	0.00	0.07	-50.28	-0.03	0.00	-1.46
Vento Y+ (V3)	0.00	-5.81	-0.42	0.00	0.00	0.28
Vento Y- (V4)	0.00	5.81	0.42	0.00	0.00	-0.28
Desaprumo X+ (D1)	0.00	-0.01	6.69	0.00	0.00	0.16
Desaprumo X- (D2)	0.00	0.01	-6.69	0.00	0.00	-0.16
Desaprumo Y+ (D3)	0.00	-0.69	-0.02	0.00	0.00	0.01
Desaprumo Y- (D4)	0.00	0.69	0.02	0.00	0.00	-0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.91	-27.57	36.94	0.02	0.05	0.94
G1+G2+0.6V2+D2	0.91	-27.47	-36.77	-0.02	0.05	-1.12
G1+G2+0.6V3+D3	0.90	-31.70	-0.19	0.00	0.05	0.09
G1+G2+0.6V4+D4	0.91	-23.34	0.36	0.00	0.06	-0.27
G1+G2+D1	0.91	-27.53	6.77	0.00	0.05	0.06
G1+G2+D2	0.91	-27.51	-6.60	0.00	0.05	-0.25
G1+G2+D3	0.91	-28.21	0.07	0.00	0.06	-0.08
G1+G2+D4	0.91	-26.83	0.11	0.00	0.05	-0.11
G1+G2+V1+0.6D1	0.91	-27.59	54.38	0.03	0.05	1.46
G1+G2+V2+0.6D2	0.91	-27.45	-54.21	-0.03	0.05	-1.64
G1+G2+V3+0.6D3	0.90	-33.74	-0.35	0.00	0.05	0.19
G1+G2+V4+0.6D4	0.91	-21.30	0.52	0.00	0.06	-0.38

Fundação EP111						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.63	-0.04	5.20	0.01	0.00	-0.03
Adicional (G2)	0.23	-0.03	3.93	0.01	0.00	-0.03
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.02	-1.78	-0.01	0.00	-0.01
Vento X- (V2)	0.00	-0.02	1.78	0.01	0.00	0.01
Vento Y+ (V3)	0.00	-147.17	0.16	0.00	0.07	-5.91
Vento Y- (V4)	0.00	147.17	-0.16	0.00	-0.07	5.91
Desaprumo X+ (D1)	0.00	0.00	0.16	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-0.16	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-6.29	0.01	0.00	0.00	-0.21
Desaprumo Y- (D4)	0.00	6.29	-0.01	0.00	0.00	0.21

Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.86	-0.06	8.22	0.01	0.00	-0.07
G1+G2+0.6V2+D2	0.86	-0.08	10.04	0.02	0.00	-0.05
G1+G2+0.6V3+D3	0.86	-94.66	9.24	0.02	0.05	-3.82
G1+G2+0.6V4+D4	0.86	94.52	9.03	0.02	-0.05	3.70
G1+G2+D1	0.86	-0.07	9.29	0.02	0.00	-0.06
G1+G2+D2	0.86	-0.07	8.97	0.02	0.00	-0.06
G1+G2+D3	0.86	-6.36	9.14	0.02	0.00	-0.27
G1+G2+D4	0.86	6.22	9.13	0.02	0.00	0.15
G1+G2+V1+0.6D1	0.86	-0.05	7.45	0.01	0.00	-0.07
G1+G2+V2+0.6D2	0.86	-0.09	10.82	0.02	0.00	-0.05
G1+G2+V3+0.6D3	0.86	-151.02	9.30	0.02	0.08	-6.09
G1+G2+V4+0.6D4	0.86	150.87	8.97	0.02	-0.08	5.97

<b>Fundação EP112</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.60	-0.48	6.35	0.01	0.00	-0.15
Adicional (G2)	0.21	-0.36	4.59	0.01	0.00	-0.11
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.08	-2.28	-0.01	0.00	0.04
Vento X- (V2)	0.00	-0.08	2.28	0.01	0.00	-0.04
Vento Y+ (V3)	0.00	-142.06	0.12	0.00	0.07	8.40
Vento Y- (V4)	0.00	142.06	-0.12	0.00	-0.07	-8.40
Desaprumo X+ (D1)	0.00	0.01	0.13	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	-0.01	-0.13	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-5.72	0.00	0.00	0.00	0.32
Desaprumo Y- (D4)	0.00	5.72	0.00	0.00	0.00	-0.32
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.80	-0.79	9.71	0.02	0.00	-0.23
G1+G2+0.6V2+D2	0.80	-0.90	12.17	0.03	0.00	-0.28
G1+G2+0.6V3+D3	0.80	-91.79	11.02	0.02	0.05	5.11
G1+G2+0.6V4+D4	0.80	90.11	10.86	0.02	-0.05	-5.62
G1+G2+D1	0.80	-0.84	11.07	0.02	0.00	-0.25
G1+G2+D2	0.80	-0.85	10.81	0.02	0.00	-0.26
G1+G2+D3	0.80	-6.56	10.94	0.02	0.00	0.06
G1+G2+D4	0.80	4.88	10.94	0.02	0.00	-0.58
G1+G2+V1+0.6D1	0.80	-0.76	8.74	0.02	0.00	-0.22
G1+G2+V2+0.6D2	0.80	-0.92	13.14	0.03	0.00	-0.30
G1+G2+V3+0.6D3	0.80	-146.33	11.06	0.02	0.07	8.34
G1+G2+V4+0.6D4	0.80	144.64	10.82	0.02	-0.07	-8.85

<b>Fundação EP114</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.58	-13.01	-0.27	0.00	0.03	-0.10
Adicional (G2)	0.20	-9.52	-0.20	0.00	0.02	-0.08
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00



Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.04	47.45	0.02	0.00	-2.88
Vento X- (V2)	0.00	0.04	-47.45	-0.02	0.00	2.88
Vento Y+ (V3)	-0.01	1.58	0.84	0.00	-0.01	0.38
Vento Y- (V4)	0.01	-1.58	-0.84	0.00	0.01	-0.38
Desaprumo X+ (D1)	0.00	0.00	5.48	0.00	0.00	-0.31
Desaprumo X- (D2)	0.00	0.00	-5.48	0.00	0.00	0.31
Desaprumo Y+ (D3)	0.00	-0.31	0.04	0.00	0.00	0.02
Desaprumo Y- (D4)	0.00	0.31	-0.04	0.00	0.00	-0.02
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.78	-22.55	33.48	0.02	0.04	-2.22
G1+G2+0.6V2+D2	0.78	-22.50	-34.42	-0.02	0.04	1.86
G1+G2+0.6V3+D3	0.77	-21.89	0.07	0.00	0.04	0.06
G1+G2+0.6V4+D4	0.78	-23.16	-1.02	0.00	0.05	-0.43
G1+G2+D1	0.78	-22.53	5.01	0.00	0.04	-0.49
G1+G2+D2	0.78	-22.52	-5.95	0.00	0.04	0.13
G1+G2+D3	0.77	-22.84	-0.43	0.00	0.04	-0.16
G1+G2+D4	0.78	-22.21	-0.51	0.00	0.04	-0.20
G1+G2+V1+0.6D1	0.78	-22.56	50.27	0.03	0.04	-3.25
G1+G2+V2+0.6D2	0.78	-22.49	-51.21	-0.03	0.04	2.89
G1+G2+V3+0.6D3	0.77	-21.13	0.40	0.00	0.03	0.21
G1+G2+V4+0.6D4	0.78	-23.92	-1.34	0.00	0.05	-0.57

<b>Fundação EP115</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	1.55	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	1.14	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.05	52.33	0.03	0.00	0.00
Vento X- (V2)	0.00	0.05	-52.33	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	2.04	-0.01	0.00	-0.01	0.00
Vento Y- (V4)	0.00	-2.04	0.01	0.00	0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	6.43	0.00	0.00	-0.03
Desaprumo X- (D2)	0.00	0.00	-6.43	0.00	0.00	0.03
Desaprumo Y+ (D3)	0.00	-0.34	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	0.34	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	2.67	37.83	0.02	-0.01	-0.04
G1+G2+0.6V2+D2	0.84	2.73	-37.83	-0.02	-0.01	0.02
G1+G2+0.6V3+D3	0.84	3.58	-0.01	0.00	-0.01	0.00
G1+G2+0.6V4+D4	0.84	1.81	0.00	0.00	0.00	-0.01
G1+G2+D1	0.84	2.69	6.43	0.00	-0.01	-0.04
G1+G2+D2	0.84	2.70	-6.43	0.00	-0.01	0.03
G1+G2+D3	0.84	2.36	0.00	0.00	-0.01	0.00
G1+G2+D4	0.84	3.04	0.00	0.00	-0.01	-0.01
G1+G2+V1+0.6D1	0.84	2.65	56.19	0.03	-0.01	-0.02
G1+G2+V2+0.6D2	0.84	2.74	-56.19	-0.03	-0.01	0.01
G1+G2+V3+0.6D3	0.84	4.53	-0.01	0.00	-0.02	0.00
G1+G2+V4+0.6D4	0.84	0.86	0.01	0.00	0.01	-0.01

Fundação EP116						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.66	-17.88	0.00	0.00	0.04	0.00
Adicional (G2)	0.26	-13.29	0.00	0.00	0.03	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.02	50.52	0.03	0.00	1.33
Vento X- (V2)	0.00	0.02	-50.52	-0.03	0.00	-1.33
Vento Y+ (V3)	0.00	4.68	0.00	0.00	-0.02	0.00
Vento Y- (V4)	0.00	-4.68	0.00	0.00	0.02	0.00
Desaprumo X+ (D1)	0.00	0.00	6.75	0.00	0.00	0.14
Desaprumo X- (D2)	0.00	0.00	-6.75	0.00	0.00	-0.14
Desaprumo Y+ (D3)	0.00	-0.27	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	0.27	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.91	-31.19	37.07	0.02	0.06	0.94
G1+G2+0.6V2+D2	0.91	-31.16	-37.07	-0.02	0.06	-0.94
G1+G2+0.6V3+D3	0.91	-28.64	0.00	0.00	0.05	0.00
G1+G2+0.6V4+D4	0.91	-33.71	0.00	0.00	0.07	0.00
G1+G2+D1	0.91	-31.17	6.75	0.00	0.06	0.14
G1+G2+D2	0.91	-31.17	-6.75	0.00	0.06	-0.14
G1+G2+D3	0.91	-31.44	0.00	0.00	0.06	0.00
G1+G2+D4	0.91	-30.90	0.00	0.00	0.06	0.00
G1+G2+V1+0.6D1	0.91	-31.20	54.57	0.03	0.06	1.41
G1+G2+V2+0.6D2	0.91	-31.15	-54.57	-0.03	0.06	-1.41
G1+G2+V3+0.6D3	0.91	-26.66	0.00	0.00	0.04	0.00
G1+G2+V4+0.6D4	0.92	-35.69	0.00	0.00	0.08	0.00

Fundação EP119						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.62	2.14	0.00	0.00	0.00	0.00
Adicional (G2)	0.23	1.67	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	49.40	0.02	0.00	-1.97
Vento X- (V2)	0.00	0.00	-49.40	-0.02	0.00	1.97
Vento Y+ (V3)	0.00	-5.22	0.00	0.00	-0.01	0.00
Vento Y- (V4)	0.00	5.22	0.00	0.00	0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	6.16	0.00	0.00	-0.22
Desaprumo X- (D2)	0.00	0.00	-6.16	0.00	0.00	0.22
Desaprumo Y+ (D3)	0.00	-0.66	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	0.66	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.85	3.81	35.80	0.02	-0.01	-1.40
G1+G2+0.6V2+D2	0.85	3.81	-35.80	-0.02	-0.01	1.40
G1+G2+0.6V3+D3	0.85	0.02	0.00	0.00	-0.01	0.00

G1+G2+0.6V4+D4	0.84	7.60	0.00	0.00	0.00	0.00
G1+G2+D1	0.85	3.81	6.16	0.00	-0.01	-0.22
G1+G2+D2	0.85	3.81	-6.16	0.00	-0.01	0.22
G1+G2+D3	0.85	3.15	0.00	0.00	-0.01	0.00
G1+G2+D4	0.85	4.47	0.00	0.00	-0.01	0.00
G1+G2+V1+0.6D1	0.85	3.81	53.09	0.03	-0.01	-2.10
G1+G2+V2+0.6D2	0.85	3.81	-53.09	-0.03	-0.01	2.10
G1+G2+V3+0.6D3	0.85	-1.80	0.00	0.00	-0.01	0.00
G1+G2+V4+0.6D4	0.84	9.42	0.00	0.00	0.00	0.00

Fundação EP120						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.57	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.42	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.01	52.22	0.03	0.00	0.05
Vento X- (V2)	0.00	-0.01	-52.22	-0.03	0.00	-0.05
Vento Y+ (V3)	0.00	-17.70	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	17.70	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	6.43	0.00	0.00	0.01
Desaprumo X- (D2)	0.00	0.00	-6.43	0.00	0.00	-0.01
Desaprumo Y+ (D3)	0.00	-1.16	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.16	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	1.00	37.76	0.02	0.00	0.03
G1+G2+0.6V2+D2	0.84	0.99	-37.76	-0.02	0.00	-0.03
G1+G2+0.6V3+D3	0.84	-10.79	0.00	0.00	0.00	0.00
G1+G2+0.6V4+D4	0.84	12.78	0.00	0.00	-0.01	0.00
G1+G2+D1	0.84	0.99	6.43	0.00	0.00	0.01
G1+G2+D2	0.84	0.99	-6.43	0.00	0.00	-0.01
G1+G2+D3	0.84	-0.17	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	2.16	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	1.00	56.07	0.03	0.00	0.05
G1+G2+V2+0.6D2	0.84	0.99	-56.07	-0.03	0.00	-0.05
G1+G2+V3+0.6D3	0.84	-17.41	0.00	0.00	0.01	0.00
G1+G2+V4+0.6D4	0.84	19.39	0.00	0.00	-0.01	0.00

Fundação EP121						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.52	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.39	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.01	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.01	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-27.31	0.00	0.00	0.02	0.00
Vento Y- (V4)	0.00	27.31	0.00	0.00	-0.02	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00

Desaprumo Y+ (D3)	0.00	-1.56	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.56	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.92	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.90	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-17.04	0.00	0.00	0.01	0.00
G1+G2+0.6V4+D4	0.84	18.86	0.00	0.00	-0.01	0.00
G1+G2+D1	0.84	0.91	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.91	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-0.65	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	2.47	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.92	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.90	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-27.34	0.00	0.00	0.02	0.00
G1+G2+V4+0.6D4	0.84	29.16	0.00	0.00	-0.02	0.00

Fundação EP122						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.37	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.29	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.01	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.01	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-34.49	0.00	0.00	0.03	0.00
Vento Y- (V4)	0.00	34.49	0.00	0.00	-0.03	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-1.85	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.85	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.66	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.64	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-21.89	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	23.20	0.00	0.00	-0.02	0.00
G1+G2+D1	0.84	0.65	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.65	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-1.20	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	2.50	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.67	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.64	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-34.95	0.00	0.00	0.03	0.00
G1+G2+V4+0.6D4	0.84	36.25	0.00	0.00	-0.03	0.00

Fundação EP123						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.24	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.20	0.00	0.00	0.00	0.00

Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.02	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.02	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-39.54	0.00	0.00	0.03	0.00
Vento Y- (V4)	0.00	39.54	0.00	0.00	-0.03	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-2.05	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	2.05	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.45	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.43	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-25.33	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	26.21	0.00	0.00	-0.02	0.00
G1+G2+D1	0.84	0.44	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.44	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-1.61	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	2.49	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.46	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.42	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-40.33	0.00	0.00	0.03	0.00
G1+G2+V4+0.6D4	0.84	41.20	0.00	0.00	-0.03	0.00

<b>Fundação EP124</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.61	0.12	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.12	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.02	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.02	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-42.67	0.00	0.00	0.03	0.00
Vento Y- (V4)	0.00	42.67	0.00	0.00	-0.03	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-2.16	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	2.16	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.26	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.23	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-27.52	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	28.01	0.00	0.00	-0.02	0.00
G1+G2+D1	0.84	0.24	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.24	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-1.92	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	2.40	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.27	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.22	-55.95	-0.03	0.00	0.00

G1+G2+V3+0.6D3	0.84	-43.73	0.00	0.00	0.03	0.00
G1+G2+V4+0.6D4	0.84	44.21	0.00	0.00	-0.04	0.00

Fundação EP125						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	0.01	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	0.05	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.03	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.03	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-44.03	0.00	0.00	0.04	0.00
Vento Y- (V4)	0.00	44.03	0.00	0.00	-0.04	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-2.19	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	2.19	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	0.08	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	0.04	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-28.55	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	28.67	0.00	0.00	-0.02	0.00
G1+G2+D1	0.84	0.06	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	0.06	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-2.13	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	2.25	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	0.09	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	0.03	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-45.29	0.00	0.00	0.04	0.00
G1+G2+V4+0.6D4	0.84	45.40	0.00	0.00	-0.04	0.00

Fundação EP126						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	-0.10	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	-0.02	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.04	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.04	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-43.67	0.00	0.00	0.03	0.00
Vento Y- (V4)	0.00	43.67	0.00	0.00	-0.03	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-2.14	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	2.14	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	-0.10	37.67	0.02	0.00	0.00

G1+G2+0.6V2+D2	0.84	-0.15	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-28.47	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	28.22	0.00	0.00	-0.02	0.00
G1+G2+D1	0.84	-0.13	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	-0.13	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-2.27	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	2.02	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	-0.09	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	-0.16	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-45.08	0.00	0.00	0.04	0.00
G1+G2+V4+0.6D4	0.84	44.83	0.00	0.00	-0.04	0.00

Fundação EP127						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	-0.22	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	-0.10	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.05	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.05	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-41.57	0.00	0.00	0.03	0.00
Vento Y- (V4)	0.00	41.57	0.00	0.00	-0.03	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-2.02	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	2.02	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	-0.28	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	-0.34	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-27.27	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	26.64	0.00	0.00	-0.02	0.00
G1+G2+D1	0.84	-0.31	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	-0.31	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-2.33	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	1.70	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	-0.27	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	-0.36	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-43.09	0.00	0.00	0.03	0.00
G1+G2+V4+0.6D4	0.84	42.46	0.00	0.00	-0.03	0.00

Fundação EP128						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	-0.35	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	-0.18	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.06	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.06	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-37.63	0.00	0.00	0.03	0.00
Vento Y- (V4)	0.00	37.63	0.00	0.00	-0.03	0.00

Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-1.80	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.80	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	-0.49	37.67	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	-0.56	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-24.91	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	23.85	0.00	0.00	-0.02	0.00
G1+G2+D1	0.84	-0.53	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	-0.53	-6.42	0.00	0.00	0.00
G1+G2+D3	0.84	-2.33	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	1.27	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	-0.47	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	-0.59	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-39.24	0.00	0.00	0.03	0.00
G1+G2+V4+0.6D4	0.84	38.18	0.00	0.00	-0.03	0.00

Fundação EP129						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	0.61	-0.40	0.00	0.00	0.00	0.00
Adicional (G2)	0.22	-0.19	0.00	0.00	0.00	0.00
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.07	52.10	0.03	0.00	0.00
Vento X- (V2)	0.00	-0.07	-52.10	-0.03	0.00	0.00
Vento Y+ (V3)	0.00	-31.90	-0.01	0.00	0.02	0.00
Vento Y- (V4)	0.00	31.90	0.01	0.00	-0.02	0.00
Desaprumo X+ (D1)	0.00	0.00	6.42	0.00	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-6.42	0.00	0.00	0.00
Desaprumo Y+ (D3)	0.00	-1.49	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.49	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	-0.54	37.68	0.02	0.00	0.00
G1+G2+0.6V2+D2	0.84	-0.63	-37.67	-0.02	0.00	0.00
G1+G2+0.6V3+D3	0.84	-21.21	0.00	0.00	0.02	0.00
G1+G2+0.6V4+D4	0.84	20.05	0.01	0.00	-0.01	0.00
G1+G2+D1	0.84	-0.58	6.42	0.00	0.00	0.00
G1+G2+D2	0.84	-0.59	-6.41	0.00	0.00	0.00
G1+G2+D3	0.84	-2.08	0.00	0.00	0.00	0.00
G1+G2+D4	0.84	0.91	0.00	0.00	0.00	0.00
G1+G2+V1+0.6D1	0.84	-0.51	55.95	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	-0.66	-55.95	-0.03	0.00	0.00
G1+G2+V3+0.6D3	0.84	-33.38	0.00	0.00	0.02	0.00
G1+G2+V4+0.6D4	0.84	32.21	0.01	0.00	-0.02	0.00

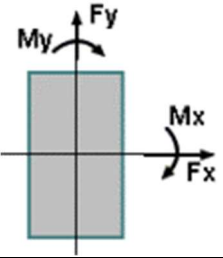
Fundação EP130						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)



Peso próprio (G1)	0.62	-1.76	-0.01	0.00	0.00	0.00
Adicional (G2)	0.23	-1.18	-0.02	0.00	0.00	0.02
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.07	52.26	0.03	0.00	-0.04
Vento X- (V2)	0.00	-0.07	-52.26	-0.03	0.00	0.04
Vento Y+ (V3)	-0.01	-21.38	0.00	0.00	0.01	-0.06
Vento Y- (V4)	0.01	21.38	0.00	0.00	-0.01	0.06
Desaprumo X+ (D1)	0.00	0.00	6.44	0.00	0.00	0.02
Desaprumo X- (D2)	0.00	0.00	-6.44	0.00	0.00	-0.02
Desaprumo Y+ (D3)	0.00	-1.05	0.00	0.00	0.00	0.00
Desaprumo Y- (D4)	0.00	1.05	0.00	0.00	0.00	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.84	-2.90	37.77	0.02	0.00	0.02
G1+G2+0.6V2+D2	0.84	-2.99	-37.83	-0.02	0.00	0.03
G1+G2+0.6V3+D3	0.84	-16.83	-0.03	0.00	0.01	-0.01
G1+G2+0.6V4+D4	0.85	10.94	-0.03	0.00	0.00	0.06
G1+G2+D1	0.84	-2.94	6.41	0.00	0.00	0.04
G1+G2+D2	0.84	-2.95	-6.47	0.00	0.00	0.01
G1+G2+D3	0.84	-4.00	-0.03	0.00	0.01	0.02
G1+G2+D4	0.84	-1.89	-0.03	0.00	0.00	0.02
G1+G2+V1+0.6D1	0.84	-2.87	56.10	0.03	0.00	0.00
G1+G2+V2+0.6D2	0.84	-3.02	-56.16	-0.03	0.01	0.05
G1+G2+V3+0.6D3	0.84	-24.96	-0.02	0.00	0.01	-0.03
G1+G2+V4+0.6D4	0.85	19.07	-0.03	0.00	0.00	0.08

<b>Fundação EP131</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	0.57	13.24	-0.19	0.00	-0.03	0.05
Adicional (G2)	0.19	10.06	-0.72	0.00	-0.02	0.18
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.00	0.00	0.00	0.00	0.00	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.31	45.25	0.02	0.00	3.82
Vento X- (V2)	0.00	-0.31	-45.25	-0.02	0.00	-3.82
Vento Y+ (V3)	0.11	-40.45	6.76	0.00	0.06	-2.47
Vento Y- (V4)	-0.11	40.45	-6.76	0.00	-0.06	2.47
Desaprumo X+ (D1)	0.00	0.01	5.10	0.00	0.00	0.42
Desaprumo X- (D2)	0.00	-0.01	-5.10	0.00	0.00	-0.42
Desaprumo Y+ (D3)	0.00	-0.74	0.07	0.00	0.00	-0.03
Desaprumo Y- (D4)	0.00	0.74	-0.07	0.00	0.00	0.03
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.6V1+D1	0.76	23.49	31.34	0.02	-0.05	2.94
G1+G2+0.6V2+D2	0.76	23.11	-33.17	-0.02	-0.05	-2.48
G1+G2+0.6V3+D3	0.83	-1.71	3.21	0.00	-0.01	-1.28
G1+G2+0.6V4+D4	0.69	48.31	-5.04	0.00	-0.08	1.74
G1+G2+D1	0.76	23.31	4.19	0.00	-0.05	0.65
G1+G2+D2	0.76	23.30	-6.02	0.00	-0.05	-0.19
G1+G2+D3	0.76	22.56	-0.84	0.00	-0.05	0.20
G1+G2+D4	0.76	24.04	-0.98	0.00	-0.05	0.25

G1+G2+V1+0.6D1	0.76	23.61	47.40	0.02	-0.05	4.30
G1+G2+V2+0.6D2	0.76	22.99	-49.23	-0.02	-0.05	-3.84
G1+G2+V3+0.6D3	0.87	-17.60	5.89	0.00	0.01	-2.26
G1+G2+V4+0.6D4	0.65	64.20	-7.72	0.00	-0.11	2.72


<b>Legenda</b>	
	- Caso: indica o caso de carregamento no qual serão apresentados os esforços atuantes;
	- Elemento: nome da fundação;
	- N: esforço axial na fundação;
	- Mx: momento fletor na fundação, atuante em torno do eixo X global;
	- My: momento fletor na fundação, atuante em torno do eixo Y global;
	- Fx: esforço cortante na fundação, atuante no plano paralelo à direção X global;
	- Fy: esforço cortante na fundação, atuante no plano paralelo à direção Y global;
- Mt: momento de torção atuante.	

### Quadro de Cargas dos Pilares

Pilares	FUNDAÇÕES		MURETA		MURO	
	NPos (tf)	NNeg	NPos (tf)	NNeg	NPos (tf)	NNeg
P1	0.31	0.00	0.05	0.00		
P2			0.05	0.00		
P3			0.05	0.00		
P4			0.05	0.00		
P5			0.05	0.00		
P6			0.05	0.00		
P7			0.05	0.00		
P8			0.05	0.00		
P9			0.05	0.00		
P10			0.05	0.00		
P11			0.05	0.00		
P12			0.05	0.00		
P13			0.05	0.00		
P14	0.39	0.00	0.05	0.00		
P15	0.32	0.00	0.05	0.00		
P16			0.05	0.00		
P17			0.05	0.00		
P18			0.05	0.00		
P19			0.05	0.00		
P20			0.05	0.00		
P21			0.05	0.00		
P22			0.05	0.00		
P23			0.05	0.00		
P24			0.05	0.00		
P25			0.05	0.00		
P26			0.05	0.00		
P27			0.05	0.00		
P28	0.39	0.00	0.05	0.00		
P29	0.32	0.00	0.05	0.00		
P30			0.05	0.00		
P31			0.05	0.00		
P32			0.05	0.00		
P33			0.05	0.00		
P34			0.05	0.00		
P35			0.05	0.00		
P36			0.05	0.00		
P37			0.05	0.00		
P38			0.05	0.00		
P39			0.05	0.00		
P40			0.05	0.00		
P41			0.05	0.00		
P42	0.39	0.00	0.05	0.00		
P43	0.32	0.00	0.05	0.00		
P44			0.05	0.00		
P45			0.05	0.00		
P46			0.05	0.00		
P47			0.05	0.00		
P48			0.05	0.00		
P49			0.05	0.00		
P50			0.05	0.00		

P51			0.05	0.00		
P52			0.05	0.00		
P53			0.05	0.00		
P54			0.05	0.00		
P55			0.05	0.00		
P56	0.39	0.00	0.05	0.00		
P57	0.32	0.00	0.05	0.00		
P58			0.05	0.00		
P59			0.05	0.00		
P60			0.05	0.00		
P61			0.05	0.00		
P62			0.05	0.00		
P63			0.05	0.00		
P64			0.05	0.00		
P65			0.05	0.00		
P66			0.05	0.00		
P67			0.05	0.00		
P68			0.05	0.00		
P69	0.46	0.00	0.05	0.00		
P70			0.05	0.00		
P71			0.05	0.00		
P72			0.05	0.00		
P73			0.05	0.00		
P74			0.05	0.00		
P75			0.05	0.00		
P76	0.27	0.00				
P77			0.05	0.00		
P78			0.05	0.00		
P79			0.05	0.00		
P80			0.05	0.00		
P81			0.05	0.00		
P82			0.05	0.00		
P83	0.35	0.00	0.05	0.00		
P84	0.32	0.00	0.05	0.00		
P85			0.05	0.00		
P86			0.05	0.00		
P87			0.05	0.00		
P88			0.05	0.00		
P89			0.05	0.00		
P90			0.05	0.00		
P91			0.05	0.00		
P92	0.93	0.00			0.26	0.00
P93	0.92	0.00			0.26	0.00
P94			0.05	0.00		
P95			0.05	0.00		
P96			0.05	0.00		
P97			0.05	0.00		
P98			0.05	0.00		
P99			0.05	0.00		
P100			0.05	0.00		
P101			0.05	0.00		
P102			0.05	0.00		
P103			0.05	0.00		
P104			0.05	0.00		
P105			0.05	0.00		
P106	0.45	0.00	0.05	0.00		
P107			0.05	0.00		
P108			0.05	0.00		

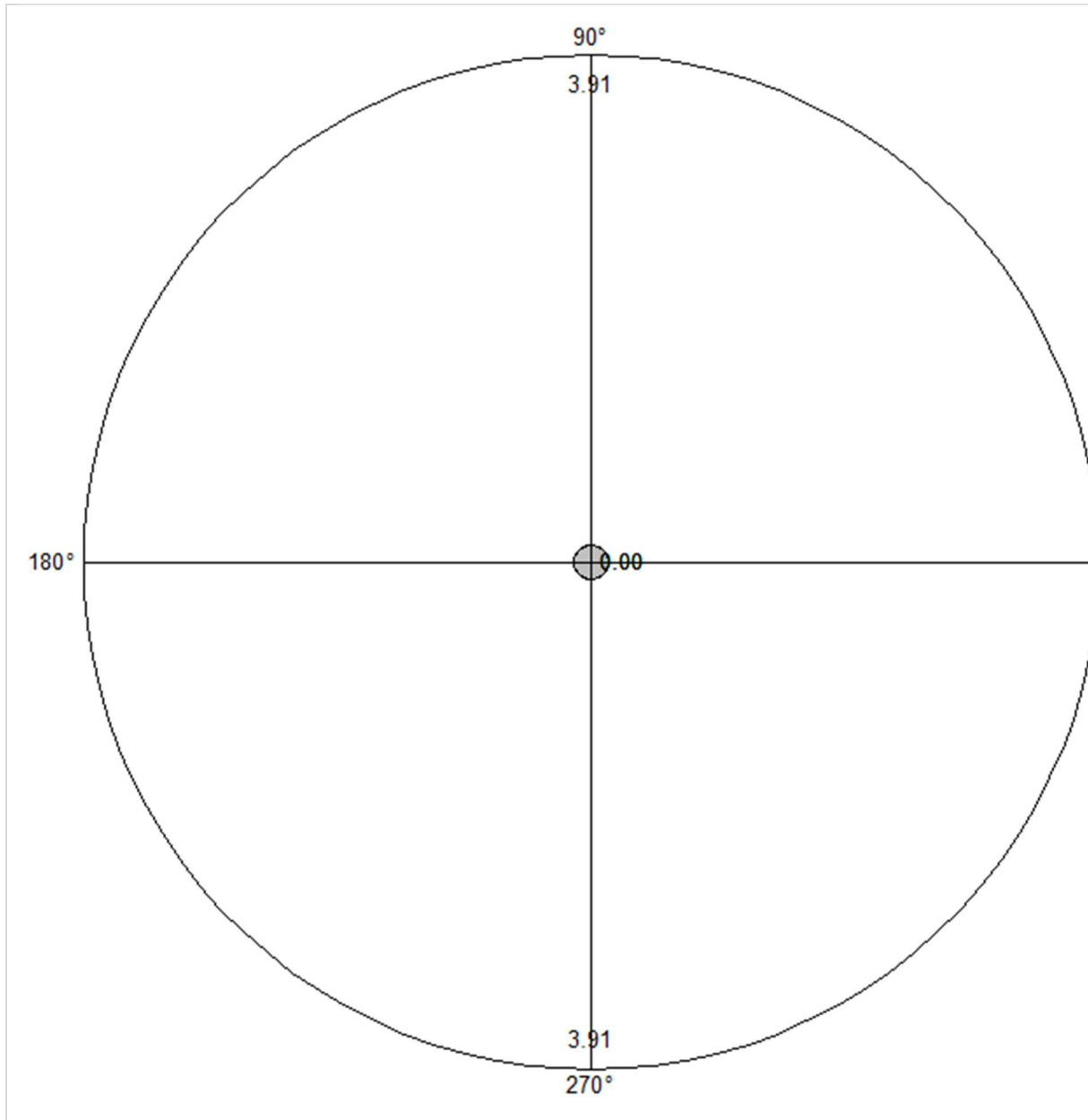
P109			0.05	0.00		
P110	0.59	0.00	0.05	0.00		
P111			0.05	0.00		
P112			0.05	0.00		
P113	0.83	0.00	0.05	0.00		
P114			0.05	0.00		
P115			0.05	0.00		
P116			0.05	0.00		
P117	0.32	0.00	0.05	0.00		
P118	0.39	0.00	0.05	0.00		
P119			0.05	0.00		
P120			0.05	0.00		
P121			0.05	0.00		
P122			0.05	0.00		
P123			0.05	0.00		
P124			0.05	0.00		
P125			0.05	0.00		
P126			0.05	0.00		
P127			0.05	0.00		
P128			0.05	0.00		
P129			0.05	0.00		
P130			0.05	0.00		
P131			0.05	0.00		
P132	1.11	0.00			0.46	0.00
P133	1.97	0.00			0.59	0.00
P134	2.01	0.00			0.57	0.00
P135	2.01	0.00			0.56	0.00
P136	2.01	0.00			0.56	0.00
P137	1.99	0.00			0.55	0.00
P138	2.26	0.00			0.62	0.00
P139	1.39	0.00			0.49	0.00
P140	1.20	0.00			0.47	0.00
P141	2.05	0.00			0.59	0.00
P142	2.01	0.00			0.56	0.00
P143	2.01	0.00			0.56	0.00
P144	2.01	0.00			0.56	0.00
P145	2.01	0.00			0.56	0.00
P146	2.01	0.00			0.56	0.00
P147	2.01	0.00			0.56	0.00
P148	2.01	0.00			0.56	0.00
P149	2.01	0.00			0.56	0.00
P150	2.01	0.00			0.56	0.00
P151	1.99	0.00			0.55	0.00
P152	2.26	0.00			0.62	0.00
P153	1.39	0.00			0.49	0.00
P154	1.20	0.00			0.47	0.00
P155	2.05	0.00			0.59	0.00
P156	2.01	0.00			0.56	0.00
P157	2.01	0.00			0.56	0.00
P158	2.01	0.00			0.56	0.00
P159	2.01	0.00			0.56	0.00
P160	2.01	0.00			0.56	0.00
P161	2.01	0.00			0.56	0.00
P162	2.01	0.00			0.56	0.00
P163	2.01	0.00			0.56	0.00
P164	2.03	0.00			0.58	0.00
P165	1.79	0.00			0.58	0.00
P166	1.01	0.00			0.42	-0.02

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## Análise dinâmica

Modo	Período (s)	Frequência (Hz)
1	0.281	3.554
2	0.277	3.610
3	0.277	3.615
4	0.268	3.732
5	0.255	3.928
6	0.245	4.084
7	0.242	4.136
8	0.224	4.456
9	0.218	4.587
10	0.197	5.076
11	0.194	5.151
12	0.192	5.196


Modo	Fator de participação modal			Taxa de participação modal			Taxa acumulada de participação modal		
	FPx	FPy	FPz	TPMx	TPMy	TPMz	TaPMx	TaPMy	TaPMz
1	0.00000	-2.36138	0.00000	0.00000	0.03658	0.00000	0.00000	0.03658	0.00000
2	0.00029	-2.11694	0.00000	0.00000	0.02940	0.00000	0.00000	0.06598	0.00000
3	0.00000	1.75371	0.00000	0.00000	0.02017	0.00000	0.00000	0.08615	0.00000
4	0.00000	0.23606	0.00000	0.00000	0.00037	0.00000	0.00000	0.08652	0.00000
5	0.00065	-0.25734	0.00000	0.00000	0.00043	0.00000	0.00000	0.08695	0.00000
6	0.00000	0.36099	0.00000	0.00000	0.00085	0.00000	0.00000	0.08781	0.00000
7	0.00000	-0.19443	0.00000	0.00000	0.00025	0.00000	0.00000	0.08805	0.00000
8	-0.00110	0.55806	-0.00001	0.00000	0.00204	0.00000	0.00000	0.09010	0.00000
9	0.00000	0.05324	0.00000	0.00000	0.00002	0.00000	0.00000	0.09011	0.00000
10	0.00000	0.23811	0.00000	0.00000	0.00037	0.00000	0.00000	0.09049	0.00000
11	0.00176	-0.20313	0.00001	0.00000	0.00027	0.00000	0.00000	0.09076	0.00000
12	0.00000	0.15798	0.00000	0.00000	0.00016	0.00000	0.00000	0.09092	0.00000



### Verificação do conforto perante a ação do vento

Pavimento	Aceleração (m/s <sup>2</sup> )				Percepção humana
	X+	Y+	X-	Y-	
MURO	0.000	3.905	0.000	3.905	Intolerável
MURETA	0.000	0.057	0.000	0.057	Perceptível
FUNDAÇÕES	0.000	0.005	0.000	0.005	Imperceptível



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## **Pavimento FUNDAÇÕES**

## Resultado dos Blocos

<b>FUNDAÇÕES</b>	fck = 250.00 kgf/cm <sup>2</sup>	E = 241500 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 4.50 cm	

Blocos	ne Estaca	LB LH (cm)	hb (cm)	Principal (cm <sup>2</sup> )		Estribo (cm <sup>2</sup> )		Superior (cm <sup>2</sup> )		As dist. (cm <sup>2</sup> )
				X	Y	Hor.	Vert.	X	Y	
B1	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B69	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B76	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B92	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B93	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B106	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B110	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B113	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B132	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B133	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B134	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B135	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B136	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B137	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B138	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B141	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B142	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B143	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B144	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B145	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B146	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B147	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B148	1	60.00		-	-	1.56	1.25	-	-	-

	C30-PROF3M	60.00				(5 ø 6.3)	2x(2 ø 6.3)			
B149	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B150	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B151	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B152	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B155	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B156	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B157	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B158	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B159	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B160	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B161	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B162	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B163	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B164	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B165	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B166	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B14-15	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B28-29	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B42-43	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B56-57	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B83-84	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B117-118	1 C30-PROF1.5M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B139-140	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B153-154	1 C30-PROF3M	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
EP2	1 C30-PROF1.5M	- -	-	-	-	-	-	-	-	-
EP3	1 C30-PROF1.5M	- -	-	-	-	-	-	-	-	-
EP4	1 C30-PROF1.5M	- -	-	-	-	-	-	-	-	-
EP5	1 C30-PROF1.5M	- -	-	-	-	-	-	-	-	-
EP6	1 C30-PROF1.5M	- -	-	-	-	-	-	-	-	-
EP7	1	-	-	-	-	-	-	-	-	-

	C30-PROF1.5M	-								
EP8	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP9	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP10	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP11	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP12	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP13	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP16	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP17	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP18	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP19	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP20	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP21	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP22	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP23	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP24	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP25	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP26	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP27	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP30	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP31	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP32	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP33	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP34	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP35	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP36	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP37	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP38	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP39	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP40	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP41	1	-	-	-	-	-	-	-	-	-

	C30-PROF1.5M	-								
EP44	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP45	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP46	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP47	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP48	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP49	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP50	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP51	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP52	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP53	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP54	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP55	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP58	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP59	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP60	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP61	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP62	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP63	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP64	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP65	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP66	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP67	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP68	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP70	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP71	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP72	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP73	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP74	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP75	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP77	1	-	-	-	-	-	-	-	-	-

	C30-PROF1.5M	-								
EP78	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP79	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP80	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP81	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP82	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP85	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP86	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP87	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP88	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP89	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP90	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP91	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP94	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP95	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP96	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP97	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP98	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP99	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP100	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP101	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP102	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP103	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP104	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP105	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP107	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP108	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP109	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP111	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP112	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP114	1	-	-	-	-	-	-	-	-	-

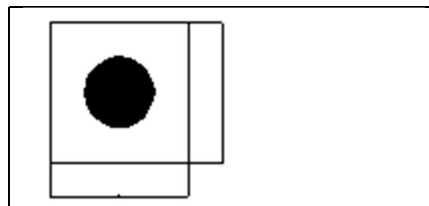
	C30-PROF1.5M	-								
EP115	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP116	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP119	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP120	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP121	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP122	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP123	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP124	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP125	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP126	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP127	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP128	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP129	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP130	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-
EP131	1 C30-PROF1.5M	-	-	-	-	-	-	-	-	-

## Cálculo do Bloco B1

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.31	0.00	0.78

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	0.78	0.77	156	0.20
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E1-1	0.78	0.77	156	0.20

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

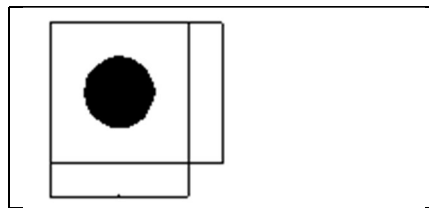
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.03	0.09	5 ø 6.3
Estribo vertical	0.03	0.06	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B69

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.46	0.00	0.93

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	0.93	0.91	320	0.45
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E69-1	0.93	0.91	320	0.45

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

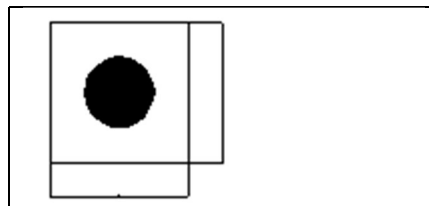
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.04	0.10	5 ø 6.3
Estribo vertical	0.04	0.07	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B76

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.27	0.00	0.74

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	0.74	0.74	159	0.12
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E76-1	0.74	0.74	159	0.12

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

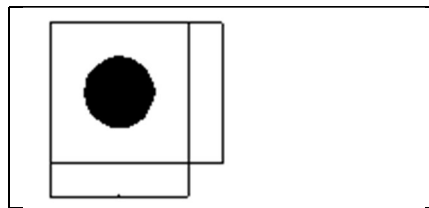
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.03	0.08	5 ø 6.3
Estribo vertical	0.03	0.06	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B92

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.93	0.00	1.40

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.40	1.40	931	0.38
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E92-1	1.40	1.40	931	0.38

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

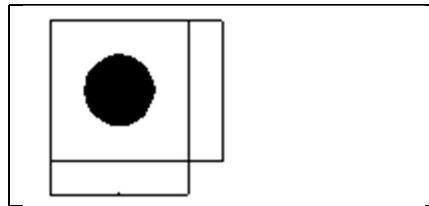
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.06	0.16	5 ø 6.3
Estribo vertical	0.06	0.11	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B93

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.92	0.00	1.39

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.39	1.39	932	0.38
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E93-1	1.39	1.39	932	0.38

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

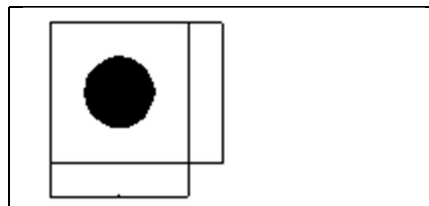
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.06	0.15	5 ø 6.3
Estribo vertical	0.06	0.11	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B106

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.45	0.00	0.91

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	0.91	0.90	166	0.26
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E106-1	0.91	0.90	166	0.26

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

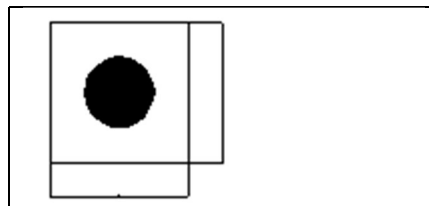
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.04	0.10	5 ø 6.3
Estribo vertical	0.04	0.07	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B110

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.59	0.00	1.06

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.06	1.05	202	0.25
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E110-1	1.06	1.05	202	0.25

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

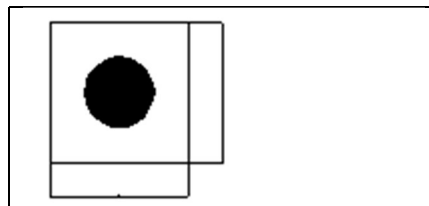
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.05	0.12	5 ø 6.3
Estribo vertical	0.05	0.08	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B113

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.83	0.00	1.30

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.30	1.29	248	0.64
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E113-1	1.30	1.29	248	0.64

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

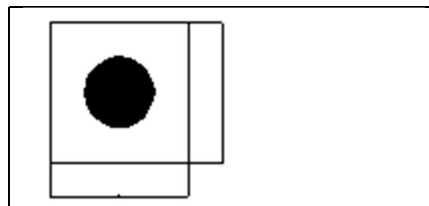
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.06	0.14	5 ø 6.3
Estribo vertical	0.06	0.10	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B132

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	1.11	0.00	1.58

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.58	1.37	952	0.38
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E132-1	1.58	1.37	952	0.38

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

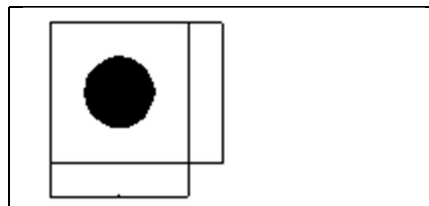
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.07	0.18	5 ø 6.3
Estribo vertical	0.07	0.12	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B133

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	1.97	0.00	2.44

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.44	2.36	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E133-1	2.44	2.36	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

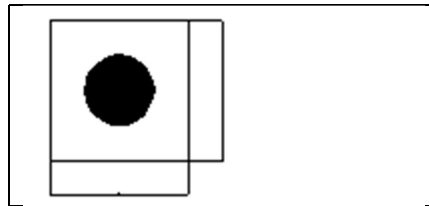
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.18	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B134

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.47	939	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E134-1	2.48	2.47	939	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

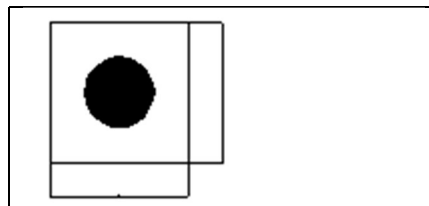
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B135

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.47	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E135-1	2.48	2.47	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

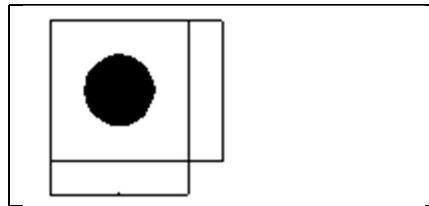
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B136

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E136-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

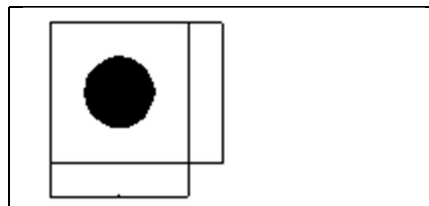
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B137

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	1.99	0.00	2.46

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.46	2.46	940	0.38
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E137-1	2.46	2.46	940	0.38

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

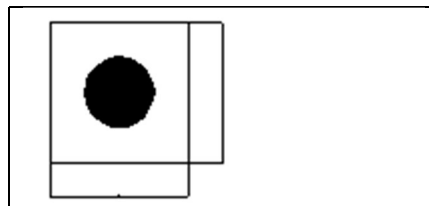
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B138

**Pavimento FUNDAÇÕES -  
Lance 1**

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.26	0.00	2.73

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.73	2.71	941	0.46
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E138-1	2.73	2.71	941	0.46

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

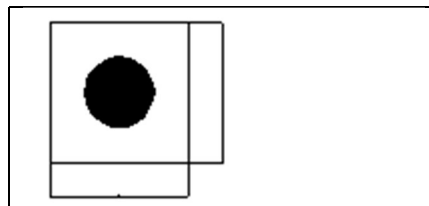
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.12	0.30	5 ø 6.3
Estribo vertical	0.12	0.21	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B141

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.05	0.00	2.52

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.52	2.48	939	0.39
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E141-1	2.52	2.48	939	0.39

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

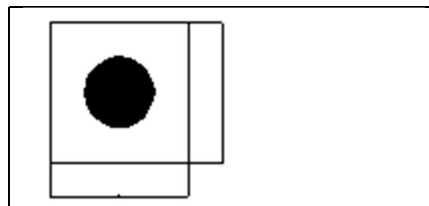
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B142

**Pavimento FUNDAÇÕES -  
Lance 1**

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.47	939	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E142-1	2.48	2.47	939	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

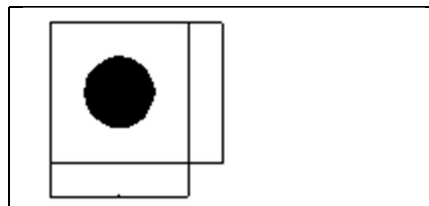
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B143

**Pavimento FUNDAÇÕES -  
Lance 1**

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E143-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

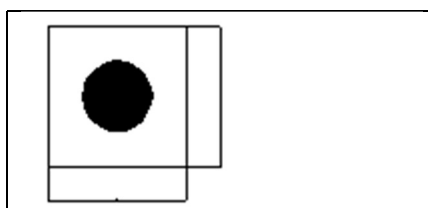
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B144

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E144-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

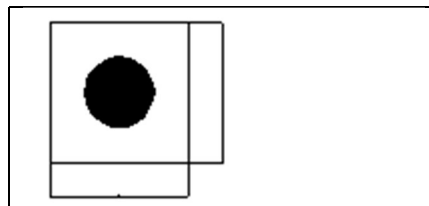
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B145

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E145-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

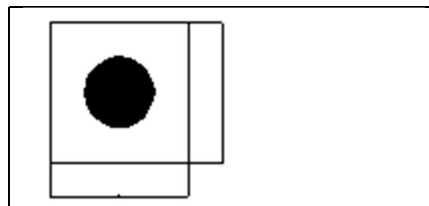
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B146

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E146-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

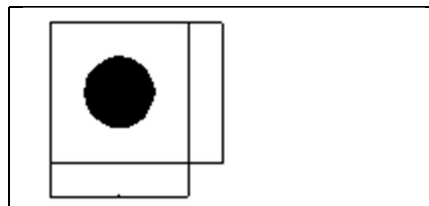
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B147

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E147-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

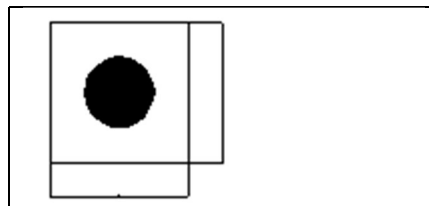
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B148

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E148-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

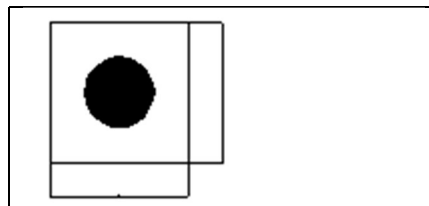
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B149

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E149-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

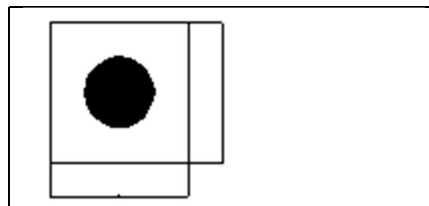
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B150

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E150-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

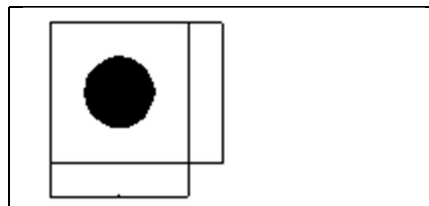
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B151

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	1.99	0.00	2.46

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.46	2.46	940	0.38
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E151-1	2.46	2.46	940	0.38

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

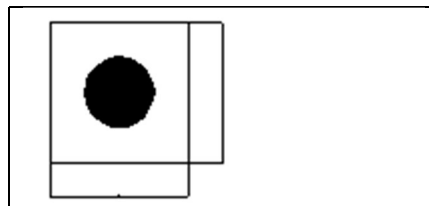
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B152

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.26	0.00	2.73

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.73	2.71	941	0.46
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E152-1	2.73	2.71	941	0.46

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

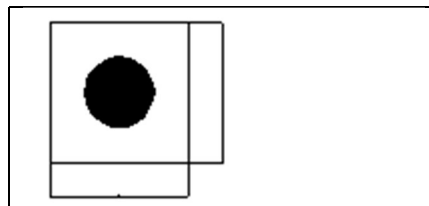
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.12	0.30	5 ø 6.3
Estribo vertical	0.12	0.21	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B155

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.05	0.00	2.52

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.52	2.48	939	0.39
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E155-1	2.52	2.48	939	0.39

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

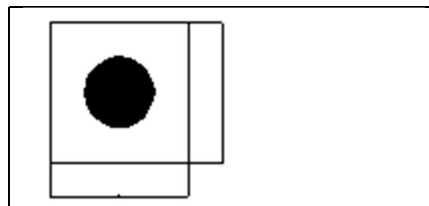
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B156

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.47	939	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E156-1	2.48	2.47	939	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

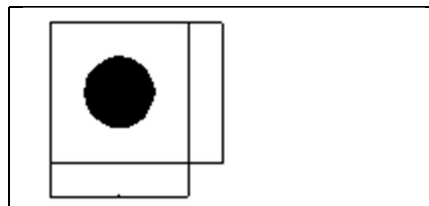
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B157

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E157-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

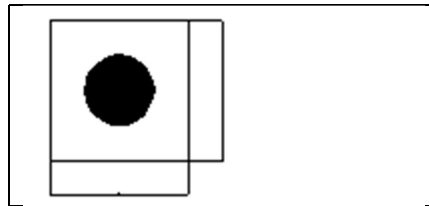
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B158

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E158-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

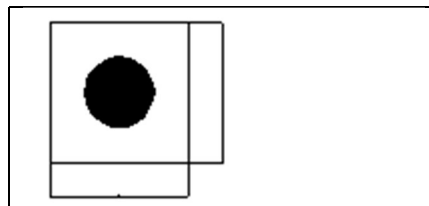
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B159

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E159-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

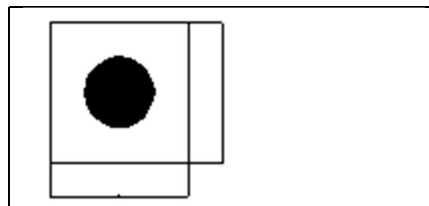
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B160

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E160-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

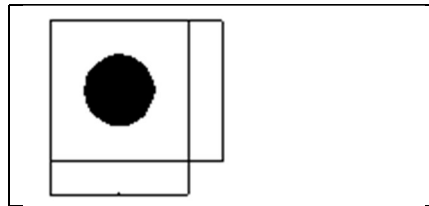
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B161

**Pavimento FUNDAÇÕES -  
Lance 1**

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.48	940	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E161-1	2.48	2.48	940	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

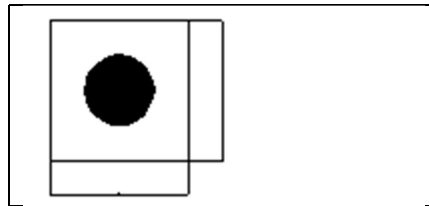
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.27	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B162

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.47	941	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E162-1	2.48	2.47	941	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

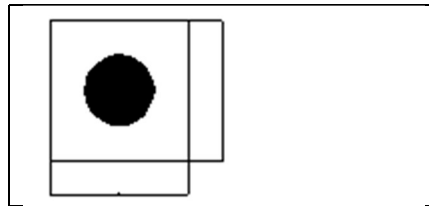
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B163

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.01	0.00	2.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.48	2.47	931	0.37
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E163-1	2.48	2.47	931	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

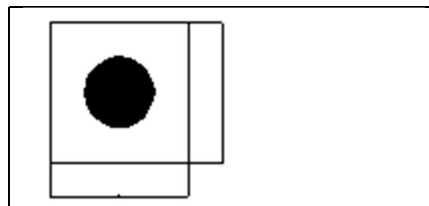
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B164

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.03	0.00	2.50

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.50	2.47	862	0.36
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E164-1	2.50	2.47	862	0.36

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

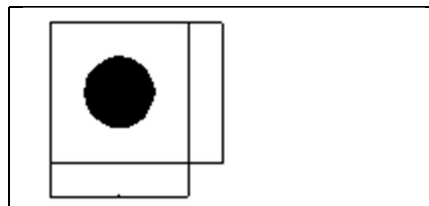
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.11	0.28	5 ø 6.3
Estribo vertical	0.11	0.19	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B165

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	1.79	0.00	2.26

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.26	2.11	647	0.33
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E165-1	2.26	2.11	647	0.33

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

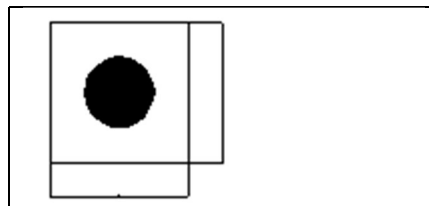
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.10	0.25	5 ø 6.3
Estribo vertical	0.10	0.17	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B166

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	1.01	0.00	1.48

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.48	1.21	1324	0.84
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E166-1	1.48	1.21	1324	0.84

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

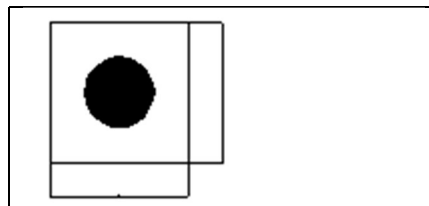
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.06	0.16	5 ø 6.3
Estribo vertical	0.06	0.11	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B14-15

**Pavimento FUNDAÇÕES -  
Lance 1**

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.71	0.00	1.18

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.18	1.17	359	0.38
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E14-15-1	1.18	1.17	359	0.38

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

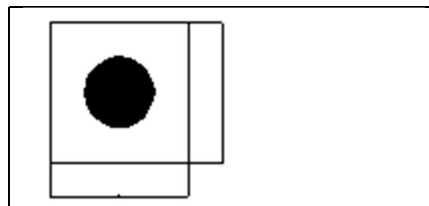
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.07	0.17	5 ø 6.3
Estribo vertical	0.07	0.09	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B28-29

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.70	0.00	1.17

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.17	1.17	356	0.37
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E28-29-1	1.17	1.17	356	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

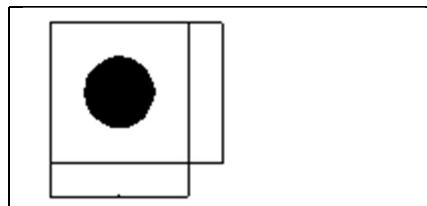
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.07	0.17	5 ø 6.3
Estribo vertical	0.07	0.09	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B42-43

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.70	0.00	1.17

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.17	1.17	356	0.37
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E42-43-1	1.17	1.17	356	0.37

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

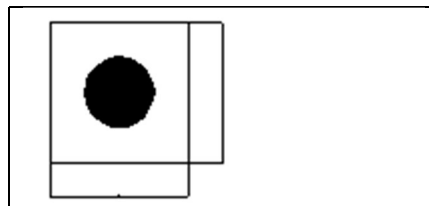
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.07	0.17	5 ø 6.3
Estribo vertical	0.07	0.09	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B56-57

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.70	0.00	1.17

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.17	1.17	351	0.36
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E56-57-1	1.17	1.17	351	0.36

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

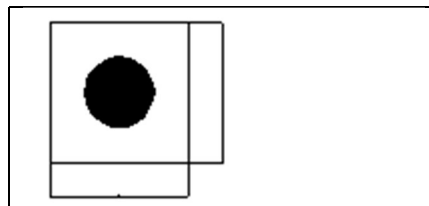
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.07	0.17	5 ø 6.3
Estribo vertical	0.07	0.09	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B83-84

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.66	0.00	1.13

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.13	1.13	263	0.29
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E83-84-1	1.13	1.13	263	0.29

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

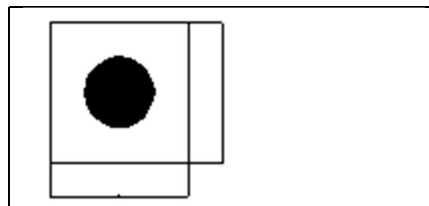
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.06	0.16	5 ø 6.3
Estribo vertical	0.06	0.09	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B117-118

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	0.70	0.00	1.17

### Determinação do número de estacas



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	1.17	1.17	768	0.76
Limites					10.00	-0.50	1500	3.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E117-118-1	1.17	1.17	768	0.76

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

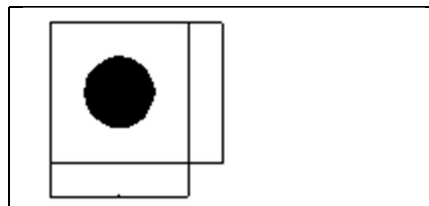
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.07	0.17	5 ø 6.3
Estribo vertical	0.07	0.09	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B139-140

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.47	0.00	2.93

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.93	2.88	2237	0.74
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E139-140-1	2.93	2.88	2237	0.74

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

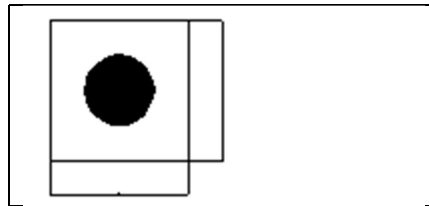
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.17	0.43	5 ø 6.3
Estribo vertical	0.17	0.22	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B153-154

Pavimento FUNDAÇÕES -  
Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 250 kgf/cm <sup>2</sup> Ecs = 241500 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	40.00	<b>LB</b>	60.00
<b>Seção</b>	30.00	<b>Total</b>	55.00	<b>LH</b>	60.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	1.32 m <sup>2</sup>
<b>Volume concreto</b>	0.19 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
0.47	2.47	0.00	2.94

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	60x60	55	0.47	2.94	2.88	2238	0.74
Limites					20.00	-1.00	3000	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E153-154-1	2.94	2.88	2238	0.74

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.17	0.43	5 ø 6.3
Estribo vertical	0.17	0.22	4 ø 6.3 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados dos Pilares

<b>FUNDAÇÕES</b>	fck = 250.00 kgf/cm <sup>2</sup>	E = 241500 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	

Dados				Resultados					
Pilar	Seção (cm)	Nível Altura (cm)	lib vnc lih vnc (cm)	Nd máx Nd mín (tf)	MBd topo MBd base (kgf.m)	MHd topo MHd base (kgf.m)	As b Armaduras As h % armad total	Estribo Topo Base cota	Esb b Esb h
P1 1:20	14.00 X 27.00	40.00 40.00	10.00 RR 120.00 EL	0.42 0.30	144 161	78 92	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	2.47 15.38
P14 1:20	14.00 X 27.00	15.00 40.00	120.00 EL 10.00 RR	0.52 0.38	55 69	298 312	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P15 1:20	14.00 X 27.00	15.00 40.00	120.00 EL 10.00 RR	0.43 0.30	56 69	186 208	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P28 1:20	14.00 X 27.00	0.00 40.00	120.00 EL 10.00 RR	0.52 0.37	55 69	287 302	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P29 1:20	14.00 X 27.00	0.00 40.00	120.00 EL 10.00 RR	0.43 0.30	56 69	186 208	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P42 1:20	14.00 X 27.00	0.00 40.00	120.00 EL 10.00 RR	0.52 0.37	55 69	287 302	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P43 1:20	14.00 X 27.00	0.00 40.00	120.00 EL 10.00 RR	0.43 0.30	56 69	186 208	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28

P56 1:20	14.00 X 27.00	0.00 40.00	120.00 EL 10.00 RR	0.52 0.37	55 69	287 302	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P57 1:20	14.00 X 27.00	0.00 40.00	120.00 EL 10.00 RR	0.43 0.30	56 69	186 207	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P69 1:20	14.00 X 27.00	5.00 40.00	10.00 RR 10.00 RR	0.61 0.43	38 66	205 264	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	2.47 1.28
P76 1:20	14.00 X 27.00	50.00 40.00	20.00 EL 10.00 RR	0.36 0.26	2 5	175 182	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	4.94 1.28
P83 1:20	14.00 X 27.00	50.00 40.00	120.00 EL 10.00 RR	0.46 0.33	55 69	228 240	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P84 1:20	14.00 X 27.00	50.00 40.00	120.00 EL 10.00 RR	0.42 0.30	56 69	187 205	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P92 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	1.24 0.93	1089 1141	571 595	2.45 2 ø 12.5 6.14 5 ø 12.5 3.2 10 ø 12.5	ø 5.0 c/14	138.40 1.28
P93 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	1.23 0.91	1089 1141	586 612	2.45 2 ø 12.5 6.14 5 ø 12.5 3.2 10 ø 12.5	ø 5.0 c/14	138.40 1.28
P106 1:20	14.00 X 27.00	40.00 40.00	10.00 RR 10.00 RR	0.60 0.42	188 197	24 57	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	2.47 1.28
P110 1:20	14.00 X 27.00	30.00 40.00	10.00 RR 10.00 RR	0.79 0.57	147 145	218 229	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	2.47 1.28

P113 1:20	14.00 X 27.00	20.00 40.00	10.00 RR 10.00 RR	1.11 0.80	103 162	96 102	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	2.47 1.28
P117 1:20	14.00 X 27.00	30.00 40.00	120.00 EL 10.00 RR	0.43 0.30	19 23	213 280	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P118 1:20	14.00 X 27.00	30.00 40.00	120.00 EL 10.00 RR	0.52 0.37	19 23	319 345	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 1.28
P132 1:20	14.00 X 27.00	65.00 40.00	560.00 EL 10.00 RR	1.51 0.85	1102 1154	533 538	2.45 2 ø 12.5 6.14 5 ø 12.5 3.2 10 ø 12.5	ø 5.0 c/14	138.40 1.28
P133 1:20	14.00 X 27.00	65.00 40.00	560.00 EL 10.00 RR	2.67 1.87	1105 1157	290 321	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P134 1:20	14.00 X 27.00	60.00 40.00	560.00 EL 10.00 RR	2.73 2.00	1107 1159	225 246	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P135 1:20	14.00 X 27.00	60.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	223 247	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P136 1:20	14.00 X 27.00	60.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1108 1160	224 248	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P137 1:20	14.00 X 27.00	60.00 40.00	560.00 EL 10.00 RR	2.70 1.98	1108 1160	231 247	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P138 1:20	14.00 X 27.00	55.00 40.00	560.00 EL 10.00 RR	3.07 2.22	1107 1159	444 430	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28



P139 1:20	14.00 X 27.00	55.00 40.00	560.00 EL 10.00 RR	1.88 1.23	1104 1155	849 833	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P140 1:20	14.00 X 27.00	55.00 40.00	560.00 EL 10.00 RR	1.62 0.98	1102 1154	622 620	2.45 2 ø 12.5 6.14 5 ø 12.5 3.2 10 ø 12.5	ø 5.0 c/14	138.40 1.28
P141 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.78 2.00	1106 1158	236 248	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P142 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 1.99	1107 1159	218 241	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P143 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	218 242	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P144 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	218 241	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P145 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	218 241	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P146 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	218 241	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P147 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	218 242	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P148 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	219 242	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28

P149 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	219 243	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P150 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1108 1160	220 244	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P151 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.70 1.98	1108 1160	227 243	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P152 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	3.07 2.22	1107 1159	440 427	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P153 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	1.88 1.24	1104 1156	845 829	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P154 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	1.62 0.98	1102 1154	630 628	2.45 2 ø 12.5 6.14 5 ø 12.5 3.2 10 ø 12.5	ø 5.0 c/14	138.40 1.28
P155 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.78 2.00	1106 1158	239 257	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P156 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 1.99	1107 1159	226 250	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P157 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	227 251	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P158 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	226 250	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28

P159 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1107 1160	226 250	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P160 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1108 1160	226 250	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P161 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1108 1161	226 250	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P162 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 2.00	1108 1161	226 250	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P163 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.72 1.99	1095 1147	226 250	2.45 2 ø 12.5 7.36 6 ø 12.5 3.9 12 ø 12.5	ø 5.0 c/14	138.40 1.28
P164 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.75 1.99	1009 1059	235 250	2.45 2 ø 12.5 6.14 5 ø 12.5 3.2 10 ø 12.5	ø 5.0 c/14	138.40 1.28
P165 1:20	14.00 X 27.00	50.00 40.00	560.00 EL 10.00 RR	2.43 1.60	711 750	421 439	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12	138.40 1.28
P166 1:20	14.00 X 27.00	50.00 40.00	10.00 RR 10.00 RR	1.36 0.67	139 145	1397 1510	1.57 2 ø 10.0 2.36 3 ø 10.0 1.2 6 ø 10.0	ø 5.0 c/12	2.47 1.28

## Cálculo dos Pilares

<b>FUNDAÇÕES</b>	fck = 250.00 kgf/cm <sup>2</sup>	E = 241500 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	14.00 X 27.00	RR 2.47 EL 15.38	0.52 0.37	201 27	678 92	3.37	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P14	14.00 X 27.00	EL 29.66 RR 1.28	0.66 0.47	12 390	48 1500	3.85	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P15	14.00 X 27.00	EL 29.66 RR 1.28	0.53 0.38	90 215	476 1140	5.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P28	14.00 X 27.00	EL 29.66 RR 1.28	0.64 0.47	12 377	49 1498	3.97	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P29	14.00 X 27.00	EL 29.66 RR 1.28	0.53 0.38	90 215	476 1140	5.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P42	14.00 X 27.00	EL 29.66 RR 1.28	0.64 0.47	12 377	49 1498	3.97	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P43	14.00 X 27.00	EL 29.66 RR 1.28	0.53 0.38	90 215	476 1140	5.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P56	14.00 X 27.00	EL 29.66 RR 1.28	0.64 0.47	12 377	49 1498	3.97	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P57	14.00 X 27.00	EL 29.66 RR 1.28	0.53 0.38	90 215	476 1140	5.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P69	14.00 X 27.00	RR 2.47 RR 1.28	0.76 0.53	45 330	201 1479	4.48	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P76	14.00 X 27.00	EL 4.94 RR 1.28	0.45 0.32	9 227	56 1477	6.51	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P83	14.00 X 27.00	EL 29.66 RR 1.28	0.58 0.42	90 264	445 1310	4.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P84	14.00 X 27.00	EL 29.66 RR 1.28	0.53 0.38	90 215	476 1141	5.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P92	14.00 X 27.00	EL 138.40 RR 1.28	1.55 1.16	1701 192	1844 208	1.08	2.45 (2 ø 12.5) 6.14 (5 ø 12.5)
P93	14.00 X 27.00	EL 138.40 RR 1.28	1.53 1.14	1697 213	1836 230	1.08	2.45 (2 ø 12.5) 6.14 (5 ø 12.5)
P106	14.00 X 27.00	RR 2.47 RR 1.28	0.75 0.52	247 26	690 72	2.80	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P110	14.00 X 27.00	RR 2.47 RR 1.28	0.99 0.71	184 215	580 679	3.16	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P113	14.00 X 27.00	RR 2.47 RR 1.28	1.39 1.01	203 94	668 308	3.28	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P117	14.00 X 27.00	EL 29.66 RR 1.28	0.54 0.37	10 350	42 1487	4.25	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P118	14.00 X 27.00	EL 29.66 RR 1.28	0.65 0.46	12 432	42 1499	3.47	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P132	14.00 X 27.00	EL 138.40 RR 1.28	1.88 1.06	1735 382	1784 393	1.03	2.45 (2 ø 12.5) 6.14 (5 ø 12.5)
P133	14.00 X 27.00	EL 138.40 RR 1.28	3.34 2.34	2020 87	2226 96	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P134	14.00 X 27.00	EL 138.40 RR 1.28	3.41 2.49	2049 4	2265 4	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P135	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2049 2	2265 2	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P136	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 3	2265 3	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P137	14.00 X 27.00	EL 138.40 RR 1.28	3.38 2.48	2046 8	2262 9	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)

P138	14.00 X 27.00	EL 138.40 RR 1.28	3.84 2.78	2121 251	2176 258	1.03	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P139	14.00 X 27.00	EL 138.40 RR 1.28	2.35 1.54	1837 770	1926 808	1.05	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P140	14.00 X 27.00	EL 138.40 RR 1.28	2.03 1.23	1769 495	1755 491	0.99	2.45 (2 ø 12.5) 6.14 (5 ø 12.5)
P141	14.00 X 27.00	EL 138.40 RR 1.28	3.47 2.50	2053 9	2263 10	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P142	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.49	2049 1	2266 1	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P143	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 1	2266 1	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P144	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 0	2267 0	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P145	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 0	2266 0	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P146	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 1	2266 1	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P147	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 1	2266 1	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P148	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 2	2266 2	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P149	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 2	2266 2	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P150	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 3	2265 3	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P151	14.00 X 27.00	EL 138.40 RR 1.28	3.38 2.48	2046 8	2262 9	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P152	14.00 X 27.00	EL 138.40 RR 1.28	3.84 2.78	2121 252	2176 258	1.03	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)

P153	14.00 X 27.00	EL 138.40 RR 1.28	2.35 1.54	1837 770	1927 808	1.05	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P154	14.00 X 27.00	EL 138.40 RR 1.28	2.03 1.22	1768 503	1752 499	0.99	2.45 (2 ø 12.5) 6.14 (5 ø 12.5)
P155	14.00 X 27.00	EL 138.40 RR 1.28	3.47 2.50	2053 12	2262 13	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P156	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.49	2049 9	2262 10	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P157	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 9	2262 10	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P158	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 9	2262 10	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P159	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 9	2262 10	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P160	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2050 9	2262 10	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P161	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2051 9	2262 9	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P162	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.50	2051 9	2262 9	1.10	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P163	14.00 X 27.00	EL 138.40 RR 1.28	3.40 2.49	2033 8	2263 9	1.11	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P164	14.00 X 27.00	EL 138.40 RR 1.28	3.44 2.49	1914 6	1929 6	1.01	2.45 (2 ø 12.5) 6.14 (5 ø 12.5)
P165	14.00 X 27.00	EL 138.40 RR 1.28	3.04 2.00	1418 249	1468 258	1.04	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P166	14.00 X 27.00	RR 2.47 RR 1.28	1.70 0.84	38 1877	39 1937	1.03	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

## Vigas do pavimento FUNDAÇÕES

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	101.53	2 ø 8.0	2 ø 8.0	-143.34	2 ø 8.0	2 ø 8.0	Avisos 13, 82
	84.01	2 ø 8.0		-201.85	2 ø 8.0		
	85.10	2 ø 8.0		-176.30	2 ø 8.0		
				-179.39	2 ø 8.0		
VB2	84.94	2 ø 8.0		-177.93	2 ø 8.0		Avisos 12, 13, 82
	84.90	2 ø 8.0		-179.97	2 ø 8.0		
				-180.46	2 ø 8.0		
VB3	84.85	2 ø 8.0		-179.46	2 ø 8.0		Avisos 12, 13, 82
	84.80	2 ø 8.0		-180.68	2 ø 8.0		
	84.84	2 ø 8.0		-180.65	2 ø 8.0		
				-180.38	2 ø 8.0		
VB4	84.88	2 ø 8.0		-179.54	2 ø 8.0		Avisos 12, 13, 82
	84.90	2 ø 8.0		-179.83	2 ø 8.0		
				-179.14	2 ø 8.0		
VB5	85.38	2 ø 8.0		-178.74	2 ø 8.0		Avisos 12, 13, 82
	80.02	2 ø 8.0		-176.43	2 ø 8.0		
	147.21	2 ø 8.0		-275.39	2 ø 8.0		
				-267.29	2 ø 8.0		
VB6	90.29	2 ø 8.0	2 ø 8.0	-161.33	2 ø 8.0	2 ø 8.0	Avisos 13, 82
	84.72	2 ø 8.0	2 ø 8.0	-182.27	2 ø 8.0	2 ø 8.0	
				-176.42	2 ø 8.0	2 ø 8.0	
VB7	85.02	2 ø 8.0		-176.96	2 ø 8.0		Avisos 12, 13, 82
	84.94	2 ø 8.0		-178.31	2 ø 8.0		
	84.89	2 ø 8.0		-179.19	2 ø 8.0		
				-179.82	2 ø 8.0		
VB8	84.84	2 ø 8.0	2 ø 8.0	-179.70	2 ø 8.0		Avisos 12, 13, 82
	84.79	2 ø 8.0		-180.16	2 ø 8.0		
	84.83	2 ø 8.0		-180.22	2 ø 8.0		
	84.88	2 ø 8.0		-180.03	2 ø 8.0		
	84.89	2 ø 8.0		-179.54	2 ø 8.0		
	85.34	2 ø 8.0		-178.89	2 ø 8.0		
	80.48	2 ø 8.0		-176.37	2 ø 8.0		
	141.62	2 ø 8.0		-265.96	2 ø 8.0		
				-256.75	2 ø 8.0		
VB9	90.29	2 ø 8.0	2 ø 8.0	-161.33	2 ø 8.0	2 ø 8.0	Avisos 13, 82
	84.72	2 ø 8.0	2 ø 8.0	-182.27	2 ø 8.0	2 ø 8.0	
	85.02	2 ø 8.0		-176.96	2 ø 8.0	2 ø 8.0	
	84.94	2 ø 8.0		-178.31	2 ø 8.0		
	84.89	2 ø 8.0		-179.19	2 ø 8.0		
	84.84	2 ø 8.0		-179.82	2 ø 8.0		
	84.79	2 ø 8.0		-180.16	2 ø 8.0		
	84.83	2 ø 8.0		-180.22	2 ø 8.0		
	84.88	2 ø 8.0		-180.03	2 ø 8.0		
	84.89	2 ø 8.0		-179.54	2 ø 8.0		
	85.34	2 ø 8.0		-178.89	2 ø 8.0		
	80.48	2 ø 8.0		-176.37	2 ø 8.0		
	141.62	2 ø 8.0	2 ø 8.0	-265.96	2 ø 8.0	2 ø 8.0	
			-256.75	2 ø 8.0	2 ø 8.0		
VB10	90.29	2 ø 8.0	2 ø 8.0	-161.33	2 ø 8.0	2 ø 8.0	Avisos 13, 82
	84.72	2 ø 8.0	2 ø 8.0	-182.27	2 ø 8.0	2 ø 8.0	



	85.02 84.94 84.89 84.84 84.79 84.83 84.88 84.89 85.34 80.48 141.62	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0	-176.96 -178.31 -179.19 -179.82 -180.16 -180.22 -180.03 -179.54 -178.89 -176.37 -265.96 -256.75	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0		
VB11	90.29 84.70 85.01 84.92 84.87 84.82 84.83 84.88 84.97 84.67 89.28 35.10	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0          2 ø 8.0	-161.28 -182.16 -176.78 -178.01 -178.77 -179.21 -179.34 -179.17 -178.72 -177.47 -182.61 -159.48 -44.55	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0	Avisos 13, 82	
VB12	90.71 84.57 84.92 84.80 85.04 82.92 111.10	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-159.19 -180.83 -175.36 -176.12 -176.26 -175.10 -214.87 -199.44	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		Avisos 13, 82	
VB13	90.26 84.64 84.94 84.84 84.78 84.83 85.14 101.37 187.27 91.24 86.12 84.84 84.89 84.84 84.79 84.81 84.85 84.90 84.99 84.64 89.89	2 ø 8.0 2 ø 8.0	2 ø 8.0          2 ø 8.0	-161.01 -181.99 -175.83 -177.34 -177.81 -177.95 -177.80 -200.88 -400.83 -399.21 -185.22 -179.17 -179.63 -180.17 -180.42 -180.42 -180.15 -180.15 -179.62 -178.84 -177.71 -183.25 -157.42	2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0          2 ø 8.0 2 ø 8.0		Avisos 13, 82
VB14	18.55	2 ø 8.0	2 ø 8.0	-85.60 -36.80	2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0	Avisos 12, 82	
VB15	101.15 85.51 63.53	2 ø 8.0 2 ø 8.0 2 ø 8.0		-142.28 -199.37 -166.13 -119.16	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		Avisos 13, 82	

VB16	193.74	2 ø 8.0		-376.42 -437.74	2 ø 8.0 2 ø 8.0		
VB17	241.93 240.14 240.15 240.22	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-508.09 -517.46 -514.61 -514.82 -513.66	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VB18	235.49 387.18	2 ø 8.0 2 ø 8.0		-505.50 -779.34 -730.90	2 ø 8.0 2 ø 8.0 2 ø 8.0		
VB19	249.72	2 ø 8.0		-476.18 -532.58	2 ø 8.0 2 ø 8.0		
VB20	240.12 240.16 240.15 240.15 240.15 240.15 240.15 240.15 240.15 240.15 240.22 235.49 387.17	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-514.60 -513.66 -513.75 -513.73 -513.75 -513.80 -513.85 -513.92 -513.99 -514.22 -513.12 -778.87 -730.49	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VB21	249.73 240.12 240.16 240.15 240.15 240.15 240.15 240.15 240.15 240.15 240.15 240.14 245.36 101.97	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-476.75 -533.82 -514.91 -515.01 -515.01 -514.98 -514.97 -514.97 -514.98 -515.01 -523.83 -494.32 -157.12	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VB22	98.98 115.11	2 ø 8.0 2 ø 8.0		-186.30 -231.13 -171.70	2 ø 8.0 2 ø 8.0 2 ø 8.0		Avisos 13, 82
VB23	162.96 93.55 84.68 85.22 85.04	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	-268.68 -199.48 -196.96 -197.49 -199.84 -200.63	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	Avisos 13, 82
VB24	84.93	2 ø 8.0		-201.21 -201.64	2 ø 8.0 2 ø 8.0		Avisos 12, 13, 82
VB25	84.82 84.88 84.99	2 ø 8.0 2 ø 8.0 2 ø 8.0		-201.88 -201.95 -201.59 -200.53	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		Avisos 12, 13, 82
VB26	85.11 85.24	2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0	-199.76 -198.73 -196.11	2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0 2 ø 8.0	Avisos 12, 13, 82
VB27	85.43 85.23 90.93	2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0 2 ø 8.0	-194.57 -192.46 -192.20 -170.01	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	Avisos 12, 13, 82
VB28	142.33	2 ø 8.0	2 ø 8.0	-262.34	2 ø 8.0	2 ø 8.0	Avisos 13, 82

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

	79.98	2 08.0		-272.28 -178.04	2 08.0 2 08.0	2 08.0	
VB29	88.67 46.00 137.54	2 08.0 2 08.0 2 08.0	2 08.0 2 08.0	-186.22 -172.18 -256.01 -268.72	2 08.0 2 08.0 2 08.0 2 08.0	2 08.0 2 08.0 2 08.0	Avisos 12, 13, 82
VB30	81.27 85.44 84.91	2 08.0 2 08.0 2 08.0	2 08.0 2 08.0	-202.44 -189.53 -192.49 -192.61	2 08.0 2 08.0 2 08.0 2 08.0	2 08.0 2 08.0 2 08.0	Avisos 12, 13, 82
VB31	84.83 85.00	2 08.0 2 08.0		-193.00 -192.73 -191.74	2 08.0 2 08.0 2 08.0		Avisos 12, 13, 82
VB32	85.21 85.05 90.50	2 08.0 2 08.0 2 08.0	2 08.0 2 08.0 2 08.0	-191.05 -189.52 -190.88 -170.45	2 08.0 2 08.0 2 08.0 2 08.0	2 08.0 2 08.0 2 08.0	Avisos 12, 13, 82

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB1

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P1		14.0 0							0.25				
1	294. 00 278. 00	278. 00	182.7 3	0.00			0.2 3	- 0.1 4	0.3 9		101.5 3		- 143.3 4 - 201.8 5
P2		30.0 0							0.55				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 7	- 0.1 2	0.3 6		84.01		- 178.7 5 - 176.1 7
P3		30.0 0							0.52				
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 3	- 0.0 9	0.3 6		85.10		- 176.3 0 - 179.3 9
P4		30.0 0							0.27				

## Esforços da Viga VB2

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P4		30.0 0							0.26				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 9	- 0.0 6	0.3 6		84.94		- 177.9 3 - 179.9 7
P5		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 6	- 0.0 4	0.3 6		84.90		- 178.8 4 - 180.4 6
P6		30.0 0							0.26				

### Esforços da Viga VB3

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P6		30.0 0							0.26				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 4	- 0.0 2	0.3 6	84.85			- 179.4 6 - 180.6 8
P7		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 1	0.0 0	0.3 6	84.80			- 179.7 7 - 180.6 5
P8		30.0 0							0.53				
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 3	- 0.0 2	0.3 6	84.84			- 179.8 0 - 180.3 8
P9		30.0 0							0.26				

### Esforços da Viga VB4

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P9		30.0 0							0.26				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 6	- 0.0 4	0.3 6		84.88		- 179.5 4 - 179.8 3
P10		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 8	- 0.0 7	0.3 6		84.90		- 178.9 3 - 179.1 4
P11		30.0 0							0.26				

## Esforços da Viga VB5

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P11		30.0 0							0.26				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 1	- 0.1 0	0.3 6		85.38		- 178.7 4 - 176.4 3
P12		30.0 0							0.52				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 4	- 0.1 4	0.3 7		80.02		- 168.9 4 - 194.5 6
P13		30.0 0							0.61				
3	367. 50 349. 50	349. 50	182.7 3	0.00			0.2 7	- 0.1 2	0.4 5		147.2 1		- 275.3 9 - 267.2 9
P14		27.0 0							0.33				



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB6

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P15		27.0 0							0.26				
1	289. 50 271. 50	271. 50	182.7 3	0.00			0.2 1	- 0.1 8	0.3 7		90.29		- 161.3 3 - 182.2 7
P16		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 6	- 0.1 4	0.3 6		84.72		- 176.7 0 - 176.4 2
P17		30.0 0							0.26				

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB7

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P17		30.0 0							0.26				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 2	- 0.1 1	0.3 6		85.02		- 176.9 6 - 178.3 1
P18		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 9	- 0.0 8	0.3 6		84.94		- 178.2 8 - 179.1 9
P19		30.0 0							0.53				
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 6	- 0.0 5	0.3 6		84.89		- 179.1 4 - 179.8 2
P20		30.0 0							0.26				

## Esforços da Viga VB8

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P20		30.0 0							0.26				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 3	- 0.0 2	0.3 6	84.84		- 179.7 0	- 180.1 6
P21		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 1	0.0 0	0.3 6	84.79		- 179.9 7	- 180.2 2
P22		30.0 0							0.53				
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 3	- 0.0 2	0.3 6	84.83		- 179.9 5	- 180.0 3
P23		30.0 0							0.53				
4	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 5	- 0.0 4	0.3 6	84.88		- 179.6 7	- 179.5 4
P24		30.0 0							0.53				

5	288.00 270.00	270.00	182.73	0.00			0.08	-0.07	0.36		84.89		-179.03 -178.89
P25		30.00								0.53			
6	288.00 270.00	270.00	182.73	0.00			0.11	-0.10	0.36		85.34		-178.76 -176.37
P26		30.00								0.52			
7	288.00 270.00	270.00	182.73	0.00			0.14	-0.14	0.37		80.48		-169.74 -192.68
P27		30.00								0.60			
8	360.50 342.50	342.50	182.73	0.00			0.26	-0.12	0.45		141.62		-265.96 -256.75
P28		27.00								0.33			

## Esforços da Viga VB9

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P29		27.0 0							0.26				
1	289. 50 271. 50	271. 50	182.7 3	0.00			0.2 1	- 0.1 8	0.3 7		90.29		- 161.3 3 - 182.2 7
P30		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 6	- 0.1 4	0.3 6		84.72		- 176.7 0 - 176.4 2
P31		30.0 0							0.53				
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 2	- 0.1 1	0.3 6		85.02		- 176.9 6 - 178.3 1
P32		30.0 0							0.53				
4	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 9	- 0.0 8	0.3 6		84.94		- 178.2 8 - 179.1 9
P33		30.0 0							0.53				

5	288.00 270.00	270.00	182.73	0.00			0.06	-0.05	0.36		84.89		-179.14
P34		30.00									0.53		-179.82
6	288.00 270.00	270.00	182.73	0.00			0.03	-0.02	0.36		84.84		-179.70
P35		30.00									0.53		-180.16
7	288.00 270.00	270.00	182.73	0.00			0.01	0.00	0.36		84.79		-179.97
P36		30.00									0.53		-180.22
8	288.00 270.00	270.00	182.73	0.00			0.03	-0.02	0.36		84.83		-179.95
P37		30.00									0.53		-180.03
9	288.00 270.00	270.00	182.73	0.00			0.05	-0.04	0.36		84.88		-179.67
P38		30.00									0.53		-179.54
10	288.00 270.00	270.00	182.73	0.00			0.08	-0.07	0.36		84.89		-179.03
P39		30.00									0.53		-178.89
11	288.00 270.00	270.00	182.73	0.00			0.11	-0.10	0.36		85.34		-178.76
													-176.37

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

P40		30.0 0								0.52			
12	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 4	- 0.1 4	0.3 7		80.48		- 169.7 4 - 192.6 8
P41		30.0 0								0.60			
13	360. 50 342. 50	342. 50	182.7 3	0.00			0.2 6	- 0.1 2	0.4 5		141.6 2		- 265.9 6 - 256.7 5
P42		27.0 0								0.33			

## Esforços da Viga VB10

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P43		27.0 0							0.26				
1	289. 50 271. 50	271. 50	182.7 3	0.00			0.2 1	- 0.1 8	0.3 7	90.29		- 161.3 3	- 182.2 7
P44		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 6	- 0.1 4	0.3 6	84.72		- 176.7 0	- 176.4 2
P45		30.0 0							0.53				
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 2	- 0.1 1	0.3 6	85.02		- 176.9 6	- 178.3 1
P46		30.0 0							0.53				
4	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 9	- 0.0 8	0.3 6	84.94		- 178.2 8	- 179.1 9
P47		30.0 0							0.53				



5	288.00 270.00	270.00	182.73	0.00			0.06	-0.05	0.36		84.89		-179.14
P48		30.00									0.53		-179.82
6	288.00 270.00	270.00	182.73	0.00			0.03	-0.02	0.36		84.84		-179.70
P49		30.00									0.53		-180.16
7	288.00 270.00	270.00	182.73	0.00			0.01	0.00	0.36		84.79		-179.97
P50		30.00									0.53		-180.22
8	288.00 270.00	270.00	182.73	0.00			0.03	-0.02	0.36		84.83		-179.95
P51		30.00									0.53		-180.03
9	288.00 270.00	270.00	182.73	0.00			0.05	-0.04	0.36		84.88		-179.67
P52		30.00									0.53		-179.54
10	288.00 270.00	270.00	182.73	0.00			0.08	-0.07	0.36		84.89		-179.03
P53		30.00									0.53		-178.89
11	288.00 270.00	270.00	182.73	0.00			0.11	-0.10	0.36		85.34		-178.76
													-176.37

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

P54		30.0 0								0.52			
12	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 4	- 0.1 4	0.3 7		80.48		- 169.7 4 - 192.6 8
P55		30.0 0								0.60			
13	360. 50 342. 50	342. 50	182.7 3	0.00			0.2 6	- 0.1 2	0.4 5		141.6 2		- 265.9 6 - 256.7 5
P56		27.0 0								0.33			

## Esforços da Viga VB11

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P57		27.0 0								0.26			
1	289. 50 271. 50	271. 50	182.7 3	0.00			0.2 0	- 0.1 6	0.3 7		90.29		- 161.2 8 - 182.1 6
P58		30.0 0								0.53			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 5	- 0.1 3	0.3 6		84.70		- 176.5 9 - 176.1 8
P59		30.0 0								0.53			
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 1	- 0.0 9	0.3 6		85.01		- 176.7 8 - 177.9 1
P60		30.0 0								0.53			
4	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 8	- 0.0 6	0.3 6		84.92		- 178.0 1 - 178.6 2
P61		30.0 0								0.53			

5	288.00 270.00	270.00	182.73	0.00			0.05	-0.03	0.36		84.87		-178.77
P62		30.00									0.53		-179.05
6	288.00 270.00	270.00	182.73	0.00			0.02	0.00	0.36		84.82		-179.21
P63		30.00									0.53		-179.16
7	288.00 270.00	270.00	182.73	0.00			0.03	-0.01	0.36		84.83		-179.34
P64		30.00									0.53		-178.96
8	288.00 270.00	270.00	182.73	0.00			0.06	-0.04	0.36		84.88		-179.17
P65		30.00									0.53		-178.44
9	288.00 270.00	270.00	182.73	0.00			0.09	-0.07	0.36		84.97		-178.72
P66		30.00									0.53		-177.47
10	288.00 270.00	270.00	182.73	0.00			0.12	-0.10	0.36		84.67		-177.39
P67		30.00									0.53		-177.52
11	288.00 270.00	270.00	182.73	0.00			0.17	-0.13	0.36		89.28		-182.61
													-159.48

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

P68		30.0 0								0.44			
12	171. 95 155. 95	155. 95	182.7 3	0.00			0.1 5	- 0.2 3	0.2 6		35.10		- 101.2 2 - 44.55
P69		14.0 0								0.13			

## Esforços da Viga VB12

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P76		27.0 0								0.26			
1	289. 50 271. 50	271. 50	182.7 3	0.00			0.1 5	- 0.1 1	0.3 6		90.71		- 159.1 9 - 180.8 3
P77		30.0 0								0.53			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 0	- 0.0 7	0.3 6		84.57		- 175.9 2 - 175.1 4
P78		30.0 0								0.53			
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 6	- 0.0 3	0.3 6		84.92		- 175.3 6 - 176.1 2
P79		30.0 0								0.53			
4	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 2	0.0 0	0.3 6		84.80		- 175.9 5 - 176.1 5
P80		30.0 0								0.53			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

5	288.00 270.00	270.00	182.73	0.00			0.05	-0.03	0.36		85.04		-176.26
P81		30.00									0.52		-175.10
6	288.00 270.00	270.00	182.73	0.00			0.09	-0.07	0.36		82.92		-172.40
P82		30.00									0.56		-182.14
7	320.02 302.02	302.02	182.73	0.00			0.17	-0.09	0.40		111.10		-214.87
P83		27.00									0.29		-199.44

## Esforços da Viga VB13

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P84		27.0 0								0.26			
1	289. 50 271. 50	271. 50	182.7 3	0.00			0.1 7	- 0.1 4	0.3 7		90.26		- 161.0 1 - 181.9 9
P85		30.0 0								0.53			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 1	- 0.1 1	0.3 6		84.64		- 176.0 7 - 175.8 3
P86		30.0 0								0.53			
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 7	- 0.0 7	0.3 6		84.94		- 175.8 3 - 177.3 4
P87		30.0 0								0.53			
4	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 4	- 0.0 3	0.3 6		84.84		- 176.6 2 - 177.8 1
P88		30.0 0								0.53			



5	288.00 270.00	270.00	182.73	0.00			0.00	0.00	0.36	84.78		-176.85 -177.95
P89		30.00								0.53		
6	288.00 270.00	270.00	182.73	0.00			0.03	-0.04	0.36	84.83		-176.87 -177.80
P90		30.00								0.53		
7	288.00 270.00	270.00	182.73	0.00			0.07	-0.08	0.36	85.14		-174.08 -176.27
P91		30.00								0.54		
8	304.95 286.95	286.95	182.73	0.00			0.10	-0.10	0.40	101.37		-200.88 -246.96
P92		27.00								0.67		
9	421.00 403.00	403.00	182.73	0.00			0.09	0.00	0.54	187.27		-400.83 -399.21
P93		27.00								0.66		
10	289.50 271.50	271.50	182.73	0.00			0.13	-0.16	0.39	91.24		-231.29 -185.22
P94		30.00								0.52		
11	288.00 270.00	270.00	182.73	0.00			0.12	-0.13	0.36	86.12		-173.60 -176.30

P95		30.0 0							0.53			
12	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 8	- 0.0 9	0.3 6	84.84		- 179.1 7 - 178.3 2
P96		30.0 0							0.53			
13	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 6	- 0.0 6	0.3 6	84.89		- 179.6 3 - 179.0 9
P97		30.0 0							0.53			
14	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 3	- 0.0 4	0.3 6	84.84		- 180.1 7 - 179.6 2
P98		30.0 0							0.53			
15	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 1	- 0.0 1	0.3 6	84.79		- 180.4 2 - 179.8 4
P99		30.0 0							0.53			
16	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 1	- 0.0 2	0.3 6	84.81		- 180.4 2 - 179.7 8
P100		30.0 0							0.53			
17	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 4	- 0.0 4	0.3 6	84.85		- 180.1 5 - 179.4 4
P101		30.0 0							0.53			
18	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 7	- 0.0 6	0.3 6	84.90		- 179.6 2

													- 178.8 0
P102		30.0 0								0.53			
19	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 0	- 0.0 9	0.3 6		84.99		- 178.8 4 - 177.7 1
P103		30.0 0								0.53			
20	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 3	- 0.1 3	0.3 6		84.64		- 177.0 7 - 177.8 5
P104		30.0 0								0.53			
21	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 8	- 0.1 6	0.3 7		89.89		- 183.2 5 - 157.4 2
P105		30.0 0								0.26			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB14


fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P105		30.0 0								0.16			
1	150. 50 132. 50	132. 50	182.7 3	0.00			0.1 6	- 0.2 8	0.2 3		18.55		- 85.60 - 36.80
P106		27.0 0								0.12			

## Esforços da Viga VB15

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P110		14.0 0							0.25				
1	294. 00 278. 00	278. 00	182.7 3	0.00			0.1 4	0.0 0	0.3 8		101.1 5		- 142.2 8 - 199.3 7
P111		30.0 0							0.55				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 8	0.0 0	0.3 6		85.51		- 179.7 0 - 166.1 3
P112		30.0 0							0.49				
3	248. 00 230. 00	230. 00	182.7 3	0.00			0.1 0	- 0.0 2	0.3 2		63.53		- 139.7 5 - 119.1 6
P113		27.0 0							0.22				

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB16


fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P132		27.0 0								0.62			
1	257. 02 239. 02	239. 02	493.6 3	0.00			0.1 1	0.0 0	0.9 3		193.7 4		- 376.4 2 - 437.7 4
P133		27.0 0								0.66			

## Esforços da Viga VB17

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribu ída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P133		27.0 0								0.72			
1	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 3	0.0 0	1.0 2		241.9 3		- 508.0 9  - 517.4 6
P134		27.0 0								1.44			
2	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 4		- 514.5 9  - 513.9 6
P135		27.0 0								1.44			
3	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 5		- 514.6 1  - 514.0 1
P136		27.0 0								1.44			
4	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.2 2		- 514.8 2  - 513.6 6
P137		27.0 0								0.72			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>



## Esforços da Viga VB18

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P137		27.0 0							0.72				
1	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	- 0.0 8	1.0 2		235.4 9		- 505.5 0 - 533.5 8
P138		27.0 0							1.63				
2	362. 00 344. 00	344. 00	493.6 3	0.00			0.2 6	0.0 0	1.2 6		387.1 8		- 779.3 4 - 730.9 0
P139		27.0 0							0.89				

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB19

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P140		27.0 0							0.71				
1	291. 00 273. 00	273. 00	493.6 3	0.00			0.1 6	0.0 0	1.0 3		249.7 2		- 476.1 8  - 532.5 8
P141		27.0 0								0.74			

## Esforços da Viga VB20

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P141		27.0 0								0.72			
1	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 2		- 514.6 0 - 513.6 6
P142		27.0 0								1.44			
2	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 6		- 513.5 7 - 513.7 5
P143		27.0 0								1.44			
3	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 5		- 513.6 6 - 513.7 3
P144		27.0 0								1.44			
4	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 5		- 513.7 0 - 513.6 7
P145		27.0 0								1.44			

5	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-513.75 -513.62
P146		27.00								1.44			
6	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-513.80 -513.57
P147		27.00								1.44			
7	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-513.85 -513.53
P148		27.00								1.44			
8	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-513.92 -513.50
P149		27.00								1.44			
9	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-513.99 -513.46
P150		27.00								1.44			
10	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.22		-514.22 -513.12
P151		27.00								1.43			
11	291.00 273.00	273.00	493.63	0.00			0.00	-0.08	1.02		235.49		-504.91 -533.04

P152		27.0 0								1.63			
12	362. 00 344. 00	344. 00	493.6 3	0.00			0.2 6	0.0 0	1.2 6		387.1 7		- 778.8 7 - 730.4 9
P153		27.0 0								0.89			

## Esforços da Viga VB21

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P154		27.0 0								0.71			
1	291. 00 273. 00	273. 00	493.6 3	0.00			0.1 6	0.0 0	1.0 3		249.7 3		- 476.7 5 - 533.8 2
P155		27.0 0								1.45			
2	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 2		- 515.1 8 - 514.9 1
P156		27.0 0								1.44			
3	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 6		- 514.1 5 - 515.0 1
P157		27.0 0								1.44			
4	291. 00 273. 00	273. 00	493.6 3	0.00			0.0 0	0.0 0	1.0 1		240.1 5		- 514.2 6 - 515.0 1
P158		27.0 0								1.44			

5	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-514.30
P159		27.00								1.44			-514.98
6	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-514.37
P160		27.00								1.44			-514.97
7	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-514.44
P161		27.00								1.44			-514.97
8	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-514.52
P162		27.00								1.44			-514.98
9	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.15		-514.61
P163		27.00								1.44			-515.01
10	291.00 273.00	273.00	493.63	0.00			0.00	0.00	1.01		240.14		-514.52
P164		27.00								1.44			-515.40
11	291.00 273.00	273.00	493.63	0.00			0.09	0.00	1.02		245.36		-523.83
													-494.32

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

P165		27.0 0								1.20			
12	173. 45 157. 45	157. 45	493.6 3	0.00			0.2 7	- 0.1 7	0.7 2		101.9 7		- 281.6 7 - 157.1 2
P166		14.0 0								0.39			



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB22

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P110		27.0 0								0.28			
1	306. 75 288. 75	288. 75	182.7 3	0.00			0.1 9	0.0 0	0.3 9		98.98		- 186.3 0 - 210.7 8
P108		30.0 0								0.59			
2	310. 25 294. 25	294. 25	182.7 3	0.00			0.1 9	0.0 0	0.4 1		115.1 1		- 231.1 3 - 171.7 0
P106		14.0 0								0.27			

## Esforços da Viga VB23

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P166		27.0 0								0.20			
1	190. 61 172. 61	172. 61	182.7 3	0.00			0.3 8	- 0.4 7	0.4 2			162.9 6	- 268.6 8
P131		30.0 0								0.48			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.4 0	- 0.3 8	0.3 7		93.55		- 161.6 1
P130		30.0 0								0.53			
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.3 0	- 0.2 8	0.3 7		84.68		- 196.9 6
P129		30.0 0								0.53			
4	288. 00 270. 00	270. 00	182.7 3	0.00			0.2 2	- 0.2 0	0.3 7		85.22		- 197.4 9
P128		30.0 0								0.53			- 198.8 8

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

5	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 5	- 0.1 3	0.3 7		85.04		- 199.8 4 - 200.6 3
P127		30.0 0								0.27			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB24


fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P127		30.0 0								0.27			
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 8	- 0.0 7	0.3 8		84.93		- 201.2 1 - 201.6 4
P126		30.0 0								0.27			

## Esforços da Viga VB25

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P126		30.0 0								0.27			
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 2	- 0.0 1	0.3 8		84.82		- 201.8 8  - 201.9 5
P125		30.0 0								0.53			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 5	- 0.0 4	0.3 8		84.88		- 201.8 7  - 201.5 9
P124		30.0 0								0.53			
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 2	- 0.1 1	0.3 8		84.99		- 201.1 7  - 200.5 3
P123		30.0 0								0.27			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB26

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P123		30.0 0								0.27			
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 8	- 0.1 7	0.3 7		85.11		- 199.7 6  - 198.7 3
P122		30.0 0								0.53			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.2 6	- 0.2 5	0.3 7		85.24		- 197.5 7  - 196.1 1
P121		30.0 0								0.27			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB27

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P121		30.0 0								0.27			
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.3 5	- 0.3 3	0.3 7		85.43		- 194.5 7 - 192.4 6
P120		30.0 0								0.53			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.4 5	- 0.4 3	0.3 7		85.23		- 189.9 2 - 189.1 9
P119		30.0 0								0.53			
3	289. 50 271. 50	271. 50	182.7 3	0.00			0.5 8	- 0.5 4	0.3 7		90.93		- 192.2 0 - 170.0 1
P117		27.0 0								0.26			

## Esforços da Viga VB28

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P118		27.0 0							0.33				
1	361. 00 343. 00	343. 00	182.7 3	0.00			0.2 6	- 0.1 5	0.4 5		142.3 3		- 262.3 4 - 272.2 8
P116		30.0 0							0.60				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 5	- 0.0 8	0.3 7		79.98		- 199.6 3 - 178.0 4
P115		30.0 0							0.26				



## Esforços da Viga VB29

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P115		30.0 0							0.27				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 6	- 0.0 7	0.3 7		88.67		- 186.2 2 - 172.1 8
P114		30.0 0							0.46				
2	235. 50 219. 50	219. 50	182.7 3	0.00			0.1 4	- 0.2 6	0.3 2		46.00		- 126.6 8 - 170.8 1
P113		14.0 0							0.55				
3	352. 50 336. 50	336. 50	182.7 3	0.00			0.4 8	- 0.3 4	0.4 5		137.5 4		- 256.0 1 - 268.7 2
P109		30.0 0							0.33				

### Esforços da Viga VB30


fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P109		30.0 0								0.27			
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.2 9	- 0.2 8	0.3 7		81.27		- 202.4 4 - 182.6 3
P107		30.0 0								0.52			
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 9	- 0.1 7	0.3 7		85.44		- 189.5 3 - 192.0 2
P75		30.0 0								0.53			
3	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 9	- 0.0 7	0.3 7		84.91		- 192.4 9 - 192.6 1
P74		30.0 0								0.27			

## Esforços da Viga VB31

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P74		30.0 0							0.27				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.0 3	- 0.0 1	0.3 7		84.83		- 193.0 0 - 192.7 3
P73		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.1 2	- 0.1 1	0.3 7		85.00		- 192.5 5 - 191.7 4
P72		30.0 0							0.27				

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga VB32

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P72		30.0 0							0.27				
1	288. 00 270. 00	270. 00	182.7 3	0.00			0.2 2	- 0.2 1	0.3 7		85.21		- 191.0 5  - 189.5 2
P71		30.0 0							0.53				
2	288. 00 270. 00	270. 00	182.7 3	0.00			0.3 3	- 0.3 2	0.3 7		85.05		- 187.8 1  - 187.4 9
P70		30.0 0							0.53				
3	289. 50 271. 50	271. 50	182.7 3	0.00			0.4 7	- 0.4 3	0.3 7		90.50		- 190.8 8  - 170.4 5
P69		27.0 0							0.26				

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB1

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P1	14.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
1	278.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P2	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.01
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P3	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P4	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB2

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P4	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P5	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P6	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

### Resultados da Viga VB3

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P6	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P7	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P8	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P9	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB4

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P9	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P10	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P11	30.00			2 ø 8.0 0.63					0.00



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB5

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P11	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P12	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P13	30.00			2 ø 8.0 0.63					0.01
3	349.50	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P14	27.00			2 ø 8.0 0.63					0.01

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB6

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P15	27.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
1	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.05		ø 5.0 c/ 15			0.00
P16	30.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P17	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB7

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P17	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P18	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P19	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P20	30.00			2 ø 8.0 0.63					0.00

## Resultados da Viga VB8

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P20	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P21	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P22	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P23	30.00			2 ø 8.0 0.63					0.00
4	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P24	30.00			2 ø 8.0 0.63					0.00
5	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P25	30.00			2 ø 8.0 0.63					0.00
6	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P26	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
7	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P27	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.01
8	342.50	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P28	27.00			2 ø 8.0 0.63					0.01

## Resultados da Viga VB9

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P29	27.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
1	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.05		ø 5.0 c/ 15			0.00
P30	30.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P31	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P32	30.00			2 ø 8.0 0.63					0.00
4	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P33	30.00			2 ø 8.0 0.63					0.00
5	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P34	30.00			2 ø 8.0 0.63					0.00
6	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P35	30.00			2 ø 8.0 0.63					0.00
7	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P36	30.00			2 ø 8.0 0.63					0.00
8	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P37	30.00			2 ø 8.0 0.63					0.00
9	270.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

		x 30.00	0.63						
P38	30.00			2 ø 8.0 0.63					0.00
10	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P39	30.00			2 ø 8.0 0.63					0.00
11	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P40	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
12	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P41	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.01
13	342.50	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P42	27.00			2 ø 8.0 0.63					0.01

## Resultados da Viga VB10

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P43	27.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
1	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.05		ø 5.0 c/ 15			0.00
P44	30.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P45	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P46	30.00			2 ø 8.0 0.63					0.00
4	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P47	30.00			2 ø 8.0 0.63					0.00
5	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P48	30.00			2 ø 8.0 0.63					0.00
6	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P49	30.00			2 ø 8.0 0.63					0.00
7	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P50	30.00			2 ø 8.0 0.63					0.00
8	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P51	30.00			2 ø 8.0 0.63					0.00
9	270.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>


		x 30.00	0.63						
P52	30.00			2 ø 8.0 0.63					0.00
10	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P53	30.00			2 ø 8.0 0.63					0.00
11	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P54	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
12	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P55	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.01
13	342.50	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P56	27.00			2 ø 8.0 0.63					0.01



## Resultados da Viga VB11

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P57	27.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
1	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.05		ø 5.0 c/ 15			0.00
P58	30.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P59	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P60	30.00			2 ø 8.0 0.63					0.00
4	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P61	30.00			2 ø 8.0 0.63					0.00
5	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P62	30.00			2 ø 8.0 0.63					0.00
6	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P63	30.00			2 ø 8.0 0.63					0.00
7	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P64	30.00			2 ø 8.0 0.63					0.00
8	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P65	30.00			2 ø 8.0 0.63					0.00
9	270.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

		x 30.00	0.63						
P66	30.00			2 ø 8.0 0.63					0.00
10	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P67	30.00			2 ø 8.0 0.63					0.00
11	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P68	30.00		2 ø 8.0 0.06	2 ø 8.0 0.63					0.00
12	155.95	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.06		ø 5.0 c/ 15			0.00
P69	14.00		2 ø 8.0 0.06	2 ø 8.0 0.63					0.00

## Resultados da Viga VB12

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P76	27.00			2 ø 8.0 0.63					0.00
1	271.50	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P77	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P78	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P79	30.00			2 ø 8.0 0.63					0.00
4	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P80	30.00			2 ø 8.0 0.63					0.00
5	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P81	30.00			2 ø 8.0 0.63					0.00
6	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P82	30.00			2 ø 8.0 0.63					0.01
7	302.02	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P83	27.00			2 ø 8.0 0.63					0.01

### Resultados da Viga VB13

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P84	27.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
1	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P85	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P86	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P87	30.00			2 ø 8.0 0.63					0.00
4	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P88	30.00			2 ø 8.0 0.63					0.00
5	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P89	30.00			2 ø 8.0 0.63					0.00
6	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P90	30.00			2 ø 8.0 0.63					0.00
7	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P91	30.00			2 ø 8.0 0.63					0.01
8	286.95	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P92	27.00			2 ø 8.0 0.63					0.02
9	403.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.01

		x 30.00	0.63						
P93	27.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.02
10	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P94	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
11	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P95	30.00			2 ø 8.0 0.63					0.00
12	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P96	30.00			2 ø 8.0 0.63					0.00
13	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P97	30.00			2 ø 8.0 0.63					0.00
14	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P98	30.00			2 ø 8.0 0.63					0.00
15	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P99	30.00			2 ø 8.0 0.63					0.00
16	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P100	30.00			2 ø 8.0 0.63					0.00
17	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P101	30.00			2 ø 8.0 0.63					0.00
18	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P102	30.00			2 ø 8.0 0.63					0.00
19	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P103	30.00			2 ø 8.0 0.63					0.00
20	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P104	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00
21	270.00	14.00	2 ø 8.0	2 ø 8.0		ø 5.0 c/ 15			0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

		x 30.00	0.63	0.04					
P105	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB14

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P105	30.00		2 ø 8.0 0.08	2 ø 8.0 0.63					0.00
1	132.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.08		ø 5.0 c/ 15			0.00
P106	27.00		2 ø 8.0 0.08	2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB15

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P110	14.00			2 ø 8.0 0.63					0.00
1	278.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P111	30.00			2 ø 8.0 0.63					0.01
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P112	30.00			2 ø 8.0 0.63					0.00
3	230.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P113	27.00			2 ø 8.0 0.63					0.00



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB16

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P132	27.00			2 ø 8.0 0.63					0.02
1	239.02	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P133	27.00			2 ø 8.0 0.63					0.02

## Resultados da Viga VB17

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P133	27.00			2 ø 8.0 0.63					0.03
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P134	27.00			2 ø 8.0 0.63					0.03
2	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P135	27.00			2 ø 8.0 0.63					0.03
3	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P136	27.00			2 ø 8.0 0.63					0.03
4	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P137	27.00			2 ø 8.0 0.63					0.03

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB18

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P137	27.00			2 ø 8.0 0.63					0.03
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P138	27.00			2 ø 8.0 0.71					0.08
2	344.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.02
P139	27.00			2 ø 8.0 0.66					0.07

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB19

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P140	27.00			2 ø 8.0 0.63					0.03
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P141	27.00			2 ø 8.0 0.63					0.04

## Resultados da Viga VB20

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P141	27.00			2 ø 8.0 0.63					0.03
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P142	27.00			2 ø 8.0 0.63					0.03
2	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P143	27.00			2 ø 8.0 0.63					0.03
3	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P144	27.00			2 ø 8.0 0.63					0.03
4	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P145	27.00			2 ø 8.0 0.63					0.03
5	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P146	27.00			2 ø 8.0 0.63					0.03
6	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P147	27.00			2 ø 8.0 0.63					0.03
7	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P148	27.00			2 ø 8.0 0.63					0.03
8	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P149	27.00			2 ø 8.0 0.63					0.03
9	273.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.01

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

		x 30.00	0.63						
P150	27.00			2 ø 8.0 0.63					0.03
10	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P151	27.00			2 ø 8.0 0.63					0.03
11	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P152	27.00			2 ø 8.0 0.71					0.08
12	344.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.02
P153	27.00			2 ø 8.0 0.66					0.07

## Resultados da Viga VB21

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P154	27.00			2 ø 8.0 0.63					0.03
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P155	27.00			2 ø 8.0 0.63					0.04
2	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P156	27.00			2 ø 8.0 0.63					0.03
3	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P157	27.00			2 ø 8.0 0.63					0.03
4	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P158	27.00			2 ø 8.0 0.63					0.03
5	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P159	27.00			2 ø 8.0 0.63					0.03
6	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P160	27.00			2 ø 8.0 0.63					0.03
7	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P161	27.00			2 ø 8.0 0.63					0.03
8	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P162	27.00			2 ø 8.0 0.63					0.03
9	273.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.01

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

		x 30.00	0.63						
P163	27.00			2 ø 8.0 0.63					0.03
10	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P164	27.00			2 ø 8.0 0.63					0.03
11	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.01
P165	27.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.03
12	157.45	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.05		ø 5.0 c/ 15			0.00
P166	14.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB22

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P110	27.00			2 ø 8.0 0.63					0.00
1	288.75	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P108	30.00			2 ø 8.0 0.63					0.01
2	294.25	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P106	14.00			2 ø 8.0 0.63					0.00

### Resultados da Viga VB23

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P166	27.00		2 ø 8.0 0.13	2 ø 8.0 0.63					0.00
1	172.61	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.13		ø 5.0 c/ 15			0.00
P131	30.00		2 ø 8.0 0.13	2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.10		ø 5.0 c/ 15			0.00
P130	30.00		2 ø 8.0 0.10	2 ø 8.0 0.63					0.01
3	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.08		ø 5.0 c/ 15			0.00
P129	30.00		2 ø 8.0 0.08	2 ø 8.0 0.63					0.01
4	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.06		ø 5.0 c/ 15			0.00
P128	30.00		2 ø 8.0 0.06	2 ø 8.0 0.63					0.00
5	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P127	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## Resultados da Viga VB24

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P127	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P126	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB25

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P126	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P125	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P124	30.00			2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P123	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB26

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P123	30.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.05		ø 5.0 c/ 15			0.00
P122	30.00		2 ø 8.0 0.07	2 ø 8.0 0.63					0.01
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.07		ø 5.0 c/ 15			0.00
P121	30.00		2 ø 8.0 0.07	2 ø 8.0 0.63					0.01

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB27

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P121	30.00		2 ø 8.0 0.09	2 ø 8.0 0.63					0.01
1	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.09		ø 5.0 c/ 15			0.00
P120	30.00		2 ø 8.0 0.12	2 ø 8.0 0.63					0.01
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.12		ø 5.0 c/ 15			0.00
P119	30.00		2 ø 8.0 0.15	2 ø 8.0 0.63					0.01
3	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.15		ø 5.0 c/ 15			0.00
P117	27.00		2 ø 8.0 0.15	2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB28

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P118	27.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.01
1	343.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.04		ø 5.0 c/ 15			0.00
P116	30.00		2 ø 8.0 0.04	2 ø 8.0 0.63					0.01
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P115	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB29

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>


Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P115	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P114	30.00		2 ø 8.0 0.07	2 ø 8.0 0.63					0.00
2	219.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.07		ø 5.0 c/ 15			0.00
P113	14.00		2 ø 8.0 0.09	2 ø 8.0 0.63					0.01
3	336.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.09		ø 5.0 c/ 15			0.00
P109	30.00		2 ø 8.0 0.09	2 ø 8.0 0.63					0.01



## Resultados da Viga VB30

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P109	30.00		2 ø 8.0 0.08	2 ø 8.0 0.63					0.01
1	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.08		ø 5.0 c/ 15			0.00
P107	30.00		2 ø 8.0 0.08	2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.05		ø 5.0 c/ 15			0.00
P75	30.00		2 ø 8.0 0.05	2 ø 8.0 0.63					0.00
3	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P74	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB31

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>


Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P74	30.00			2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P73	30.00			2 ø 8.0 0.63					0.00
2	270.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P72	30.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga VB32

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P72	30.00		2 ø 8.0 0.06	2 ø 8.0 0.63					0.00
1	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.06		ø 5.0 c/ 15			0.00
P71	30.00		2 ø 8.0 0.09	2 ø 8.0 0.63					0.01
2	270.00	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.09		ø 5.0 c/ 15			0.00
P70	30.00		2 ø 8.0 0.12	2 ø 8.0 0.63					0.01
3	271.50	14.00 x 30.00	2 ø 8.0 0.63	2 ø 8.0 0.12		ø 5.0 c/ 15			0.00
P69	27.00		2 ø 8.0 0.12	2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## **Pavimento MURETA**

## Resultados dos Pilares

<b>MURETA</b>	fck = 250.00 kgf/cm <sup>2</sup>	E = 241500 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 2</b>		coibr = 3.00 cm	

Dados				Resultados					
Pilar	Seção (cm)	Nível Altura (cm)	lib vñc lih vñc (cm)	Nd máx Nd mín (tf)	MBd topo MBd base (kgf.m)	MHd topo MHd base (kgf.m)	As b Armaduras As h % armad total	Estribo Topo Base cota	Esb b Esb h
P1 1:20	14.00 X 27.00	90.00 50.00	100.00 EL 120.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 15.38
P2 1:20	14.00 X 27.00	85.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P3 1:20	14.00 X 27.00	85.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P4 1:20	14.00 X 27.00	85.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P5 1:20	14.00 X 27.00	80.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P6 1:20	14.00 X 27.00	80.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P7 1:20	14.00 X 27.00	75.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

P8 1:20	14.00 X 27.00	75.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P9 1:20	14.00 X 27.00	75.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P10 1:20	14.00 X 27.00	70.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P11 1:20	14.00 X 27.00	70.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P12 1:20	14.00 X 27.00	60.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P13 1:20	14.00 X 27.00	60.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P14 1:20	14.00 X 27.00	65.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P15 1:20	14.00 X 27.00	65.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P16 1:20	14.00 X 27.00	60.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P17 1:20	14.00 X 27.00	60.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

P18 1:20	14.00 X 27.00	55.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P19 1:20	14.00 X 27.00	55.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P20 1:20	14.00 X 27.00	55.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P21 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P22 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P23 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P24 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P25 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P26 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P27 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

P28 1:20	14.00 X 27.00	50.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P29 1:20	14.00 X 27.00	50.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P30 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P31 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P32 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P33 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P34 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P35 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P36 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P37 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81



P38 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P39 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P40 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P41 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P42 1:20	14.00 X 27.00	50.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P43 1:20	14.00 X 27.00	50.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P44 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P45 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P46 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P47 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

P48 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P49 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P50 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P51 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P52 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P53 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P54 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P55 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P56 1:20	14.00 X 27.00	50.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P57 1:20	14.00 X 27.00	50.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81

P58 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P59 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P60 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P61 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P62 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P63 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P64 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P65 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P66 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P67 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

P68 1:20	14.00 X 27.00	50.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P69 1:20	14.00 X 27.00	55.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P70 1:20	14.00 X 27.00	55.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P71 1:20	14.00 X 27.00	55.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P72 1:20	14.00 X 27.00	60.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P73 1:20	14.00 X 27.00	60.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P74 1:20	14.00 X 27.00	65.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P75 1:20	14.00 X 27.00	65.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P77 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P78 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

P79 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P80 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P81 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P82 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P83 1:20	14.00 X 27.00	100.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P84 1:20	14.00 X 27.00	100.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P85 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P86 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P87 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P88 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81


P89 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P90 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P91 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P94 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P95 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P96 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P97 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P98 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P99 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P100 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

P101 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P102 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P103 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P104 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P105 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P106 1:20	14.00 X 27.00	90.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P107 1:20	14.00 X 27.00	65.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P108 1:20	14.00 X 27.00	80.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P109 1:20	14.00 X 27.00	70.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P110 1:20	14.00 X 27.00	80.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

P111 1:20	14.00 X 27.00	70.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P112 1:20	14.00 X 27.00	70.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P113 1:20	14.00 X 27.00	70.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 54	0 18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P114 1:20	14.00 X 27.00	70.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P115 1:20	14.00 X 27.00	75.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P116 1:20	14.00 X 27.00	75.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P117 1:20	14.00 X 27.00	80.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P118 1:20	14.00 X 27.00	80.00 50.00	120.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	29.66 12.81
P119 1:20	14.00 X 27.00	80.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P120 1:20	14.00 X 27.00	80.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81



P121 1:20	14.00 X 27.00	85.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P122 1:20	14.00 X 27.00	85.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P123 1:20	14.00 X 27.00	90.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P124 1:20	14.00 X 27.00	90.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P125 1:20	14.00 X 27.00	90.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P126 1:20	14.00 X 27.00	95.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P127 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P128 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P129 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
P130 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

P131 1:20	14.00 X 27.00	100.00 50.00	100.00 EL 100.00 EL	0.06 0.00	0 18	0 54	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	24.71 12.81
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## Cálculo dos Pilares

<b>MURETA</b>	fck = 250.00 kgf/cm <sup>2</sup>	E = 241500 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 2</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	14.00 X 27.00	EL 24.71 EL 15.38	0.08 0.00	0 68	0 1448	21.30	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P2	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P3	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P4	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P5	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P6	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P7	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P8	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P9	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P10	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P11	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P12	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P13	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P14	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P15	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P16	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P17	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P18	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P19	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P20	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P21	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P22	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P23	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P24	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P25	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P26	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P27	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P28	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P29	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P30	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P31	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P32	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P33	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P34	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P35	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P36	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P37	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P38	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P39	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P40	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P41	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P42	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P43	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P44	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P45	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P46	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P47	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P48	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P49	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P50	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P51	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P52	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P53	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P54	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P55	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P56	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P57	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P58	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P59	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P60	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P61	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P62	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P63	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P64	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P65	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P66	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P67	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P68	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P69	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P70	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P71	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)


P72	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P73	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P74	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P75	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P77	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P78	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P79	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P80	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P81	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P82	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P83	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P84	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	68 0	679 0	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P85	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P86	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P87	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)



P88	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P89	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P90	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P91	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P94	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P95	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P96	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P97	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P98	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P99	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P100	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P101	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P102	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P103	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P104	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P105	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P106	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P107	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P108	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P109	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P110	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P111	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P112	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P113	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	68 0	679 0	9.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P114	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P115	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P116	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P117	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	1 68	28 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P118	14.00 X 27.00	EL 29.66 EL 12.81	0.08 0.00	1 68	28 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P119	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P120	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P121	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P122	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P123	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P124	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P125	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P126	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P127	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P128	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P129	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P130	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P131	14.00 X 27.00	EL 24.71 EL 12.81	0.08 0.00	1 68	27 1443	21.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## **Pavimento MURO**

## Resultados dos Pilares

<b>MURO</b>	fck = 250.00 kgf/cm <sup>2</sup>	E = 241500 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 3</b>		cobr = 3.00 cm	


Dados				Resultados					
Pilar	Seção (cm)	Nível Altura (cm)	lib vnc lih vnc (cm)	Nd máx Nd mín (tf)	MBd topo MBd base (kgf.m)	MHd topo MHd base (kgf.m)	As b Armaduras As h % armad total	Estribo Topo Base cota	Esb b Esb h
P92 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 540.00 EL	0.33 0.00	0 1093	0 499	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12	138.40 69.20
P93 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 540.00 EL	0.33 0.00	0 1093	0 499	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12	138.40 69.20
P132 1:20	14.00 X 27.00	335.00 270.00	560.00 EL 270.00 RR	0.61 0.00	0 1102	233 326	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P133 1:20	14.00 X 27.00	335.00 270.00	560.00 EL 270.00 RR	0.77 0.25	0 1105	262 313	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 35	138.40 34.60
P134 1:20	14.00 X 27.00	330.00 270.00	560.00 EL 270.00 RR	0.74 0.30	0 1107	235 292	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P135 1:20	14.00 X 27.00	330.00 270.00	560.00 EL 270.00 RR	0.73 0.30	0 1107	238 294	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P136 1:20	14.00 X 27.00	330.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1108	239 295	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60

P137 1:20	14.00 X 27.00	330.00 270.00	560.00 EL 270.00 RR	0.72 0.30	0 1108	238 293	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 35	138.40 34.60
P138 1:20	14.00 X 27.00	325.00 270.00	560.00 EL 270.00 RR	0.80 0.35	0 1107	284 340	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P139 1:20	14.00 X 27.00	325.00 270.00	560.00 EL 270.00 RR	0.64 0.11	0 1104	268 375	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P140 1:20	14.00 X 27.00	325.00 270.00	560.00 EL 270.00 RR	0.61 0.04	0 1102	237 333	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 35	138.40 34.60
P141 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.77 0.29	0 1106	250 297	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P142 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.30	0 1107	230 286	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P143 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	232 287	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P144 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	232 287	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P145 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	232 287	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P146 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	232 287	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60

P147 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	233 288	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P148 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	233 288	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P149 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	233 289	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P150 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1108	235 290	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P151 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.72 0.30	0 1108	234 288	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P152 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.80 0.35	0 1107	280 335	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P153 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.64 0.11	0 1104	266 371	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P154 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.62 0.04	0 1102	239 337	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P155 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.77 0.29	0 1106	260 308	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P156 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.30	0 1107	239 297	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60

P157 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	242 298	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P158 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	241 298	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P159 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1107	241 298	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P160 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1108	241 297	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P161 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	0 1108	241 297	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P162 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.31	1 1109	241 298	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P163 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.73 0.30	6 1095	242 298	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P164 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.75 0.29	16 1010	241 297	1.57 2 ø 10.0 4.71 6 ø 10.0 2.5 12 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P165 1:20	14.00 X 27.00	320.00 270.00	560.00 EL 270.00 RR	0.76 0.18	10 713	285 345	1.57 2 ø 10.0 3.14 4 ø 10.0 1.7 8 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	138.40 34.60
P166 1:20	14.00 X 27.00	320.00 270.00	270.00 RR 540.00 EL	0.55 -0.06	100 118	35 1584	1.57 2 ø 10.0 3.14 4 ø 10.0 1.7 8 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 30	66.73 69.20



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## Cálculo dos Pilares

<b>MURO</b>	fck = 250.00 kgf/cm <sup>2</sup>	E = 241500 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 3</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P92	14.00 X 27.00	EL 138.40 EL 69.20	0.41 0.00	1443 0	1560 0	1.08	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P93	14.00 X 27.00	EL 138.40 EL 69.20	0.41 0.00	1443 0	1560 0	1.08	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P132	14.00 X 27.00	EL 138.40 RR 34.60	0.77 0.01	1486 52	1549 54	1.04	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P133	14.00 X 27.00	EL 138.40 RR 34.60	0.96 0.32	1543 11	1569 12	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P134	14.00 X 27.00	EL 138.40 RR 34.60	0.92 0.38	1550 1	1574 1	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P135	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 2	1574 2	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P136	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 2	1573 2	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P137	14.00 X 27.00	EL 138.40 RR 34.60	0.90 0.37	1549 1	1573 2	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P138	14.00 X 27.00	EL 138.40 RR 34.60	1.00 0.44	1565 38	1565 38	1.00	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P139	14.00 X 27.00	EL 138.40 RR 34.60	0.80 0.14	1506 102	1536 104	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P140	14.00 X 27.00	EL 138.40 RR 34.60	0.77 0.06	1492 66	1545 68	1.04	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)

P141	14.00 X 27.00	EL 138.40 RR 34.60	0.96 0.37	1551 4	1573 4	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P142	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1550 1	1574 1	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P143	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 0	1574 0	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P144	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 0	1574 0	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P145	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 0	1574 0	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P146	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 1	1574 1	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P147	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 1	1574 1	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P148	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 1	1574 1	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P149	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 2	1574 2	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P150	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 2	1574 2	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P151	14.00 X 27.00	EL 138.40 RR 34.60	0.90 0.37	1549 2	1573 2	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P152	14.00 X 27.00	EL 138.40 RR 34.60	1.00 0.44	1565 38	1565 38	1.00	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P153	14.00 X 27.00	EL 138.40 RR 34.60	0.80 0.14	1506 102	1536 104	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P154	14.00 X 27.00	EL 138.40 RR 34.60	0.77 0.05	1492 68	1545 70	1.04	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P155	14.00 X 27.00	EL 138.40 RR 34.60	0.96 0.37	1551 11	1571 11	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)

P156	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1550 8	1571 8	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P157	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 8	1571 8	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P158	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 7	1571 7	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P159	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 7	1571 7	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P160	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1551 7	1572 7	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P161	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1552 7	1572 7	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P162	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1552 7	1572 7	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P163	14.00 X 27.00	EL 138.40 RR 34.60	0.91 0.38	1536 7	1572 7	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P164	14.00 X 27.00	EL 138.40 RR 34.60	0.94 0.37	1430 8	1530 8	1.07	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P165	14.00 X 27.00	EL 138.40 RR 34.60	0.94 0.22	1047 25	1046 25	1.00	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P166	14.00 X 27.00	RR 66.73 EL 69.20	0.69 -0.07	30 2019	35 2335	1.16	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

### Vigas do pavimento MURO

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V100	129.14	2 ø 8.0		-220.24 -226.78	2 ø 8.0 2 ø 8.0		
V101	71.21 71.15 70.97 72.75	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-200.13 -213.28 -211.46 -213.01 -207.41	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
V102	69.90 125.51	2 ø 8.0 2 ø 8.0		-205.87 -271.95 -254.30	2 ø 8.0 2 ø 8.0 2 ø 8.0		
V103	115.07	2 ø 8.0		-223.80 -235.67	2 ø 8.0 2 ø 8.0		
V104	69.67 70.84 69.73 69.79 69.87 69.95 70.04 70.18 70.05 71.85 69.09 124.53	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-205.54 -208.78 -209.49 -208.65 -208.80 -208.99 -209.19 -209.44 -209.54 -210.85 -205.48 -269.85 -251.99	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
V105	118.74 70.55 72.77 71.63 71.75 71.69 71.69 71.70 71.73 71.73 73.93 87.32	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-226.61 -240.69 -210.87 -213.98 -213.19 -213.20 -213.15 -213.14 -213.24 -212.98 -215.43 -198.78 -99.63	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga V100


fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P132		27.0 0								0.15			
1	257. 02 239. 02	239. 02	105.0 0	0.00			0.0 7	0.0 0	0.3 1			129.1 4 72.62	- 220.2 4 - 226.7 8
P133		27.0 0								0.17			

## Esforços da Viga V101

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P133		27.0 0								0.17			
1	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 6	0.0 0	0.2 7		71.21	30.92  36.81	- 200.1 3  - 206.8 9
P134		27.0 0								0.31			
2	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 6	0.0 0	0.2 8		71.15	41.08  41.72	- 213.2 8  - 210.3 7
P135		27.0 0								0.31			
3	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 7	0.0 0	0.2 8		70.97	39.52  40.87	- 211.4 6  - 210.0 3
P136		27.0 0								0.31			
4	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 8	0.0 0	0.2 8		72.75	38.90  43.39	- 213.0 1  - 207.4 1
P137		27.0 0								0.17			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga V102

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (%)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P137		27.0 0								0.16			
1	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 9	0.0 0	0.2 8		69.90	44.18 28.15	- 205.8 7 - 225.5 4
P138		27.0 0								0.36			
2	362. 00 344. 00	344. 00	105.0 0	0.00			0.1 3	0.0 0	0.3 3		125.5 1	53.12	- 271.9 5 - 254.3 0
P139		27.0 0								0.20			

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Esforços da Viga V103

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados						Envoltória							
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P140		27.0 0								0.16			
1	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 9	0.0 0	0.3 1		115.0 7	103.1 8 46.27	- 223.8 0 - 235.6 7
P141		27.0 0								0.18			

## Esforços da Viga V104

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados							Envoltória						
Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
P141		27.0 0								0.17			
1	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 8	0.0 0	0.2 7		69.67	29.35 36.68	- 205.5 4 - 205.3 7
P142		27.0 0								0.30			
2	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 7	0.0 0	0.2 8		70.84	39.88 38.26	- 208.7 8 - 209.4 9
P143		27.0 0								0.31			
3	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 6	0.0 0	0.2 8		69.73	38.11 38.12	- 208.4 3 - 208.6 4
P144		27.0 0								0.31			
4	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 6	0.0 0	0.2 8		69.79	38.19 38.26	- 208.6 5 - 208.5 4
P145		27.0 0								0.31			

5	291.00 273.00	273.00	105.00	0.00			0.05	0.00	0.28	69.87	38.02 38.39	-208.80 -208.35
P146		27.00								0.31		
6	291.00 273.00	273.00	105.00	0.00			0.06	0.00	0.28	69.95	37.91 38.53	-208.99 -208.19
P147		27.00								0.31		
7	291.00 273.00	273.00	105.00	0.00			0.07	0.00	0.28	70.04	37.81 38.70	-209.19 -208.06
P148		27.00								0.31		
8	291.00 273.00	273.00	105.00	0.00			0.07	0.00	0.28	70.18	37.70 38.93	-209.44 -207.88
P149		27.00								0.31		
9	291.00 273.00	273.00	105.00	0.00			0.08	0.00	0.28	70.05	37.74 38.82	-209.54 -208.15
P150		27.00								0.31		
10	291.00 273.00	273.00	105.00	0.00			0.09	0.00	0.28	71.85	36.93 41.27	-210.85 -205.48
P151		27.00								0.30		
11	291.00 273.00	273.00	105.00	0.00			0.10	0.00	0.28	69.09	42.28 26.08	-203.79 -223.65

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

P152		27.0 0								0.36			
12	362. 00 344. 00	344. 00	105.0 0	0.00			0.1 4	0.0 0	0.3 3		124.5 3	50.59	- 269.8 5 - 251.9 9
P153		27.0 0								0.20			

## Esforços da Viga V105

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Pilar Trec ho	Apoi o 1 e lo (cm)	Larg Barr a (cm)	Carga distribuída		Temperat ura Caso T1 Caso T2 (°C)	Retraç ão (‰)	Esforço axial		Vd (tf)	Rm áx (tf)	Mdm áx (kgf. m)	Md+ (kgf. m)	Md- (kgf. m)
			Perm · (kgf/ m)	Acid. (kgf/ m)			Nd (tf)	Rd (tf)					
			P154				27.0 0						
1	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 9	0.0 0	0.3 1		118.7 4	108.8 4	- 226.6 1
P155		27.0 0							0.32				
2	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 6	0.0 0	0.2 8		70.55	33.25	- 207.4 7
											38.96		- 209.6 9
P156		27.0 0							0.30				
3	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 6	0.0 0	0.2 8		72.77	44.09	- 210.8 7
											40.63		- 213.9 8
P157		27.0 0							0.31				
4	291. 00 273. 00	273. 00	105.0 0	0.00			0.0 6	0.0 0	0.2 8		71.63	42.35	- 210.5 4
											40.53		- 213.1 9
P158		27.0 0							0.31				

5	291.00 273.00	273.00	105.00	0.00			0.07	0.00	0.28		71.75	42.53 40.73	-210.80 -213.20
P159		27.00								0.31			
6	291.00 273.00	273.00	105.00	0.00			0.07	0.00	0.28		71.69	42.48 40.92	-211.02 -213.15
P160		27.00								0.31			
7	291.00 273.00	273.00	105.00	0.00			0.09	-0.01	0.28		71.69	42.50 41.15	-211.27 -213.14
P161		27.00								0.31			
8	291.00 273.00	273.00	105.00	0.00			0.10	-0.03	0.28		71.70	42.58 41.41	-211.55 -213.24
P162		27.00								0.31			
9	291.00 273.00	273.00	105.00	0.00			0.11	-0.04	0.28		71.73	42.57 41.75	-211.91 -212.98
P163		27.00								0.31			
10	291.00 273.00	273.00	105.00	0.00			0.12	-0.05	0.28		71.73	43.48 41.84	-212.06 -215.43
P164		27.00								0.31			
11	291.00 273.00	273.00	105.00	0.00			0.13	-0.07	0.28		73.93	38.28 44.34	-214.17 -198.78

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

P165		27.0 0								0.28			
12	173. 45 157. 45	157. 45	105.0 0	0.00			0.1 2	- 0.1 1	0.2 7			87.32 79.72	- 187.7 3 - 99.63
P166		14.0 0								0.10			



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga V100

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P132	27.00			2 ø 8.0 0.63					0.00
1	239.02	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P133	27.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga V101

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P133	27.00			2 ø 8.0 0.63					0.00
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P134	27.00			2 ø 8.0 0.63					0.00
2	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P135	27.00			2 ø 8.0 0.63					0.00
3	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P136	27.00			2 ø 8.0 0.63					0.00
4	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P137	27.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga V102

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P137	27.00			2 ø 8.0 0.63					0.00
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P138	27.00			2 ø 8.0 0.63					0.01
2	344.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P139	27.00			2 ø 8.0 0.63					0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Resultados da Viga V103

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P140	27.00			2 ø 8.0 0.63					0.00
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P141	27.00			2 ø 8.0 0.63					0.00

## Resultados da Viga V104

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P141	27.00			2 ø 8.0 0.63					0.00
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P142	27.00			2 ø 8.0 0.63					0.00
2	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P143	27.00			2 ø 8.0 0.63					0.00
3	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P144	27.00			2 ø 8.0 0.63					0.00
4	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P145	27.00			2 ø 8.0 0.63					0.00
5	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P146	27.00			2 ø 8.0 0.63					0.00
6	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P147	27.00			2 ø 8.0 0.63					0.00
7	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P148	27.00			2 ø 8.0 0.63					0.00
8	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P149	27.00			2 ø 8.0 0.63					0.00
9	273.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

		x 30.00	0.63						
P150	27.00			2 ø 8.0 0.63					0.00
10	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P151	27.00			2 ø 8.0 0.63					0.00
11	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P152	27.00			2 ø 8.0 0.63					0.01
12	344.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P153	27.00			2 ø 8.0 0.63					0.00

## Resultados da Viga V105

fck = 250.00 kgf/cm <sup>2</sup>	Ecs = 241500 kgf/cm <sup>2</sup>
Cobrimento = 3.00 cm	Peso específico = 2500.00 kgf/m <sup>3</sup>

Dados			Resultados						
Pilar Trecho	Apoio 1 e 1o (cm)	Seção (cm)	As Inf (cm <sup>2</sup> )	As Sup (cm <sup>2</sup> )	As esq trecho (cm <sup>2</sup> )	Asw min (cm <sup>2</sup> )	As dir trecho (cm <sup>2</sup> )	Asw Pele (cm <sup>2</sup> )	Fissura (mm)
P154	27.00			2 ø 8.0 0.63					0.00
1	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P155	27.00			2 ø 8.0 0.63					0.00
2	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P156	27.00			2 ø 8.0 0.63					0.00
3	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P157	27.00			2 ø 8.0 0.63					0.00
4	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P158	27.00			2 ø 8.0 0.63					0.00
5	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P159	27.00			2 ø 8.0 0.63					0.00
6	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P160	27.00			2 ø 8.0 0.63					0.00
7	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P161	27.00			2 ø 8.0 0.63					0.00
8	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P162	27.00			2 ø 8.0 0.63					0.00
9	273.00	14.00	2 ø 8.0			ø 5.0 c/ 15			0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

		x 30.00	0.63						
P163	27.00			2 ø 8.0 0.63					0.00
10	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P164	27.00			2 ø 8.0 0.63					0.00
11	273.00	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P165	27.00			2 ø 8.0 0.63					0.00
12	157.45	14.00 x 30.00	2 ø 8.0 0.63			ø 5.0 c/ 15			0.00
P166	14.00			2 ø 8.0 0.63					0.00




# MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO E FUNDAÇÕES CED QUADRA 04 AE 02 – ESTRUTURAL (CAIXA ELEVADA DE REUSO)

**Autor do Projeto: Eng. Civil Dalmo Blanco Cinnanti**


**CREA: 7962/D-DF**

REVISÃO	DATA	DESCRIÇÃO	RESPONSÁVEL
R01	29/12/2022	Versão inicial	DALMO CINNANTI
<i>Nome do projeto</i>		<i>MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO – CED – ESTRUTURAL</i>	
<i>Número do projeto</i>		<i>314-SEEDF-CED-ESTRUTURAL QD. 04 - MEM-CAIXA D'ÁGUA REUSO-EST-R01</i>	
<i>Local</i>		<i>Quadra 04 AE 02 - RA XXV - SCIA / ESTRUTURAL - Vila Estrutural - DF</i>	

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Sumário

Memorial de cálculo .....	3
Resumo de resultados .....	3
1. Cargas verticais:.....	3
2. Deslocamento horizontal: .....	3
3. Verificação de estabilidade (Gama-Z): .....	3
4. Análise de 2ª ordem: .....	4
Verificação da Estabilidade Global da Estrutura .....	4
a) Maior coeficiente Gama-Z .....	4
b) Limitações .....	4
c) Coeficiente Gama-Z por combinação .....	5
Pavimento NV-000 .....	7
1. Resultado dos Blocos.....	7
2. Cálculo dos Pilares.....	7
3. Vigas do pavimento NV-000 .....	8
Pavimento NV-245 .....	8
1. Cálculo dos Pilares.....	8
2. Vigas do pavimento NV-245 .....	9
3. Cálculos das Lajes .....	9
Pavimento NV-701 .....	9
1. Cálculo dos Pilares.....	9
2. Vigas do pavimento NV-701 .....	10
3. Cálculos das Lajes .....	11
Pavimento NV-921 .....	11
1. Cálculo dos Pilares.....	11
Pavimento NV-1324 .....	12
1. Cálculo dos Pilares.....	12
2. Vigas do pavimento NV-1324 .....	13
Cálculos do Reservatório .....	13
1. Reservatório SUPERIOR .....	13

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## Memorial de cálculo

### Resumo de resultados

#### 1. Cargas verticais:

Peso próprio = 78.75 tf

Adicional = 16.35 tf

Acidental = 6.41 tf

Água = 37.60 tf

Total = 139.11 tf

Área aproximada = 48.41 m<sup>2</sup>

Relação = 2873.39 kgf/m<sup>2</sup>

#### **AVISO: Relação de carga por área não usual para edifícios**

#### 2. Deslocamento horizontal:

X+ = 0.10 cm (limite 0.83)

X- = 0.10 cm (limite 0.83)

Y+ = 0.13 cm (limite 0.83)

Y- = 0.13 cm (limite 0.83)

#### 3. Verificação de estabilidade (Gama-Z):

X+ = 1.03 (limite 1.10)

X- = 1.03 (limite 1.10)

Y+ = 1.05 (limite 1.10)

Y- = 1.03 (limite 1.10)

#### 4. Análise de 2ª ordem:

Processo P-Delta

Deslocamentos no topo da edificação:

Acidental: 0.01 »» 0.01 (+1.76%)

Água: 0.16 »» 0.16 (+1.94%)

Vento X+: 0.73 »» 0.75 (+2.95%)

Vento X-: 0.73 »» 0.75 (+2.95%)

Vento Y+: 0.82 »» 0.86 (+4.60%)

Vento Y-: 0.82 »» 0.86 (+4.60%)

Desaprumo X+: 0.08 »» 0.08 (+2.95%)

Desaprumo X-: 0.08 »» 0.08 (+2.95%)

Desaprumo Y+: 0.10 »» 0.10 (+4.58%)

Desaprumo Y-: 0.10 »» 0.10 (+4.58%)

### Verificação da Estabilidade Global da Estrutura

#### a) Maior coeficiente Gama-Z

Combinação: 1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.67D3							
Pavimento	Altura relativa (cm)	Carga vertical (tf)	Carga horizontal (tf)	Deslocamento horizontal (cm)	Momento 2a. ordem (kgf.m)	Momento tombamento (kgf.m)	Gama-Z
NV-1324	1419.00	70.27	0.64	1.10	771.48	9143.77	1.05 (lim=1.10)
NV-921	1016.00	45.54	0.95	0.80	363.41	9614.97	
NV-701	796.00	25.49	0.91	0.71	180.25	7224.82	
NV-245	340.00	22.42	0.82	0.26	57.26	2800.63	
NV-000	80.00	15.65	0.07	0.02	3.27	53.29	
<b>TOTAL</b>					<b>1375.67</b>	<b>28837.48</b>	

#### b) Limitações

Em estruturas com Gama-Z maior que 1.10 é necessário fazer a verificação dos efeitos de 2ª ordem com a análise P-Delta.

O Gama-Z é um parâmetro de estabilidade para avaliação de estruturas simétricas (tanto geometria quanto carregamento) e edificações com mais de 4 pavimentos. Nos demais casos, recomenda-se a verificação dos efeitos de 2ª ordem com a análise P-Delta.

c) Coeficiente Gama-Z por combinação

Combinação	Momento 2a. ordem (kgf.m)	Momento tombamento (kgf.m)	Gama-Z
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.67D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.11D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.67D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.11D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.67D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.11D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.67D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.11D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.67D1	1444.24	58599.75	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.67D2	1444.27	58599.75	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.67D3	2003.12	48062.46	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.67D4	1252.24	48062.46	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.67D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.11D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.67D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.11D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.67D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.11D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.67D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.11D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.67D1	1444.24	58599.75	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.67D2	1444.27	58599.75	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.67D3	2003.12	48062.46	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.67D4	1252.24	48062.46	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.67D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.11D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.67D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.11D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.67D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.11D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.67D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.11D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.67D1	1444.24	58599.75	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.67D2	1444.27	58599.75	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.67D3	2003.12	48062.46	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.67D4	1252.24	48062.46	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.67D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.11D1	926.81	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.67D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.11D2	926.83	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.67D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.11D3	1351.65	28837.48	1.05
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.67D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.11D4	602.35	28837.48	1.02
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.67D1	1444.24	58599.75	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.67D2	1444.27	58599.75	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.67D3	2003.12	48062.46	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.67D4	1252.24	48062.46	1.03
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.67D1	942.69	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.67D2	942.71	35159.85	1.03
<b>1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.67D3</b>	<b>1375.67</b>	<b>28837.48</b>	<b>1.05</b>
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.67D4	607.75	28837.48	1.02



1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.67D1	942.69	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.67D2	942.71	35159.85	1.03
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.67D3	1375.67	28837.48	1.05
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.67D4	607.75	28837.48	1.02
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.67D1	942.69	35159.85	1.03
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.67D2	942.71	35159.85	1.03
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.67D3	1375.67	28837.48	1.05
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.67D4	607.75	28837.48	1.02
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.67D1	942.69	35159.85	1.03
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.67D2	942.71	35159.85	1.03
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.67D3	1375.67	28837.48	1.05
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.67D4	607.75	28837.48	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.67D1	771.04	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.11D1	771.04	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.67D2	771.06	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.11D2	771.06	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.67D3	1115.08	28837.48	1.04
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.11D3	1115.08	28837.48	1.04
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.67D4	538.67	28837.48	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.11D4	538.67	28837.48	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.67D1	1215.32	58599.75	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.67D2	1215.34	58599.75	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.67D3	1666.68	48062.46	1.04
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.67D4	1089.36	48062.46	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.67D1	771.04	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.11D1	771.04	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.67D2	771.06	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.11D2	771.06	35159.85	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.67D3	1115.08	28837.48	1.04
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.11D3	1115.08	28837.48	1.04
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.67D4	538.67	28837.48	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.11D4	538.67	28837.48	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.67D1	1215.32	58599.75	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.67D2	1215.34	58599.75	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.67D3	1666.68	48062.46	1.04
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.67D4	1089.36	48062.46	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.67D1	786.15	35159.85	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.67D2	786.17	35159.85	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.67D3	1138.00	28837.48	1.04
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.67D4	545.14	28837.48	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.67D1	786.15	35159.85	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.67D2	786.17	35159.85	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.67D3	1138.00	28837.48	1.04
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.67D4	545.14	28837.48	1.02

## Pavimento NV-000

### 1. Resultado dos Blocos

<b>NV-000</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 4.50 cm	

Blocos	ne Estaca	LB LH (cm)	hb (cm)	Principal (cm <sup>2</sup> )		Estribo (cm <sup>2</sup> )		Superior (cm <sup>2</sup> )		As dist. (cm <sup>2</sup> )
				X	Y	Hor.	Vert.	X	Y	
B1	3 C40-17m	200.83 173.92	65.00	7.85 (10 ø 10.0)	-	3.93 (5 ø 10.0)	-	7.07 (9 ø 10.0)	7.85 (10 ø 10.0)	2.01 (ø 8.0 c/20)
B2	3 C40-17m	200.83 173.92	65.00	7.85 (10 ø 10.0)	-	3.93 (5 ø 10.0)	-	7.07 (9 ø 10.0)	7.85 (10 ø 10.0)	2.01 (ø 8.0 c/20)
B5	3 C40-17m	200.83 173.92	65.00	8.64 (11 ø 10.0)	-	3.93 (5 ø 10.0)	-	7.07 (9 ø 10.0)	7.85 (10 ø 10.0)	2.26 (ø 8.0 c/20)
B6	3 C40-17m	200.83 173.92	65.00	8.64 (11 ø 10.0)	-	3.93 (5 ø 10.0)	-	7.07 (9 ø 10.0)	7.85 (10 ø 10.0)	2.26 (ø 8.0 c/20)

### 2. Cálculo dos Pilares

	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 60.00	RR 13.49 RR 4.50	45.22 21.51	1771 5086	3132 8996	(*) 1.77	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P2	20.00 X 60.00	RR 13.49 RR 4.50	45.22 21.51	1771 5086	3132 8997	(*) 1.77	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P5	20.00 X 60.00	RR 12.97 RR 4.33	55.36 24.20	2452 5045	3685 7582	(*) 1.50	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P6	20.00 X 60.00	RR 12.97 RR 4.33	55.36 24.20	2452 5045	3685 7582	(*) 1.50	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)

(\*) Quantidade de barras alterada pelo usuário (para mais)

### 3. Vigas do pavimento NV-000

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	840.69	2 ø 10.0		-1295.43 -1295.40	2 ø 10.0 2 ø 10.0		Aviso 26
VB2	838.25	2 ø 10.0		-1154.86 -1154.89	2 ø 10.0 2 ø 10.0		Aviso 26
VB3	15156.25	2 ø 22.2		-4766.18 -4234.57	2 ø 12.5 2 ø 12.5		Avisos 13, 38
VB4	15156.09	2 ø 22.2		-4766.12 -4234.59	2 ø 12.5 2 ø 12.5		Avisos 13, 38

## Pavimento NV-245

### 1. Cálculo dos Pilares

<b>NV-245</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 2</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 60.00	RR 44.98 RR 14.99	36.73 16.09	2778 1208	4573 1988	(*) 1.65	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P2	20.00 X 60.00	RR 44.98 RR 14.99	36.73 16.09	2778 1208	4573 1988	(*) 1.65	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P5	20.00 X 60.00	RR 44.98 RR 14.99	39.96 15.67	2087 2068	4134 4096	(*) 1.98	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P6	20.00 X 60.00	RR 44.98 RR 14.99	39.96 15.67	2087 2068	4134 4096	(*) 1.98	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P7	15.00 X 60.00	RR 59.97 RR 14.99	21.66 7.54	441 10340	540 12647	(*) 1.22	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P8	15.00 X 60.00	RR 59.97 RR 14.99	21.66 7.54	441 10340	540 12647	(*) 1.22	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)

(\*) Quantidade de barras alterada pelo usuário (para mais)



## 2. Vigas do pavimento NV-245

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V101	1369.29	2 ø 10.0		-2616.67 -2616.58	2 ø 10.0 2 ø 10.0		
V102	1158.89	2 ø 10.0		-1068.55 -1068.57	2 ø 10.0 2 ø 10.0		
V103	1907.74	2 ø 10.0		-4314.86 -4314.97	2 ø 12.5 2 ø 12.5		Avisos 26, 48
V104	3924.79	2 ø 10.0		-2293.49 -3917.05	2 ø 10.0 2 ø 12.5		
V105	3924.88	2 ø 10.0		-2293.41 -3917.12	2 ø 10.0 2 ø 12.5		

## 3. Cálculos das Lajes

	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 2</b>		cobr = 2.50 cm	

Laje	Direção	Momento positivo		Momento negativo	Armadura inferior	Cisalhamento
		Seção	Flexão	Seção		
L101	X	bw = 100.0 cm h = 15.0 cm	Md = 757 kgf.m/m  As = 1.45 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 324.53 kgf.m/m F = 0.00 tf fiss = 0.04 mm	vsd = 0.98 tf/m vrd1 = 8.16 tf/m Modelo II vrd2 = 59.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 757 kgf.m/m  As = 1.53 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 1.53 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 341.99 kgf.m/m F = 0.00 tf fiss = 0.04 mm	vsd = 1.03 tf/m vrd1 = 7.79 tf/m vrd2 = 56.29 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

## Pavimento NV-701

### 1. Cálculo dos Pilares

<b>NV-701</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 3</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm²)
P1	20.00 X 60.00	RR	30.02 12.64	3404 1552	4206 1918	(*) 1.24	2.45
		78.89					(2 ø 12.5)
		RR					3.68
P2	20.00 X 60.00	RR	30.02 12.64	3404 1552	4206 1918	(*) 1.24	2.45
		78.89					(2 ø 12.5)
		RR					3.68
P5	20.00 X 60.00	RR	34.96 12.74	2581 1468	4386 2494	(*) 1.70	2.45
		78.89					(2 ø 12.5)
		RR					3.68
P6	20.00 X 60.00	RR	34.96 12.74	2581 1468	4386 2494	(*) 1.70	2.45
		78.89					(2 ø 12.5)
		RR					3.68
P7	15.00 X 60.00	RR	16.01 4.82	1438 2431	2016 3409	(*) 1.40	2.45
		105.18					(2 ø 12.5)
		RR					3.68
P8	15.00 X 60.00	RR	16.01 4.82	1438 2431	2016 3409	(*) 1.40	2.45
		105.18					(2 ø 12.5)
		RR					3.68
		26.30					(3 ø 12.5)

(\*) Quantidade de barras alterada pelo usuário (para mais)

## 2. Vigas do pavimento NV-701

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V201	2109.47	2 ø 12.5		-3194.92 -3194.77	2 ø 12.5 2 ø 12.5		
V202	1341.44	2 ø 10.0		-664.63 -664.64	2 ø 10.0 2 ø 10.0		
V203	1622.22	2 ø 20.0	2 ø 20.0	-2892.88 -2892.97	2 ø 20.0 2 ø 20.0	2 ø 20.0 2 ø 20.0	Aviso 26
V204	11944.58	2 ø 20.0		-4163.93 -4617.69	2 ø 12.5 2 ø 12.5		Aviso 04
V205	11944.63	2 ø 20.0		-4163.84 -4617.74	2 ø 12.5 2 ø 12.5		Aviso 04

### 3. Cálculos das Lajes

<b>NV-701</b>	$f_{ck} = 300.00 \text{ kgf/cm}^2$	$E = 268384 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 3</b>		$\text{cobr} = 2.50 \text{ cm}$	

Laje	Direção	Momento positivo	Flexão	Momento negativo	Armadura inferior	Cisalhamento
		Seção		Seção		
L201	X	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 757 \text{ kgf.m/m}$  $As = 1.45 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$As = 1.51 \text{ cm}^2/\text{m}$ $\phi 6.3 \text{ c}/20$ $(1.56 \text{ cm}^2/\text{m})$ $M = 331.50 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.04 \text{ mm}$	$v_{sd} = 1.08 \text{ tf/m}$ $v_{rd1} = 8.16 \text{ tf/m}$ Modelo II $v_{rd2} = 59.49 \text{ tf/m}$ $v_{sw} = 0.00 \text{ tf/m}$ $asw = 0.00 \text{ cm}^2/\text{m}$
	Y	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 757 \text{ kgf.m/m}$  $As = 1.53 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$As = 1.53 \text{ cm}^2/\text{m}$ $\phi 6.3 \text{ c}/20$ $(1.56 \text{ cm}^2/\text{m})$ $M = 332.79 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.04 \text{ mm}$	$v_{sd} = 1.09 \text{ tf/m}$ $v_{rd1} = 7.79 \text{ tf/m}$ $v_{rd2} = 56.29 \text{ tf/m}$ $v_{sw} = 0.00 \text{ tf/m}$ $asw = 0.00 \text{ cm}^2/\text{m}$

### Pavimento NV-921

#### 1. Cálculo dos Pilares

<b>NV-921</b>	$f_{ck} = 300.00 \text{ kgf/cm}^2$	$E = 268384 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 4</b>		$\text{cobr} = 3.00 \text{ cm}$	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )				
P1	20.00	RR	13.24	2613	3196	(*)	2.45				
	X	107.78					6.47	1250	1528	1.22	(2 $\phi$ 12.5)
	60.00	RR					12.69				3.68 (3 $\phi$ 12.5)
P2	20.00	RR	13.23	2613	3196	(*)	2.45				
	X	107.78					6.47	1250	1528	1.22	(2 $\phi$ 12.5)
	60.00	RR					12.69				3.68 (3 $\phi$ 12.5)
P3	15.00	RR	21.57	1095	1321	(*)	1.57				
	X	50.75					6.67	5617	6776	1.21	(2 $\phi$ 10.0)
	60.00	RR					12.69				2.36 (3 $\phi$ 10.0)
P4	15.00	RR	21.57	1095	1321	(*)	1.57				
	X	50.75					6.67	5617	6776	1.21	(2 $\phi$ 10.0)
	60.00	RR					12.69				2.36 (3 $\phi$ 10.0)
P5	20.00	RR	30.37	749	2000	(*)	2.45				
	X	38.06					11.00	4705	12555	2.67	(2 $\phi$ 12.5)
	60.00	RR					12.69				3.68 (3 $\phi$ 12.5)
P6	20.00	RR	30.37	749	2000	(*)	2.45				
	X	38.06					11.00	4705	12555	2.67	(2 $\phi$ 12.5)
	60.00	RR					12.69				3.68 (3 $\phi$ 12.5)

(\*) Quantidade de barras alterada pelo usuário (para mais)

Vigas do pavimento NV-921

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V301	1153.29	2 ø 10.0		-2016.54 -2016.47	2 ø 10.0 2 ø 10.0		

Pavimento NV-1324

### 1. Cálculo dos Pilares

<b>NV-1324</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 5</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 60.00	RR	9.54 3.63	2045 3606	2589 4566	(*) 1.27	2.45 (2 ø 12.5)
		RR					3.68 (3 ø 12.5)
P2	20.00 X 60.00	RR	9.54 3.63	2045 3606	2589 4566	(*) 1.27	2.45 (2 ø 12.5)
		RR					3.68 (3 ø 12.5)
P3	15.00 X 60.00	RR	9.14 -1.51	906 1772	1377 2692	(*) 1.52	1.57 (2 ø 10.0)
		RR					2.36 (3 ø 10.0)
P4	15.00 X 60.00	RR	9.14 -1.51	906 1772	1377 2692	(*) 1.52	1.57 (2 ø 10.0)
		RR					2.36 (3 ø 10.0)
P5	20.00 X 60.00	RR	22.33 0.10	1464 2247	3263 5010	(*) 2.23	2.45 (2 ø 12.5)
		RR					3.68 (3 ø 12.5)
P6	20.00 X 60.00	RR	22.33 0.10	1464 2247	3263 5010	(*) 2.23	2.45 (2 ø 12.5)
		RR					3.68 (3 ø 12.5)

(\*) Quantidade de barras alterada pelo usuário (para mais)

## 2. Vigas do pavimento NV-1324

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V401	1157.87	2 ø 10.0	2 ø 10.0	-1581.53 -1581.46	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	
V402	0.11	4 ø 6.3		-3.04 -15.74	4 ø 6.3 4 ø 6.3		Aviso 02
V403	1933.73	8 ø 10.0	8 ø 10.0	-1075.13	8 ø 10.0	8 ø 6.3	Aviso 38
V404	0.11	4 ø 6.3		-3.04 -15.74	4 ø 6.3 4 ø 6.3		Aviso 02
V405	1933.73	8 ø 10.0	8 ø 10.0	-1075.13	8 ø 10.0	8 ø 6.3	Aviso 38

## Cálculos do Reservatório

NV-1324	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
Lance 5		cobr = 3.00 cm	

### 1. Reservatório SUPERIOR

ARMADURAS POSITIVAS (LAJE)										
Trecho	Direção	Momento positivo			Momento negativo			Armadura inferior	Armadura superior	Cisalhamento
		Flexão	Verificação axial (compressão)	Verificação axial (tração)	Flexão	Verificação axial (compressão)	Verificação axial (tração)			
L301	X	Md = 757 kgf.m/m As = 1.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.35 tf Situação: GE As = 2.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1419 kgf.m/m As = 2.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.35 tf Situação: GE As = 4.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.34 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 437.63 kgf.m/m F = 5.55 tf fiss = 0.05 mm		vsd = 4.71 tf/m vrd1 = 8.26 tf/m Modelo II vrd2 = 56.01 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m As = 1.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.35 tf Situação: PE As = 1.21 cm <sup>2</sup> /m A's = 0.38 cm <sup>2</sup> /m	Md = 692 kgf.m/m As = 1.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.31 tf Situação: GE As = 1.49 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.35 tf Situação: GE As = 2.57 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.67 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 103.82 kgf.m/m F = 3.76 tf fiss = 0.02 mm		vsd = 3.16 tf/m vrd1 = 7.42 tf/m vrd2 = 51.42 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L302	X	Md = 757		Fd = 8.35 tf	Md = 1419		Fd = 8.35 tf	As = 2.34 cm <sup>2</sup> /m ø10.0 c/20		vsd = 4.71 tf/m

		kgf.m/m As = 1.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Situação: GE As = 2.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	kgf.m/m As = 2.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Situação: GE As = 4.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	(3.93 cm <sup>2</sup> /m) M = 437.65 kgf.m/m F = 5.55 tf fiss = 0.05 mm		vr d1 = 8.26 tf/m Modelo II vr d2 = 56.01 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m As = 1.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.35 tf Situação: PE As = 1.21 cm <sup>2</sup> /m A's = 0.38 cm <sup>2</sup> /m	Md = 692 kgf.m/m As = 1.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.31 tf Situação: GE As = 1.49 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.35 tf Situação: GE As = 2.57 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.67 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 103.84 kgf.m/m F = 3.76 tf fiss = 0.02 mm		vsd = 3.16 tf/m vr d1 = 7.42 tf/m vr d2 = 51.42 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L405	X	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.72 tf Situação: GE As = 0.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.75 tf Situação: GE As = 0.57 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 368 kgf.m/m As = 0.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.72 tf Situação: GE As = 0.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.75 tf Situação: GE As = 0.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 173.38 kgf.m/m F = 0.48 tf fiss = 0.01 mm		vsd = 2.66 tf/m vr d1 = 7.86 tf/m Modelo II vr d2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 828 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.26 tf Situação: GE As = 1.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Md = 149 kgf.m/m As = 0.26 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 601.59 kgf.m/m F = 0.00 tf fiss = 0.08 mm		vsd = 2.79 tf/m vr d1 = 7.65 tf/m vr d2 = 53.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L406	X	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.72 tf Situação: GE As = 0.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.75 tf Situação: GE As = 0.57 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 368 kgf.m/m As = 0.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.72 tf Situação: GE As = 0.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.75 tf Situação: GE As = 0.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 173.38 kgf.m/m F = 0.48 tf fiss = 0.01 mm		vsd = 2.66 tf/m vr d1 = 7.86 tf/m Modelo II vr d2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 828 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.26 tf Situação: GE As = 1.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Md = 149 kgf.m/m As = 0.26 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 601.57 kgf.m/m F = 0.00 tf fiss = 0.08 mm		vsd = 2.79 tf/m vr d1 = 7.65 tf/m vr d2 = 53.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L407	X	Md = 2329 kgf.m/m	Fd = 0.30 tf Situação: GE As = 5.01 cm <sup>2</sup> /m	Fd = 0.31 tf Situação: GE	Md = 707 kgf.m/m	Fd = 0.30 tf Situação: GE As = 1.37 cm <sup>2</sup> /m	Fd = 0.31 tf Situação: GE	As = 5.10 cm <sup>2</sup> /m ø16.0 c/20 (10.05 cm <sup>2</sup> /m)	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)	vsd = 4.30 tf/m vr d1 = 9.41 tf/m Modelo II

		As = 5.06 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m	As = 5.10 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 1702.91 kgf.m/m F = 0.16 tf fiss = 0.08 mm	M = 529.72 kgf.m/m F = 0.16 tf fiss = 0.08 mm	vr d2 = 54.48 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 1133 kgf.m/m As = 2.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.20 tf Situação: GE As = 2.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1474 kgf.m/m As = 3.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.20 tf Situação: GE As = 3.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.75 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 832.82 kgf.m/m F = 0.13 tf fiss = 0.10 mm	A's = 5.15 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1031.22 kgf.m/m F = 0.13 tf fiss = 0.08 mm	vsd = 9.02 tf/m vr d1 = 7.31 tf/m vr d2 = 47.86 tf/m vsw = 0.86 tf/m asw = 4.06 cm <sup>2</sup> /m
L408	X	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			Md = 22 kgf.m/m As = 0.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 4.54 kgf.m/m F = 0.00 tf fiss = 0.00 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 14.58 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 0.27 tf/m vr d1 = 7.86 tf/m Modelo II vr d2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.62 tf Situação: GE As = 0.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.05 tf Situação: GE As = 0.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 251 kgf.m/m As = 0.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.62 tf Situação: GE As = 0.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.05 tf Situação: GE As = 0.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 148.96 kgf.m/m F = 0.00 tf fiss = 0.01 mm	A's = 2.38 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 145.61 kgf.m/m F = 0.00 tf fiss = 0.03 mm	vsd = 0.36 tf/m vr d1 = 7.51 tf/m vr d2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L409	X	Md = 565 kgf.m/m As = 1.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.02 tf Situação: GE As = 0.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.05 tf Situação: GE As = 0.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 69 kgf.m/m As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.02 tf Situação: GE As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.05 tf Situação: GE As = 0.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.12 cm <sup>2</sup> /m ø6.3 c/25 (1.25 cm <sup>2</sup> /m) M = 51.67 kgf.m/m F = 0.03 tf fiss = 0.00 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 50.76 kgf.m/m F = 0.03 tf fiss = 0.00 mm	vsd = 3.34 tf/m vr d1 = 7.80 tf/m Modelo II vr d2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 2538 kgf.m/m As = 5.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.35 tf Situação: GE As = 5.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.99 tf Situação: GE As = 6.22 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1009 kgf.m/m As = 2.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.35 tf Situação: GE As = 1.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.99 tf Situação: GE As = 2.47 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 12.26 cm <sup>2</sup> /m ø16.0 c/16 (12.57 cm <sup>2</sup> /m) M = 1850.92 kgf.m/m F = 1.12 tf fiss = 0.07 mm	A's = 2.39 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 775.11 kgf.m/m F = 1.12 tf fiss = 0.09 mm	vsd = 2.70 tf/m vr d1 = 9.58 tf/m vr d2 = 51.27 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L410	X	Md = 565 kgf.m/m	Fd = 0.02 tf Situação: GE As = 0.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.05 tf Situação: GE As = 0.15 cm <sup>2</sup> /m	Md = 69 kgf.m/m	Fd = 0.02 tf Situação: GE As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.05 tf Situação: GE As = 0.12 cm <sup>2</sup> /m	As = 1.12 cm <sup>2</sup> /m ø6.3 c/25 (1.25 cm <sup>2</sup> /m) M = 51.67 kgf.m/m	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 50.76 kgf.m/m	vsd = 3.34 tf/m vr d1 = 7.80 tf/m Modelo II vr d2 = 56.95 tf/m

		As = 1.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		A's = 0.00 cm <sup>2</sup> /m	As = 0.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		A's = 0.00 cm <sup>2</sup> /m	F = 0.03 tf fiss = 0.00 mm	F = 0.03 tf fiss = 0.00 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
	Y	Md = 2538 kgf.m/m As = 5.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.35 tf Situação: GE As = 5.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.99 tf Situação: GE As = 6.22 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1009 kgf.m/m As = 2.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 1.99 tf Situação: GE As = 2.47 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 12.26 cm <sup>2</sup> /m ø16.0 c/16 (12.57 cm <sup>2</sup> /m) M = 1850.92 kgf.m/m F = 1.12 tf fiss = 0.07 mm	A's = 2.39 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 775.11 kgf.m/m F = 1.12 tf fiss = 0.09 mm	vsd = 2.70 tf/m vr1 = 9.58 tf/m vr2 = 51.27 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
L411	X	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.02 tf Situação: GE As = 0.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 11 kgf.m/m As = 0.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.02 tf Situação: GE As = 0.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 3.25 kgf.m/m F = 0.01 tf fiss = 0.00 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 7.50 kgf.m/m F = 0.01 tf fiss = 0.00 mm	vsd = 0.23 tf/m vr1 = 7.86 tf/m Modelo II vr2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
	Y	Md = 757 kgf.m/m As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			Md = 98 kgf.m/m As = 0.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 1.49 kgf.m/m F = 0.00 tf fiss = 0.00 mm	A's = 2.38 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 67.48 kgf.m/m F = 0.00 tf fiss = 0.01 mm	vsd = 0.60 tf/m vr1 = 7.51 tf/m vr2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
PAR1-A	X	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.53 tf Situação: GE As = 0.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.62 tf Situação: GE As = 1.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 1.53 tf Situação: GE As = 0.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.62 tf Situação: GE As = 1.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 238.91 kgf.m/m F = 2.99 tf fiss = 0.06 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 109.84 kgf.m/m F = 2.99 tf fiss = 0.03 mm	vsd = 3.59 tf/m vr1 = 7.86 tf/m Modelo II vr2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m As = 1.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: GE As = 2.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.41 cm <sup>2</sup> /m A's = 0.49 cm <sup>2</sup> /m	As = 2.14 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 296.75 kgf.m/m F = 5.07 tf fiss = 0.06 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 105.02 kgf.m/m F = 5.07 tf fiss = 0.05 mm	vsd = 4.22 tf/m vr1 = 7.65 tf/m vr2 = 53.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m	
PAR1-B	X	Md = 757 kgf.m/m	Fd = 1.53 tf Situação: GE As = 0.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.62 tf Situação: GE As = 1.25 cm <sup>2</sup> /m	Md = 757 kgf.m/m		Fd = 1.53 tf Situação: GE As = 0.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.62 tf Situação: GE As = 1.12 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)	vsd = 3.59 tf/m vr1 = 7.86 tf/m Modelo II vr2 = 56.95 tf/m



		As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		A's = 0.00 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		A's = 0.00 cm <sup>2</sup> /m	M = 238.90 kgf.m/m F = 2.99 tf fiss = 0.06 mm	M = 109.85 kgf.m/m F = 2.99 tf fiss = 0.03 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m  As = 1.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: GE As = 2.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m  As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.41 cm <sup>2</sup> /m A's = 0.49 cm <sup>2</sup> /m	As = 2.14 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 296.74 kgf.m/m F = 5.07 tf fiss = 0.06 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 105.02 kgf.m/m F = 5.07 tf fiss = 0.05 mm	vsd = 4.22 tf/m vrd1 = 7.65 tf/m vrd2 = 53.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR2-A	X	Md = 757 kgf.m/m  As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.08 tf Situação: GE As = 1.48 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m  As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.08 tf Situação: PE As = 1.02 cm <sup>2</sup> /m A's = 0.38 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 243.62 kgf.m/m F = 4.00 tf fiss = 0.08 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 75.63 kgf.m/m F = 4.00 tf fiss = 0.03 mm	vsd = 2.70 tf/m vrd1 = 7.86 tf/m Modelo II vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m  As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.66 tf Situação: GE As = 0.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m  As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.66 tf Situação: GE As = 0.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 115.07 kgf.m/m F = 2.35 tf fiss = 0.02 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 86.37 kgf.m/m F = 2.35 tf fiss = 0.02 mm	vsd = 2.68 tf/m vrd1 = 7.51 tf/m vrd2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR2-B	X	Md = 757 kgf.m/m  As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.08 tf Situação: GE As = 1.48 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m  As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.08 tf Situação: PE As = 1.02 cm <sup>2</sup> /m A's = 0.38 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 243.63 kgf.m/m F = 4.00 tf fiss = 0.08 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 75.63 kgf.m/m F = 4.00 tf fiss = 0.03 mm	vsd = 2.70 tf/m vrd1 = 7.86 tf/m Modelo II vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m  As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.66 tf Situação: GE As = 0.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m  As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.66 tf Situação: GE As = 0.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 115.08 kgf.m/m F = 2.35 tf fiss = 0.02 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 86.37 kgf.m/m F = 2.35 tf fiss = 0.02 mm	vsd = 2.68 tf/m vrd1 = 7.51 tf/m vrd2 = 53.74 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR3	X	Md = 757 kgf.m/m  As = 1.52 cm <sup>2</sup> /m	Fd = 5.36 tf Situação: GE As = 0.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.77 tf Situação: GE As = 2.20 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m  As = 1.52 cm <sup>2</sup> /m		Fd = 6.77 tf Situação: GE As = 1.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.20 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 497.86 kgf.m/m	A's = 1.69 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 181.23 kgf.m/m	vsd = 3.31 tf/m vrd1 = 8.02 tf/m Modelo II vrd2 = 56.51 tf/m

		A's = 0.00 cm <sup>2</sup> /m			A's = 0.00 cm <sup>2</sup> /m			F = 3.32 tf fiss = 0.09 mm	F = 3.32 tf fiss = 0.02 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m As = 1.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: GE As = 2.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m As = 1.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.33 cm <sup>2</sup> /m A's = 0.56 cm <sup>2</sup> /m	As = 2.21 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 349.58 kgf.m/m F = 5.07 tf fiss = 0.08 mm	A's = 1.64 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 77.81 kgf.m/m F = 5.07 tf fiss = 0.02 mm	vsd = 4.14 tf/m vrd1 = 7.54 tf/m vrd2 = 52.44 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR4	X	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.16 tf Situação: PE As = 0.63 cm <sup>2</sup> /m A's = 0.56 cm <sup>2</sup> /m	Md = 757 kgf.m/m As = 1.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.16 tf Situação: PE As = 0.63 cm <sup>2</sup> /m A's = 0.56 cm <sup>2</sup> /m	As = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 0.41 kgf.m/m F = 3.57 tf fiss = 0.01 mm	A's = 1.51 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 2.57 kgf.m/m F = 3.57 tf fiss = 0.01 mm	vsd = 0.03 tf/m vrd1 = 7.86 tf/m Modelo II vrd2 = 56.95 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m As = 1.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 9.69 tf Situação: GE As = 2.28 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m As = 1.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 9.69 tf Situação: PE As = 1.58 cm <sup>2</sup> /m A's = 0.65 cm <sup>2</sup> /m	As = 2.28 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.49 kgf.m/m F = 6.49 tf fiss = 0.02 mm	A's = 1.60 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 105.02 kgf.m/m F = 6.49 tf fiss = 0.07 mm	vsd = 0.03 tf/m vrd1 = 7.65 tf/m vrd2 = 53.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
PAR5	X	Md = 757 kgf.m/m As = 1.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.36 tf Situação: GE As = 0.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.77 tf Situação: GE As = 2.20 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m As = 1.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.77 tf Situação: GE As = 1.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.20 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 497.85 kgf.m/m F = 3.32 tf fiss = 0.09 mm	A's = 1.69 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 181.21 kgf.m/m F = 3.32 tf fiss = 0.02 mm	vsd = 3.31 tf/m vrd1 = 8.02 tf/m Modelo II vrd2 = 56.51 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 757 kgf.m/m As = 1.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: GE As = 2.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 757 kgf.m/m As = 1.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.33 cm <sup>2</sup> /m A's = 0.56 cm <sup>2</sup> /m	As = 2.21 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 349.57 kgf.m/m F = 5.07 tf fiss = 0.08 mm	A's = 1.64 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 77.80 kgf.m/m F = 5.07 tf fiss = 0.02 mm	vsd = 4.14 tf/m vrd1 = 7.54 tf/m vrd2 = 52.44 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

<b>ARMADURAS NEGATIVAS (NA CONTINUIDADE)</b>					
<b>Viga</b>	<b>Laje 1</b>	<b>Momento negativo</b>			<b>Armaduras finais</b>
		<b>Flexão</b>	<b>Flexo compressão</b>	<b>Flexo tração</b>	
<b>Trecho</b>	<b>Laje 2</b>				
Barra	L301 PAR4	Md = 1151 kgf.m/m As = 2.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.12 tf Situação: GE As = 1.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.61 tf Situação: GE As = 3.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.81 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR4 L302	Md = 1151 kgf.m/m As = 2.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.12 tf Situação: GE As = 1.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.61 tf Situação: GE As = 3.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.81 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	L302 L301	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.35 tf Situação: PE As = 0.99 cm <sup>2</sup> /m A's = 0.93 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L301 PAR1-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: GE As = 2.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.60 cm <sup>2</sup> /m (ø8.0 c/19 - 2.65 cm <sup>2</sup> /m) fiss = 0.10 mm
Barra	PAR1-B L301	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.70 cm <sup>2</sup> /m A's = 0.49 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm
Barra	L301 PAR3	Md = 1443 kgf.m/m As = 3.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.84 tf Situação: GE As = 1.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.21 tf Situação: GE As = 4.22 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.22 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	PAR3 L301	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.26 cm <sup>2</sup> /m A's = 0.63 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	L301 PAR2-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.67 tf Situação: GE As = 0.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.59 tf Situação: GE As = 1.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR2-A L301	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.59 tf Situação: GE As = 1.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	L302 PAR5	Md = 1443 kgf.m/m As = 3.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 9.84 tf Situação: GE As = 1.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.21 tf Situação: GE As = 4.22 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.22 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm
Barra	PAR5 L302	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.46 cm <sup>2</sup> /m A's = 0.49 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	L302 PAR1-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: GE As = 2.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.60 cm <sup>2</sup> /m (ø8.0 c/19 - 2.65 cm <sup>2</sup> /m) fiss = 0.10 mm
Barra	PAR1-A L302	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 8.21 tf Situação: PE As = 1.70 cm <sup>2</sup> /m A's = 0.49 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.04 mm

Barra	L302 PAR2-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.67 tf Situação: GE As = 0.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.59 tf Situação: GE As = 1.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR2-B L302	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.59 tf Situação: GE As = 1.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.03 mm
Barra	L406 L407	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.29 tf Situação: GE As = 0.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L407 PAR1-A	Md = 2100 kgf.m/m As = 4.53 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.42 tf Situação: GE As = 3.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.21 tf Situação: GE As = 5.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.73 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.08 mm
Barra	PAR1-A L406	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.42 tf Situação: GE As = 0.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.21 tf Situação: GE As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.90 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR1-A PAR5	Md = 1149 kgf.m/m As = 2.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.36 tf Situação: GE As = 1.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.77 tf Situação: GE As = 3.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.39 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR5 PAR1-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.77 tf Situação: PE As = 0.87 cm <sup>2</sup> /m A's = 0.68 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR1-A PAR1-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 4.62 tf Situação: PE As = 0.58 cm <sup>2</sup> /m A's = 0.48 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	PAR1-B PAR4	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.42 tf Situação: GE As = 0.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.14 tf Situação: GE As = 1.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR4 PAR1-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.42 tf Situação: GE As = 0.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.14 tf Situação: GE As = 1.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L405 L407	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 0.29 tf Situação: GE As = 0.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L407 PAR1-B	Md = 2100 kgf.m/m As = 4.53 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.42 tf Situação: GE As = 3.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.21 tf Situação: GE As = 5.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.73 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.08 mm
Barra	PAR1-B L405	Md = 1130 kgf.m/m As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.42 tf Situação: GE As = 0.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 8.21 tf Situação: GE As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.90 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR1-B	Md = 1130 kgf.m/m		Fd = 6.77 tf Situação: PE	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m)

	PAR3	As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 0.87 cm <sup>2</sup> /m A's = 0.68 cm <sup>2</sup> /m	fiss = 0.01 mm
Barra	PAR3 PAR1-B	Md = 1149 kgf.m/m As = 2.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.36 tf Situação: GE As = 1.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.77 tf Situação: GE As = 3.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.39 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L405 L411	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.80 tf Situação: GE As = 0.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.95 tf Situação: GE As = 0.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L411 PAR2-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.83 tf Situação: PE As = 1.14 cm <sup>2</sup> /m A's = 0.43 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	PAR2-A L405	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.83 tf Situação: PE As = 1.10 cm <sup>2</sup> /m A's = 0.47 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	PAR2-A PAR3	Md = 1202 kgf.m/m As = 2.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.91 tf Situação: GE As = 1.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.76 tf Situação: GE As = 3.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.35 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR3 PAR2-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.76 tf Situação: PE As = 0.81 cm <sup>2</sup> /m A's = 0.51 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	PAR2-B PAR4	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.41 tf Situação: GE As = 0.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.08 tf Situação: GE As = 2.00 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR4 PAR2-A	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.41 tf Situação: GE As = 0.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.08 tf Situação: GE As = 2.00 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	PAR2-A PAR2-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.08 tf Situação: PE As = 0.74 cm <sup>2</sup> /m A's = 0.66 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L406 L411	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.80 tf Situação: GE As = 0.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.95 tf Situação: GE As = 0.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	L411 PAR2-B	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.83 tf Situação: PE As = 1.14 cm <sup>2</sup> /m A's = 0.43 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	PAR2-B L406	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 6.83 tf Situação: PE As = 1.10 cm <sup>2</sup> /m A's = 0.47 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm
Barra	PAR5 PAR2-B	Md = 1202 kgf.m/m As = 2.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.91 tf Situação: GE As = 1.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.76 tf Situação: GE As = 3.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.35 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.06 mm

Barra	PAR2-B PAR5	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 5.76 tf Situação: PE As = 0.81 cm <sup>2</sup> /m A's = 0.51 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L405 L409	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.08 tf Situação: GE As = 0.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.64 tf Situação: GE As = 0.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L409 PAR3	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 12.29 tf Situação: PE As = 2.20 cm <sup>2</sup> /m A's = 0.73 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR3 L405	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 12.29 tf Situação: PE As = 1.98 cm <sup>2</sup> /m A's = 0.84 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L406 L410	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.08 tf Situação: GE As = 0.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.64 tf Situação: GE As = 0.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L410 PAR5	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 12.29 tf Situação: PE As = 2.20 cm <sup>2</sup> /m A's = 0.73 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
Barra	PAR5 L406	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 12.29 tf Situação: PE As = 1.98 cm <sup>2</sup> /m A's = 0.84 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.06 mm
Barra	L405 L406	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.41 tf Situação: GE As = 0.53 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
Barra	L406 PAR4	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.75 tf Situação: PE As = 0.44 cm <sup>2</sup> /m A's = 0.42 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.00 mm
Barra	PAR4 L405	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 3.75 tf Situação: GE As = 0.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.01 mm
V403 1	L409 L407	Md = 1474 kgf.m/m As = 3.08 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.23 tf Situação: GE As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.20 tf Situação: GE As = 3.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.11 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.06 mm
V405 1	L407 L410	Md = 1474 kgf.m/m As = 3.08 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.23 tf Situação: GE As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.20 tf Situação: GE As = 3.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.11 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.06 mm
V401 1	L408 L407	Md = 1130 kgf.m/m As = 2.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.02 tf Situação: GE As = 0.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.06 tf Situação: GE As = 0.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.29 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.02 mm

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

# MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO E FUNDAÇÕES CED QUDRA 04 AE 02 - ESTRUTURAL (PRÉDIO PRINCIPAL)

**Autor do Projeto: Eng. Civil Dalmo Blanco Cinnanti**

**CREA: 7962/D-DF**

R01	29/12/2022	Versão inicial	DALMO CINNANTI
REVISÃO	DATA	DESCRIÇÃO	RESPONSÁVEL
<i>Nome do projeto</i>		<i>MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO – CED QD. 04 ESTRUTURAL</i>	
<i>Número do projeto</i>		<i>314-SEEDF-CED-ESTRUTURAL QD. 04 - MEM-RESERVATÓRIO ADASA-EST-R01</i>	
<i>Local</i>		<i>Quadra 04 AE 02 - RA XXV - SCIA / ESTRUTURAL - Vila Estrutural - DF</i>	

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Sumário

1. Resumo de resultados .....	3
2. Verificação da Estabilidade Global da Estrutura.....	4
3. Coeficiente Gama-Z por combinação .....	5
4. Pavimento NV-000.....	7
5. Cálculo dos Pilares .....	12
6. Vigas do pavimento NV-000 .....	22
7. Pavimento TÉRREO NV-320.....	27
8. Cálculo dos Pilares .....	27
9. Vigas do pavimento TÉRREO NV-320 .....	35
10. Cálculos das Lajes .....	39
11. Cálculos da Escada.....	63
12. ESCADA: E1 .....	63
13. ESCADA: E2 .....	65
14. Pavimento SUPERIOR NV-640.....	67
15. Cálculo dos Pilares.....	68
16. Vigas do pavimento SUPERIOR NV-640 .....	75
17. Cálculos das Lajes .....	81
18. Pavimento PLATIBANDA NV-770 .....	123
19. Cálculo dos Pilares.....	123
20. Vigas do pavimento PLATIBANDA NV-770.....	131



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

## Memorial de cálculo

### 1. Resumo de resultados

#### **Cargas verticais:**

Peso próprio = 2429.32 tf

Adicional = 1004.07 tf

Acidental = 741.86 tf

Total = 4175.26 tf

Área aproximada = 3743.95 m<sup>2</sup>

Relação = 1115.20 kgf/m<sup>2</sup>

#### **Deslocamento horizontal:**

X+ = 0.03 cm (limite 0.52)

X- = 0.03 cm (limite 0.52)

Y+ = 0.02 cm (limite 0.52)

Y- = 0.02 cm (limite 0.52)

#### **Verificação de estabilidade (Gama-Z):**

X+ = 1.03 (limite 1.10)

X- = 1.09 (limite 1.10)

Y+ = 1.04 (limite 1.10)

Y- = 1.04 (limite 1.10)

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
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### Análise de 2ª ordem:

Processo P-Delta

Deslocamentos no topo da edificação:

Acidental: 0.02 »» 0.02 (+2.87%)

Vento X+: 0.16 »» 0.17 (+5.30%)

Vento X-: 0.16 »» 0.17 (+5.30%)

Vento Y+: 0.12 »» 0.12 (+2.30%)

Vento Y-: 0.12 »» 0.12 (+2.30%)

Desaprumo X+: 0.08 »» 0.09 (+5.98%)

Desaprumo X-: 0.08 »» 0.09 (+5.98%)

Desaprumo Y+: 0.04 »» 0.04 (+2.60%)

Desaprumo Y-: 0.04 »» 0.04 (+2.60%)

## 2. Verificação da Estabilidade Global da Estrutura

### Maior coeficiente Gama-Z

Combinação: 1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2							
Pavimento	Altura relativa (cm)	Carga vertical (tf)	Carga horizontal (tf)	Deslocamento horizontal (cm)	Momento 2a. ordem (kgf.m)	Momento tombamento (kgf.m)	Gama-Z
PLATIBANDA NV-770	885.00	48.43	1.60	0.33	158.66	14134.11	1.09 (lim=1.10)
SUPERIOR NV-640	755.00	1950.09	5.37	0.26	5130.93	40573.08	
TÉRREO NV-320	430.00	2843.37	6.82	0.07	1875.58	29316.98	
NV-000	100.00	760.54	0.78	0.00	9.41	777.19	
<b>TOTAL</b>					<b>7174.58</b>	<b>84801.36</b>	

### Limitações

Em estruturas com Gama-Z maior que 1.10 é necessário fazer a verificação dos efeitos de 2ª ordem com a análise P-Delta.

O Gama-Z é um parâmetro de estabilidade para avaliação de estruturas simétricas (tanto geometria quanto carregamento) e edificações com mais de 4 pavimentos. Nos demais casos, recomenda-se a verificação dos efeitos de 2ª ordem com a análise P-Delta.

### 3. Coeficiente Gama-Z por combinação

Combinação	Momento 2a. ordem (kgf.m)	Momento tombamento (kgf.m)	Gama-Z
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.4D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.4D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.4D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.4D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.84D1	2533.53	141335.60	1.02
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.84D2	8749.61	141335.60	1.07
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.84D3	5625.67	196625.46	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.84D4	4919.62	196625.46	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.4D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.4D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.4D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.4D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.84D1	2533.53	141335.60	1.02
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.84D2	8749.61	141335.60	1.07
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.84D3	5625.67	196625.46	1.03
1.3G1+1.4G2+1.4S+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.84D4	4919.62	196625.46	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.4D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.4D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.4D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.4D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.84D1	2533.53	141335.60	1.02
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.84D2	8749.61	141335.60	1.07
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.84D3	5625.67	196625.46	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.84D4	4919.62	196625.46	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.4D1	2575.30	84801.36	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.4D2	6639.31	84801.36	1.08
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.4D3	4627.40	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.4D4	4057.64	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.84D1	2533.53	141335.60	1.02
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.84D2	8749.61	141335.60	1.07
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.84D3	5625.67	196625.46	1.03
1.3G1+1.4G2+1.4S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.84D4	4919.62	196625.46	1.03
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	2852.39	84801.36	1.03
<b>1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2</b>	<b>7174.58</b>	<b>84801.36</b>	<b>1.09</b>
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	5042.34	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	4390.92	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	2852.39	84801.36	1.03
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	7174.58	84801.36	1.09

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	5042.34	117975.28	1.04
1.3G1+1.4G2+1.4S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	4390.92	117975.28	1.04
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	2852.39	84801.36	1.03
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	7174.58	84801.36	1.09
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	5042.34	117975.28	1.04
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	4390.92	117975.28	1.04
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	2852.39	84801.36	1.03
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	7174.58	84801.36	1.09
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	5042.34	117975.28	1.04
1.3G1+1.4G2+1.4S+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	4390.92	117975.28	1.04
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	1550.18	84801.36	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V1+1.4D1	1550.18	84801.36	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	4648.01	84801.36	1.06
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V2+1.4D2	4648.01	84801.36	1.06
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	3112.29	117975.28	1.03
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V3+1.4D3	3112.29	117975.28	1.03
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	2701.10	117975.28	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+0.84V4+1.4D4	2701.10	117975.28	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V1+0.84D1	2156.40	141335.60	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V2+0.84D2	6320.97	141335.60	1.05
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V3+0.84D3	3958.14	196625.46	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T1+1.4V4+0.84D4	3456.09	196625.46	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	1550.18	84801.36	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V1+1.4D1	1550.18	84801.36	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	4648.01	84801.36	1.06
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V2+1.4D2	4648.01	84801.36	1.06
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	3112.29	117975.28	1.03
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V3+1.4D3	3112.29	117975.28	1.03
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	2701.10	117975.28	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+0.84V4+1.4D4	2701.10	117975.28	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V1+0.84D1	2156.40	141335.60	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V2+0.84D2	6320.97	141335.60	1.05
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V3+0.84D3	3958.14	196625.46	1.02
G1+G2+S+1.2R+0.98Q+1.2A+1.1AS+0.72T2+1.4V4+0.84D4	3456.09	196625.46	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V1+0.84D1	1774.58	84801.36	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V2+0.84D2	5112.30	84801.36	1.06
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V3+0.84D3	3458.36	117975.28	1.03
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T1+0.84V4+0.84D4	2974.51	117975.28	1.03
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V1+0.84D1	1774.58	84801.36	1.02
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V2+0.84D2	5112.30	84801.36	1.06
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V3+0.84D3	3458.36	117975.28	1.03
G1+G2+S+1.2R+1.4Q+1.2A+1.1AS+0.72T2+0.84V4+0.84D4	2974.51	117975.28	1.03

#### 4. Pavimento NV-000

### Resultado dos Blocos

<b>NV-000</b>	fck = 400.00 kgf/cm <sup>2</sup>	E = 318758 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 4.50 cm	

Blocos	ne Estaca	LB LH (cm)	hb (cm)	Principal (cm <sup>2</sup> )		Estribo (cm <sup>2</sup> )		Superior (cm <sup>2</sup> )		As dist. (cm <sup>2</sup> )
				X	Y	Hor.	Vert.	X	Y	
B1	1 C40-20m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B2	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B3	2 C40-17m	190.00 70.00	60.00	10.05 (5 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B4	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B5	2 C40-17m	190.00 70.00	60.00	8.59 (7 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B6	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B7	2 C50-20m	230.00 80.00	70.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B8	2 C40-20m	190.00 70.00	60.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)
B11	2 C50-20m	230.00 80.00	75.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B12	2 C50-20m	230.00 80.00	80.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B13	1 C40-20m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B14	1 C40-17m	70.00 70.00		-	-	1.87 (6 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B15	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B16	2 C40-20m	190.00 70.00	65.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)
B17	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B18	2 C40-20m	190.00 70.00	65.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)
B19	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B20	2 C40-20m	190.00 70.00	65.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)
B21	1 C40-17m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B22	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B23	2 C40-17m	190.00 70.00	60.00	8.59 (7 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B24	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-

B25	2 C40-20m	190.00 70.00	60.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B26	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B27	2 C40-20m	190.00 70.00	60.00	14.07 (7 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B28	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B29	2 C60-20m	270.00 90.00	105.00	16.08 (8 ø 16.0)	-	3.02 (6 ø 8.0)	11.06 2x(11 ø 8.0)	3.93 (5 ø 10.0)	-	1.01 (ø 8.0 c/10)
B30	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B31	2 C40-20m	190.00 70.00	60.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B34	3 C50-20m	242.38 209.90	90.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	3.06 (ø 8.0 c/20)
B35	3 C50-20m	242.38 209.90	100.00	12.06 (6 ø 16.0)	-	1.87 (6 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	2.95 (ø 8.0 c/20)
B36	2 C40-17m	190.00 70.00	60.00	8.59 (7 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B37	2 C40-17m	190.00 70.00	60.00	8.59 (7 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B38	2 C60-20m	270.00 90.00	100.00	16.08 (8 ø 16.0)	-	2.18 (7 ø 6.3)	11.06 2x(11 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B39	1 C40-20m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B40	2 C40-20m	190.00 70.00	60.00	10.05 (5 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B41	2 C40-20m	190.00 70.00	60.00	14.07 (7 ø 16.0)	-	1.87 (6 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B42	3 C40-20m	200.83 173.92	70.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	-	4.52 (9 ø 8.0)	5.03 (10 ø 8.0)	2.92 (ø 8.0 c/20)
B45	3 C50-20m	242.38 209.90	105.00	12.06 (6 ø 16.0)	-	1.87 (6 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	3.11 (ø 8.0 c/20)
B46	3 C50-20m	242.38 209.90	105.00	12.06 (6 ø 16.0)	-	1.87 (6 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	3.10 (ø 8.0 c/20)
B47	2 C40-17m	190.00 70.00	60.00	10.05 (5 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B48	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B49	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B50	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B51	2 C40-17m	190.00 70.00	55.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B52	2 C40-17m	190.00 70.00	55.00	10.05 (5 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B53	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B54	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B55	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B56	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B57	2 C40-20m	190.00 70.00	55.00	14.07 (7 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B58	2 C40-20m	190.00 70.00	60.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)

B59	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B60	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B61	2 C40-17m	190.00 70.00	65.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B62	1 C40-17m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B63	1 C40-20m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B66	2 C50-20m	230.00 80.00	70.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B67	2 C50-20m	230.00 80.00	70.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B68	2 C40-17m	190.00 70.00	60.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B69	2 C40-17m	190.00 70.00	55.00	7.36 (6 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B70	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B71	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B72	2 C40-17m	190.00 70.00	55.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B73	2 C40-17m	190.00 70.00	65.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B74	1 C40-17m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B75	1 C40-17m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B78	2 C40-20m	190.00 70.00	60.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)
B79	2 C40-20m	190.00 70.00	60.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B80	2 C40-17m	190.00 70.00	60.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B81	2 C40-20m	190.00 70.00	55.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B82	2 C40-20m	190.00 70.00	60.00	14.07 (7 ø 16.0)	-	2.51 (5 ø 8.0)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B85	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B86	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B87	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B88	1 C50-20m	80.00 80.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B89	2 C40-17m	190.00 70.00	60.00	3.14 (4 ø 10.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B90	2 C40-17m	190.00 70.00	60.00	10.05 (5 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B91	2 C40-17m	190.00 70.00	60.00	8.59 (7 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B92	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B93	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B94	2 C40-17m	190.00 70.00	55.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)

B95	2 C40-17m	190.00 70.00	55.00	10.05 (5 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B96	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B97	1 C50-20m	80.00 80.00		-	-	3.93 (5 ø 10.0)	2.01 2x(2 ø 8.0)	-	-	-
B98	2 C50-20m	230.00 80.00	80.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B99	1 C50-20m	80.00 80.00		-	-	3.02 (6 ø 8.0)	2.01 2x(2 ø 8.0)	-	-	-
B100	2 C40-17m	190.00 70.00	60.00	10.05 (5 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B101	2 C40-20m	190.00 70.00	60.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)
B102	2 C50-20m	230.00 80.00	70.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B105	2 C50-20m	230.00 80.00	70.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B106	2 C50-20m	230.00 80.00	75.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B107	1 C50-20m	80.00 80.00		-	-	3.93 (5 ø 10.0)	2.01 2x(2 ø 8.0)	-	-	-
B108	1 C50-20m	80.00 80.00		-	-	3.93 (5 ø 10.0)	2.01 2x(2 ø 8.0)	-	-	-
B109	2 C50-20m	230.00 80.00	80.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B110	2 C50-20m	230.00 80.00	75.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B111	3 C50-20m	242.38 209.90	100.00	12.06 (6 ø 16.0)	-	1.87 (6 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	2.98 (ø 8.0 c/20)
B112	3 C50-20m	242.38 209.90	105.00	12.06 (6 ø 16.0)	-	1.87 (6 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	2.98 (ø 8.0 c/20)
B115	3 C50-20m	242.38 209.90	100.00	12.06 (6 ø 16.0)	-	1.87 (6 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	2.98 (ø 8.0 c/20)
B116	3 C50-20m	242.38 209.90	110.00	12.06 (6 ø 16.0)	-	1.87 (6 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	2.98 (ø 8.0 c/20)
B117	1 C50-20m	80.00 80.00		-	-	3.93 (5 ø 10.0)	2.01 2x(2 ø 8.0)	-	-	-
B118	1 C40-17m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B119	1 C60-20m	90.00 90.00		-	-	3.93 (5 ø 10.0)	2.01 2x(2 ø 8.0)	-	-	-
B120	1 C50-20m	80.00 80.00		-	-	3.93 (5 ø 10.0)	2.01 2x(2 ø 8.0)	-	-	-
B121	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B122	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B123	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B124	1 C30-14m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B125	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B126	1 C40-20m	70.00 70.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B127	2 C50-17m	230.00 80.00	70.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B128	2 C50-17m	230.00 80.00	70.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	10.05 2x(10 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)



B129	2 C50-20m	230.00 80.00	70.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B130	2 C50-20m	230.00 80.00	75.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B133	2 C60-20m	270.00 90.00	90.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	11.06 2x(11 ø 8.0)	3.93 (5 ø 10.0)	-	1.01 (ø 8.0 c/10)
B134	2 C60-20m	270.00 90.00	90.00	18.10 (9 ø 16.0)	-	2.51 (5 ø 8.0)	11.06 2x(11 ø 8.0)	3.93 (5 ø 10.0)	-	1.01 (ø 8.0 c/10)
B135	1 C50-20m	80.00 80.00		-	-	2.51 (5 ø 8.0)	1.25 2x(2 ø 6.3)	-	-	-
B9-10	2 C40-20m	190.00 70.00	70.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.51 (5 ø 8.0)	-	1.01 (ø 8.0 c/10)
B32-33	2 C50-20m	230.00 80.00	80.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.93 (5 ø 10.0)	-	1.01 (ø 8.0 c/10)
B43-44	2 C50-20m	230.00 80.00	80.00	20.11 (10 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	4.91 (4 ø 12.5)	-	1.01 (ø 8.0 c/10)
B64-65	3 C50-20m	242.38 209.90	90.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	-	6.03 (12 ø 8.0)	6.53 (13 ø 8.0)	4.14 (ø 8.0 c/20)
B76-77	3 C50-20m	242.38 209.90	90.00	14.07 (7 ø 16.0)	-	1.56 (5 ø 6.3)	-	5.03 (10 ø 8.0)	6.03 (12 ø 8.0)	3.25 (ø 8.0 c/20)
B83-84	2 C40-20m	190.00 70.00	70.00	14.07 (7 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B103-104	2 C40-20m	190.00 70.00	70.00	14.07 (7 ø 16.0)	-	2.51 (5 ø 8.0)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B113-114	3 C40-20m	200.83 173.92	75.00	12.06 (6 ø 16.0)	-	1.56 (5 ø 6.3)	-	4.52 (9 ø 8.0)	5.03 (10 ø 8.0)	2.82 (ø 8.0 c/20)
B131-132	2 C50-20m	230.00 80.00	80.00	16.08 (8 ø 16.0)	-	2.51 (5 ø 8.0)	10.05 2x(10 ø 8.0)	3.93 (5 ø 10.0)	-	1.01 (ø 8.0 c/10)
BB1	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BB2	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BB3	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BB4	1 C30-11m	60.00 60.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-

## 5. Cálculo dos Pilares

<b>NV-000</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 1</b>		$\text{cobr} = 3.00 \text{ cm}$	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 40.00	RR 2.08 RR 1.04	30.47 19.33	600 1735	3240 9367	(*) 5.40	3.14 (4 ø 10.0) 5.50 (7 ø 10.0)
P2	15.00 X 40.00	RR 2.77 RR 1.04	5.47 3.91	893 583	1350 882	1.51	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P3	20.00 X 40.00	RR 2.08 RR 1.04	44.09 26.58	852 855	3486 3498	(*) 4.09	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P4	15.00 X 40.00	RR 2.77 RR 1.04	5.61 4.01	892 765	1317 1129	1.48	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P5	20.00 X 40.00	RR 2.08 RR 1.04	42.96 26.19	835 811	3485 3384	(*) 4.17	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P6	15.00 X 40.00	RR 2.77 RR 1.04	5.54 3.99	1769 294	1920 319	1.09	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P7	20.00 X 40.00	RR 2.08 RR 1.04	66.17 39.52	1390 3355	5040 12167	(*) 3.63	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P8	20.00 X 40.00	RR 12.46 RR 6.23	55.15 34.04	1117 1018	3897 3553	(*) 3.49	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P9	15.00 X 50.00	RR 26.53 RR 7.96	25.22 15.30	1015 382	2595 978	(*) 2.56	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P10	15.00 X 50.00	RR 26.53 RR 30.79	38.01 22.75	738 4936	2223 14862	(*) 3.01	2.36 (3 ø 10.0) 10.21 (13 ø 10.0)
P11	20.00 X 40.00	RR 19.38 RR 38.23	72.24 42.83	1517 6552	3690 15937	(*) 2.43	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P12	20.00 X 40.00	RR 19.38 RR 38.23	72.90 43.23	1531 6440	4053 17050	(*) 2.65	9.42 (3 ø 20.0) 12.57 (4 ø 20.0)

P13	20.00 X 40.00	RR 12.46 RR 6.23	31.71 20.03	946 533	6133 3457	(*) 6.49	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P14	15.00 X 40.00	RR 2.77 RR 1.04	23.96 14.19	726 517	1856 1321	(*) 2.56	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P15	15.00 X 40.00	RR 2.77 RR 1.04	7.34 5.33	877 1439	1253 2054	1.43	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P16	15.00 X 40.00	RR 2.77 RR 1.04	75.39 42.01	1459 1285	2943 2590	(*) 2.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P17	15.00 X 40.00	RR 2.77 RR 1.04	7.44 5.40	877 1661	1218 2306	1.39	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P18	15.00 X 40.00	RR 2.77 RR 1.04	73.97 42.08	1439 369	3256 836	(*) 2.26	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P19	15.00 X 40.00	RR 2.77 RR 1.04	6.76 4.83	191 1965	437 4496	2.29	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P20	15.00 X 40.00	RR 16.61 RR 6.23	81.00 46.29	1652 769	3650 1699	(*) 2.21	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)
P21	15.00 X 40.00	RR 78.89 RR 1.04	29.37 16.87	1696 489	2336 674	(*) 1.38	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P22	15.00 X 40.00	RR 2.77 RR 1.04	7.25 5.28	1210 2457	1402 2848	1.16	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P23	20.00 X 40.00	RR 2.08 RR 1.04	42.58 26.85	853 854	5096 5104	(*) 5.97	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)
P24	15.00 X 40.00	RR 2.77 RR 1.04	4.67 3.26	1026 490	1345 642	1.31	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P25	20.00 X 40.00	RR 2.08 RR 29.58	62.99 37.77	1225 1644	3683 4944	(*) 3.01	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P26	15.00 X 40.00	RR 2.77 RR 1.04	5.71 4.13	1039 238	1448 332	1.39	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P27	20.00 X 40.00	RR 2.08 RR 1.04	64.60 38.73	1284 1204	4103 3845	(*) 3.19	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P28	15.00 X 40.00	RR 2.77 RR 1.04	3.69 2.67	95 702	534 3924	5.59	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P29	20.00 X 40.00	RR 2.08 RR 1.04	97.04 55.64	2023 826	5021 2051	(*) 2.48	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P30	15.00 X 40.00	RR 2.77 RR 1.04	1.56 0.85	340 386	1102 1251	3.24	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P31	20.00 X 40.00	RR 2.08 RR 1.04	61.95 37.01	1226 1197	4002 3909	(*) 3.27	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P32	20.00 X 30.00	RR 1.73 RR 1.15	28.76 17.56	561 1075	2388 4572	(*) 4.25	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P33	20.00 X 30.00	RR 58.82 RR 1.15	41.80 24.84	1639 815	3793 1887	(*) 2.31	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P34	20.00 X 40.00	RR 19.38 RR 38.23	97.99 57.16	2031 3110	5857 8966	(*) 2.88	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P35	20.00 X 40.00	RR 19.38 RR 38.23	103.62 60.79	2157 3982	3669 6774	(*) 1.70	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P36	20.00 X 40.00	RR 12.46 RR 6.23	42.42 26.58	910 981	5067 5461	(*) 5.57	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P37	20.00 X 40.00	RR 2.08 RR 1.04	42.22 26.64	1724 959	6305 3507	(*) 3.66	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P38	20.00 X 40.00	RR 15.92 RR 7.96	85.97 50.88	1887 1734	4421 4063	(*) 2.34	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P39	20.00 X 40.00	RR 2.08 RR 1.04	33.32 20.32	1539 737	3866 1852	(*) 2.51	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P40	20.00 X 40.00	RR 2.08 RR 29.58	49.36 28.58	1005 1053	3382 3541	(*) 3.36	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P41	20.00 X 40.00	RR 2.08 RR 29.58	67.57 44.07	1404 1234	4908 4313	(*) 3.49	3.68 (3 ø 12.5) 3.68 (3 ø 12.5)
P42	20.00 X 40.00	RR 2.08 RR 29.58	92.32 56.72	1918 1899	6271 6208	(*) 3.27	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)

P43	15.00 X 50.00	RR 3.46 RR 1.04	41.34 25.71	1454 3759	2308 5968	(*) 1.59	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P44	15.00 X 50.00	RR 3.46 RR 23.87	52.47 31.35	1134 7666	1966 13288	(*) 1.73	2.36 (3 ø 10.0) 7.07 (9 ø 10.0)
P45	20.00 X 40.00	RR 2.08 RR 1.04	110.04 64.17	2285 4796	4335 9099	(*) 1.90	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P46	20.00 X 40.00	RR 2.08 RR 29.58	103.42 60.33	2153 6417	3769 11236	(*) 1.75	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P47	20.00 X 40.00	RR 2.08 RR 1.04	42.13 26.51	1471 953	4968 3219	(*) 3.38	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P48	15.00 X 40.00	RR 21.22 RR 7.96	3.79 2.73	594 1643	997 2759	1.68	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P49	15.00 X 40.00	RR 21.22 RR 7.96	5.27 3.76	580 870	1200 1800	2.07	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P50	15.00 X 40.00	RR 78.89 RR 1.04	22.07 12.78	1106 463	2065 864	1.87	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P51	20.00 X 50.00	RR 59.69 RR 23.87	31.76 19.39	1833 2235	3321 4049	(*) 1.81	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P52	20.00 X 50.00	RR 59.69 RR 23.87	33.08 20.28	2254 5278	3842 8996	(*) 1.70	2.36 (3 ø 10.0) 4.71 (6 ø 10.0)
P53	15.00 X 40.00	EL 5.54 RR 1.04	3.83 2.48	71 385	688 3755	9.75	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P54	15.00 X 40.00	RR 78.89 RR 1.04	23.64 13.89	1183 908	1992 1529	1.68	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P55	20.00 X 50.00	EL 4.15 EL 1.66	10.92 7.83	431 244	2186 1240	(*) 5.08	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P56	20.00 X 50.00	EL 4.15 EL 1.66	10.92 7.83	431 244	2186 1240	(*) 5.08	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P57	15.00 X 50.00	RR 21.91 RR 6.57	73.89 40.99	1512 477	4035 1273	(*) 2.67	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)

P58	20.00 X 40.00	RR 15.92 RR 7.96	64.47 39.36	1275 1003	5057 3978	(*) 3.97	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P59	20.00 X 40.00	RR 2.08 RR 1.04	9.19 5.26	2745 901	2965 973	1.08	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P60	15.00 X 50.00	RR 3.46 RR 1.04	20.37 11.82	2275 4216	2322 4303	1.02	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P61	20.00 X 40.00	RR 22.84 RR 11.42	37.79 24.45	1422 154	5559 601	(*) 3.91	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P62	20.00 X 40.00	RR 19.38 RR 9.69	25.72 16.18	596 885	2702 4013	(*) 4.53	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P63	15.00 X 40.00	RR 25.83 RR 9.69	32.28 19.72	653 488	2860 2140	(*) 4.38	2.36 (3 ø 10.0) 4.71 (6 ø 10.0)
P64	60.00 X 60.00	RR 6.46 EL 12.92	76.67 48.15	7535 1889	63016 15799	(*) 8.36	15.71 (5 ø 20.0) 15.71 (5 ø 20.0)
P65	20.00 X 30.00	RR 70.58 RR 9.00	29.40 17.59	1601 205	5681 728	(*) 3.55	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P66	20.00 X 40.00	RR 12.46 RR 6.23	69.65 41.78	1373 914	9079 6040	(*) 6.61	4.02 (2 ø 16.0) 16.08 (8 ø 16.0)
P67	20.00 X 40.00	RR 2.08 RR 1.04	70.74 42.56	2776 1910	9734 6697	(*) 3.51	4.02 (2 ø 16.0) 18.10 (9 ø 16.0)
P68	20.00 X 40.00	RR 22.84 RR 11.42	36.14 23.22	1215 331	6003 1637	(*) 4.94	3.14 (4 ø 10.0) 6.28 (8 ø 10.0)
P69	20.00 X 50.00	RR 59.69 RR 23.87	28.62 18.08	1846 145	3695 290	(*) 2.00	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P70	20.00 X 50.00	EL 4.15 EL 1.66	10.92 7.83	356 236	2165 1433	(*) 6.07	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P71	20.00 X 50.00	EL 4.15 EL 1.66	10.92 7.83	356 236	2165 1433	(*) 6.07	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P72	20.00 X 50.00	RR 59.69 RR 23.87	37.78 22.84	2894 278	4972 477	(*) 1.72	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)

P73	20.00 X 40.00	RR 22.84 RR 11.42	38.11 24.62	1431 281	6838 1341	(*) 4.78	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P74	20.00 X 40.00	RR 19.38 RR 9.69	26.98 16.96	552 1047	2560 4854	(*) 4.64	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P75	15.00 X 40.00	RR 25.83 RR 9.69	31.13 18.96	596 707	2560 3040	(*) 4.30	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P76	60.00 X 60.00	RR 25.66 EL 13.26	61.18 39.25	7241 1501	61593 12766	(*) 8.51	15.71 (5 ø 20.0) 15.71 (5 ø 20.0)
P77	15.00 X 60.00	RR 94.11 RR 23.53	14.76 5.76	1618 1595	2887 2846	(*) 1.78	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P78	20.00 X 40.00	RR 15.92 RR 7.96	57.58 36.14	1152 2240	4628 8996	(*) 4.02	2.45 (2 ø 12.5) 8.59 (7 ø 12.5)
P79	20.00 X 40.00	RR 19.38 RR 9.69	58.59 36.78	1167 1704	5190 7582	(*) 4.45	2.36 (3 ø 10.0) 7.85 (10 ø 10.0)
P80	20.00 X 40.00	RR 22.84 RR 11.42	35.99 23.17	1432 320	6710 1500	(*) 4.69	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P81	15.00 X 50.00	RR 21.91 RR 6.57	71.70 39.75	1355 1209	3608 3219	(*) 2.66	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P82	20.00 X 40.00	RR 15.92 RR 7.96	68.95 42.69	1252 1772	4145 5867	(*) 3.31	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P83	15.00 X 50.00	RR 79.58 RR 1.04	43.20 24.25	2640 6307	2644 6316	(*) 1.00	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P84	15.00 X 50.00	RR 79.58 RR 23.87	32.55 16.80	1850 2182	2276 2685	(*) 1.23	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P85	20.00 X 50.00	EL 4.15 EL 1.66	10.92 7.83	431 244	2186 1240	(*) 5.08	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P86	20.00 X 50.00	EL 4.15 EL 1.66	10.92 7.83	431 244	2186 1240	(*) 5.08	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P87	15.00 X 40.00	RR 2.77 RR 1.04	9.78 5.59	2294 931	2324 943	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)

P88	15.00 X 40.00	RR 2.77 RR 1.04	26.66 16.10	3732 588	3746 590	1.00	1.57 (2 ø 10.0) 7.85 (10 ø 10.0)
P89	15.00 X 40.00	RR 21.22 RR 7.96	8.03 5.72	3935 246	4242 265	1.08	2.45 (2 ø 12.5) 11.04 (9 ø 12.5)
P90	15.00 X 40.00	RR 78.89 RR 1.04	53.30 28.66	3118 910	3092 902	(*) 0.99	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P91	15.00 X 40.00	RR 97.34 RR 7.96	54.50 29.26	4346 213	4432 217	(*) 1.02	1.57 (2 ø 10.0) 7.85 (10 ø 10.0)
P92	15.00 X 40.00	EL 42.44 RR 7.96	5.78 4.20	150 198	1250 1646	8.31	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P93	15.00 X 40.00	RR 97.34 RR 7.96	22.58 13.22	1793 895	2053 1024	1.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P94	20.00 X 50.00	RR 59.69 RR 23.87	31.76 19.38	1749 2052	3343 3923	(*) 1.91	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P95	20.00 X 50.00	RR 59.69 RR 23.87	32.52 19.82	2075 4174	3769 7583	(*) 1.82	2.36 (3 ø 10.0) 3.93 (5 ø 10.0)
P96	15.00 X 40.00	RR 2.77 RR 1.04	8.64 6.22	1877 2694	1934 2775	1.03	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P97	20.00 X 40.00	RR 2.08 RR 1.04	44.31 28.31	3347 1018	6294 1915	(*) 1.88	2.36 (3 ø 10.0) 7.07 (9 ø 10.0)
P98	20.00 X 40.00	RR 2.08 RR 1.04	82.63 48.84	2318 1765	4286 3263	(*) 1.85	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P99	20.00 X 40.00	RR 2.08 RR 1.04	38.67 24.13	1520 873	3791 2178	(*) 2.49	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P100	20.00 X 40.00	RR 2.08 RR 29.58	43.43 24.44	855 1039	3349 4071	(*) 3.92	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P101	20.00 X 40.00	RR 59.17 RR 29.58	60.89 39.29	2359 880	4856 1811	(*) 2.06	2.36 (3 ø 10.0) 2.36 (3 ø 10.0)
P102	20.00 X 40.00	RR 59.17 RR 29.58	68.58 42.40	2646 1572	5276 3135	(*) 1.99	3.68 (3 ø 12.5) 3.68 (3 ø 12.5)



P103	15.00 X 50.00	RR 79.58 RR 1.04	29.37 18.66	1771 5244	1789 5298	(*) 1.01	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P104	15.00 X 50.00	RR 3.46 RR 23.87	36.22 22.01	1709 4390	2427 6235	(*) 1.42	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P105	20.00 X 40.00	RR 2.08 RR 1.04	72.79 44.69	1504 1101	4788 3506	(*) 3.18	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P106	20.00 X 40.00	RR 9.00 RR 4.50	72.67 45.39	1448 1828	4150 5237	(*) 2.87	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P107	20.00 X 40.00	RR 15.92 RR 7.96	41.60 26.19	2035 943	5172 2395	(*) 2.54	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P108	20.00 X 40.00	RR 2.08 RR 1.04	42.75 27.10	2231 975	6322 2762	(*) 2.83	2.45 (2 ø 12.5) 8.59 (7 ø 12.5)
P109	20.00 X 40.00	RR 2.08 RR 1.04	80.91 50.00	1616 998	4722 2917	(*) 2.92	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P110	20.00 X 40.00	RR 2.08 RR 1.04	79.73 48.67	1524 2021	4052 5373	(*) 2.66	2.36 (3 ø 10.0) 2.36 (3 ø 10.0)
P111	20.00 X 40.00	RR 9.00 RR 33.04	101.35 58.35	2113 4112	3463 6738	(*) 1.64	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P112	20.00 X 40.00	RR 9.00 RR 33.04	109.46 62.81	2280 3999	4631 8121	(*) 2.03	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P113	20.00 X 30.00	RR 58.82 RR 1.15	45.25 26.50	1804 894	4855 2407	(*) 2.69	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P114	20.00 X 30.00	RR 58.82 RR 1.15	43.27 25.27	1696 1278	3549 2674	(*) 2.09	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P115	20.00 X 40.00	RR 2.08 RR 29.58	108.05 61.91	2240 2775	5162 6398	(*) 2.31	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P116	20.00 X 40.00	RR 2.08 RR 29.58	114.53 67.25	2398 3952	3868 6374	(*) 1.61	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P117	20.00 X 40.00	RR 2.08 RR 1.04	43.19 27.26	2626 982	5934 2219	(*) 2.26	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)

P118	15.00 X 40.00	RR 2.77 RR 1.04	26.32 15.86	3071 579	3041 574	(*) 0.99	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P119	15.00 X 40.00	RR 2.77 RR 1.04	58.39 32.59	1137 466	2851 1167	(*) 2.51	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P120	15.00 X 40.00	RR 2.77 RR 1.04	48.53 26.14	3297 944	3325 952	(*) 1.01	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P121	15.00 X 40.00	EL 5.54 RR 1.04	4.45 3.24	87 46	1332 707	15.37	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P122	15.00 X 40.00	RR 2.77 RR 1.04	6.72 4.80	283 471	1229 2045	4.34	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P123	15.00 X 40.00	RR 2.77 RR 1.04	23.30 13.63	425 1088	1491 3813	3.51	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P124	15.00 X 40.00	RR 2.77 RR 1.04	7.65 5.52	435 2686	697 4305	1.60	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P125	15.00 X 40.00	RR 2.77 RR 1.04	5.25 3.84	2965 769	2970 770	1.00	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P126	20.00 X 40.00	RR 2.08 RR 1.04	31.39 19.99	1253 1134	4837 4377	(*) 3.86	3.68 (3 ø 12.5) 6.14 (5 ø 12.5)
P127	20.00 X 40.00	RR 2.08 RR 1.04	57.29 35.08	1124 1637	5941 8652	(*) 5.29	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P128	20.00 X 40.00	RR 2.08 RR 1.04	52.75 32.46	1036 1602	4767 7371	(*) 4.60	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P129	20.00 X 40.00	RR 2.08 RR 29.58	65.06 38.56	1366 5330	3669 14315	(*) 2.69	6.03 (3 ø 16.0) 10.05 (5 ø 16.0)
P130	20.00 X 40.00	RR 2.08 RR 29.58	70.72 41.67	1485 5795	3943 15386	(*) 2.65	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P131	15.00 X 50.00	RR 3.46 RR 23.87	36.89 22.14	1036 2629	3207 8139	(*) 3.10	2.36 (3 ø 10.0) 8.64 (11 ø 10.0)
P132	15.00 X 50.00	RR 3.46 RR 23.87	36.47 21.83	925 5429	2373 13934	(*) 2.57	2.36 (3 ø 10.0) 10.21 (13 ø 10.0)

P133	20.00 X 40.00	RR 15.92 RR 36.50	69.44 40.86	1458 6826	3488 16328	(*) 2.39	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P134	20.00 X 40.00	RR 15.92 RR 36.50	70.79 41.80	1487 7369	3354 16627	(*) 2.26	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P135	20.00 X 40.00	RR 2.08 RR 1.04	31.48 20.07	1891 704	6283 2341	(*) 3.32	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
PB1	15.00 X 40.00	RR 25.83 RR 9.69	0.92 0.47	28 271	370 3611	13.32	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
PB2	15.00 X 40.00	RR 25.83 RR 9.69	1.19 0.63	241 20	1260 105	5.23	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
PB3	15.00 X 40.00	EL 51.67 RR 9.69	4.27 3.01	127 37	1368 397	10.80	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
PB4	15.00 X 40.00	EL 51.67 RR 9.69	3.05 2.08	59 414	544 3812	9.20	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
PE-1	15.00 X 40.00	RR 99.19 RR 8.65	22.32 12.81	1819 179	2194 216	1.21	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)

## 6. Vigas do pavimento NV-000

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	592.08	2 ø 10.0		-1142.63	2 ø 10.0		Aviso 26
	247.72	2 ø 10.0		-1062.89	2 ø 10.0		
	222.07	2 ø 10.0		-445.45	2 ø 10.0		
	681.31	2 ø 10.0		-1204.85	2 ø 10.0		
	197.27	2 ø 10.0		-1061.10	2 ø 10.0		
	373.50	4 ø 12.5	4 ø 12.5	-623.03	4 ø 12.5	4 ø 12.5	
	2037.75	2 ø 10.0		-3229.80	4 ø 12.5	4 ø 12.5	
	1807.86	2 ø 10.0		-4362.13	3 ø 10.0		
			-1595.71	2 ø 10.0			
VB2	2785.69	2 ø 12.5		-1362.47	2 ø 12.5		Aviso 26
	1139.18	2 ø 12.5		-4056.67	2 ø 12.5		
	2757.86	2 ø 12.5		-4127.13	2 ø 12.5		
				-2587.54	2 ø 12.5		
VB3	85.33	3 ø 10.0		-0.04	3 ø 10.0		Avisos 26, 02
				-51.84	3 ø 10.0		
VB4	321.85	2 ø 10.0		-0.56	2 ø 10.0		Aviso 26
				-26.69	2 ø 10.0		
VB5	1000.51	2 ø 10.0		-769.31	2 ø 10.0		Aviso 26
	222.81	4 ø 12.5	4 ø 12.5	-2045.39	4 ø 12.5	4 ø 12.5	
	164.80	4 ø 12.5	4 ø 12.5	-187.01	4 ø 12.5	4 ø 12.5	
	1064.98	2 ø 10.0	4 ø 12.5	-2225.56	4 ø 12.5	4 ø 12.5	
				-798.19	2 ø 10.0		
VB6	259.55	2 ø 10.0		-170.17	2 ø 10.0		Aviso 26
				-147.35	2 ø 10.0		
VB7	999.62	2 ø 10.0		-1025.19	2 ø 10.0		Aviso 26
				-6.32	2 ø 10.0		
VB8	150.18	4 ø 12.5	4 ø 12.5	-902.11	4 ø 12.5	4 ø 12.5	Aviso 26
	383.59	2 ø 10.0		-689.38	4 ø 12.5	4 ø 12.5	
	481.68	2 ø 10.0		-910.80	2 ø 10.0		
	390.23	2 ø 10.0		-931.48	2 ø 10.0		
	220.93	4 ø 12.5	4 ø 12.5	-642.27	4 ø 12.5	4 ø 12.5	
	638.78	2 ø 10.0		-1136.38	4 ø 12.5	4 ø 12.5	
				-797.30	2 ø 10.0		
VB9	172.39	4 ø 12.5	4 ø 12.5	-3.58	4 ø 12.5	4 ø 12.5	Avisos 26, 02
	1523.24	2 ø 10.0		-2647.26	4 ø 12.5	4 ø 12.5	
				-2999.23	2 ø 10.0		
VB10	1669.64	4 ø 12.5	4 ø 12.5	-2864.56	4 ø 12.5	4 ø 12.5	Aviso 26
	1929.40	4 ø 16.0	4 ø 16.0	-0.04	4 ø 12.5	4 ø 12.5	
	1906.59	2 ø 12.5		-4125.71	4 ø 16.0	4 ø 16.0	
				-3793.46	2 ø 12.5	4 ø 16.0	
VB11	2125.69	3 ø 10.0		-4074.00	3 ø 10.0		Aviso 26
				-2771.80	3 ø 10.0		
VB12	1887.26	2 ø 10.0	4 ø 12.5	-3008.87	2 ø 10.0		Aviso 26
	463.25	4 ø 12.5	4 ø 12.5	-3630.74	4 ø 12.5	4 ø 12.5	
	241.38	4 ø 12.5	4 ø 12.5	-881.37	4 ø 12.5	4 ø 12.5	
	1528.98	2 ø 10.0	4 ø 12.5	-2667.00	4 ø 12.5	4 ø 12.5	
	1443.82	2 ø 10.0		-3108.88	2 ø 10.0		
	1725.59	2 ø 10.0		-3463.08	2 ø 10.0		
				-2088.35	2 ø 10.0		
VB13	1627.29	2 ø 10.0		-2057.80	2 ø 10.0		Aviso 26
	1468.74	2 ø 10.0		-3373.39	2 ø 10.0		
	1516.21	2 ø 10.0		-3216.00	2 ø 10.0		
				-2593.45	2 ø 10.0		

	<b>CINNANTI</b> Arquitetura & Engenharia		<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>		
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF			29/12/2022	

VB14	1030.77	2 ø 10.0		-487.07 -472.57	2 ø 10.0 2 ø 10.0		Aviso 26
VB15	1007.58	2 ø 10.0		-923.89 -845.24	2 ø 10.0 2 ø 10.0		Aviso 26
VB16	3361.60	3 ø 10.0		-2739.12 -1941.07	3 ø 10.0 3 ø 10.0		Avisos 19, 48
VB17	1717.02 692.88	2 ø 10.0 2 ø 10.0		-2490.84 -3385.14 -889.49	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB18	1125.41 748.69 1600.87	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2498.80 -2570.97 -3454.34 -2709.63	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB19	1720.09 670.54	2 ø 10.0 2 ø 10.0		-2471.60 -3395.80 -914.90	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB20	36.13 969.80 2460.14	2 ø 10.0 4 ø 12.5 2 ø 10.0	4 ø 12.5	-6099.13 -4393.73 -3079.21	4 ø 12.5 4 ø 12.5 2 ø 10.0	4 ø 12.5 4 ø 12.5	Aviso 26
VB21	901.37	2 ø 10.0		-699.24 -1252.08	2 ø 10.0 2 ø 10.0		Aviso 26
VB22	4081.25	3 ø 10.0		-1906.81 -442.58	3 ø 10.0 3 ø 10.0		Avisos 19, 48
VB23	4912.34	2 ø 12.5		-3494.93 -3320.07	2 ø 10.0 2 ø 10.0		Aviso 26
VB24	399.86	2 ø 10.0		-49.00 -1542.97	2 ø 10.0 2 ø 10.0		Aviso 26
VB25	3495.88 394.42 391.53	2 ø 10.0 4 ø 12.5 2 ø 10.0	4 ø 12.5	-4699.33 -5184.41 -851.57 -382.66	3 ø 10.0 4 ø 12.5 4 ø 12.5 2 ø 10.0	4 ø 12.5 4 ø 12.5	Aviso 26
VB26	2172.00 1424.04 2346.20	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2289.17 -3768.55 -4102.49 -3175.37	2 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0		Aviso 26
VB27	2532.34 2606.77 993.95 1521.70 1385.70	2 ø 10.0 2 ø 10.0 4 ø 12.5 2 ø 10.0 2 ø 10.0	4 ø 12.5	-3567.28 -4732.21 -4089.94 -2864.69 -3013.78 -2950.41	2 ø 10.0 3 ø 10.0 4 ø 12.5 4 ø 12.5 2 ø 10.0 2 ø 10.0	4 ø 12.5 4 ø 12.5	Aviso 26
VB28	974.46 1780.95 2837.98	4 ø 12.5 2 ø 10.0 2 ø 10.0	4 ø 12.5	-2263.70 -1084.27 -3220.07 -5604.90 -4049.67	4 ø 12.5 4 ø 12.5 4 ø 12.5 2 ø 12.5 3 ø 10.0	4 ø 12.5 4 ø 12.5 4 ø 12.5	Aviso 26
VB29	3531.64 3764.18	2 ø 10.0 2 ø 10.0		-2931.66 -6360.33 -3100.23	2 ø 10.0 4 ø 10.0 2 ø 10.0		Aviso 26
VB30	418.99	2 ø 10.0		-250.00 -344.13	2 ø 10.0 2 ø 10.0		Aviso 26
VB31	595.85	2 ø 10.0		-389.43 -960.66	2 ø 10.0 2 ø 10.0		Aviso 26
VB32	1236.06 1136.69 1120.09 1126.14 1340.62	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-2004.31 -2544.96 -2355.85 -2350.78 -2676.08 -1695.77	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB33	1304.12	2 ø 10.0		-1671.54	2 ø 10.0		Aviso 26

	950.84 1931.99	2 ø 10.0 2 ø 10.0		-1102.28 -3027.86 -220.01 -2966.62 -2876.30	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB34	726.23 499.12 168.89 647.01 874.32 598.27 626.58 531.98 182.21 560.59 654.63	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 4 ø 12.5 2 ø 10.0 4 ø 12.5 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	4 ø 12.5  4 ø 12.5	-1360.96 -1549.63 -985.54 -1222.28 -847.13 -1675.59 -1380.97 -1477.29 -1059.30 -1141.02 -1428.96 -1191.33	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 4 ø 12.5 4 ø 12.5 4 ø 12.5 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	4 ø 12.5 4 ø 12.5 4 ø 12.5 4 ø 12.5	Aviso 26
VB35	1306.86	2 ø 10.0		-4.38 -24.62	2 ø 10.0 2 ø 10.0		Aviso 26
VB36	1460.29	2 ø 10.0					Aviso 26
VB37	1222.82	2 ø 10.0		-872.63 -56.23	2 ø 10.0 2 ø 10.0		Aviso 26
VB38	1306.67	2 ø 10.0		-12.18 -17.33	2 ø 10.0 2 ø 10.0		Aviso 26
VB39	1460.29	2 ø 10.0					Aviso 26
VB40	71.89	2 ø 10.0		-1431.27	2 ø 10.0		Aviso 26
VB41	1022.79	2 ø 10.0		-780.18 -754.62	2 ø 10.0 2 ø 10.0		Aviso 26
VB42	446.08	2 ø 10.0		-63.71 -52.99	2 ø 10.0 2 ø 10.0		Aviso 26
VB43	731.08 494.39	2 ø 10.0 2 ø 10.0		-1371.52 -1533.72 -1058.98	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB44	648.45 365.12 1201.17	2 ø 10.0 4 ø 12.5 2 ø 10.0	4 ø 12.5	-1303.24 -504.34 -637.51 -792.04	2 ø 10.0 4 ø 12.5 4 ø 12.5 2 ø 10.0	4 ø 12.5 4 ø 12.5	Avisos 26, 02
VB45	1130.61 584.13 123.73	2 ø 10.0 4 ø 12.5 4 ø 12.5	4 ø 12.5 4 ø 12.5	-793.55 -1176.81 -1246.61 -590.52	2 ø 10.0 4 ø 12.5 4 ø 12.5 4 ø 12.5	4 ø 12.5 4 ø 12.5 4 ø 12.5	Avisos 26, 02
VB46	623.88	2 ø 10.0		-1142.12 -1358.91	2 ø 10.0 2 ø 10.0		Aviso 26
VB47	1444.92	2 ø 10.0		-13.75 -18.76	2 ø 10.0 2 ø 10.0		Aviso 26
VB48	1022.64	2 ø 10.0		-779.91 -755.30	2 ø 10.0 2 ø 10.0		Aviso 26
VB49	19.59 601.32 41.06	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1145.13 -1545.43	2 ø 10.0 2 ø 10.0		Aviso 26
VB50	1445.14	2 ø 10.0		-3.60 -28.25	2 ø 10.0 2 ø 10.0		Aviso 26
VB51	1219.02	2 ø 10.0		-883.68 -54.40	2 ø 10.0 2 ø 10.0		Aviso 26
VB52	1257.20	2 ø 10.0		-2317.30 -2500.85	2 ø 10.0 2 ø 10.0		Aviso 26
VB53	1263.94	4 ø 10.0	4 ø 10.0	-2504.61 -2357.39	4 ø 10.0 4 ø 10.0	4 ø 10.0 4 ø 10.0	Aviso 26
VB54	727.97 510.77	2 ø 10.0 2 ø 10.0		-1349.14 -1544.12	2 ø 10.0 2 ø 10.0		Aviso 26

				-998.16	2 ø 10.0		
VB55	572.86 625.59	2 ø 10.0 2 ø 10.0		-1158.42 -1320.71 -1337.75	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB56	111.19 1734.24	4 ø 12.5 2 ø 10.0	4 ø 12.5	-0.04 -3030.32 -1502.12	4 ø 12.5 4 ø 12.5 2 ø 10.0	4 ø 12.5 4 ø 12.5	Aviso 26
VB57	1183.77	2 ø 10.0		-3066.79 -2324.58	2 ø 10.0 2 ø 10.0		Aviso 26
VB58	543.35 1401.11	2 ø 10.0 2 ø 10.0		-287.97 -3118.46 -14.65	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB59	470.50 1203.73	2 ø 10.0 2 ø 10.0		-898.62 -1892.61 -1939.62	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB60	3998.77 755.26 3596.32	4 ø 10.0 2 ø 16.0 2 ø 16.0	2 ø 10.0 2 ø 16.0 2 ø 16.0	-4974.10 -1906.69 -6060.06 -476.25 -493.20 -1997.25 -4225.70	3 ø 12.5 3 ø 10.0 4 ø 12.5 2 ø 16.0 2 ø 16.0 2 ø 16.0 2 ø 12.5	2 ø 10.0 2 ø 10.0 4 ø 12.5 2 ø 16.0 2 ø 16.0 2 ø 16.0	Avisos 26, 04, 06
VB61	184.06 165.09	2 ø 10.0 2 ø 16.0	2 ø 16.0	-297.12 -436.91 -467.82	2 ø 10.0 2 ø 16.0 2 ø 16.0	2 ø 16.0 2 ø 16.0	Aviso 26
VB62	104.87 71.86	2 ø 12.5 2 ø 12.5		-16.69 -2811.63 -87.42	2 ø 12.5 2 ø 12.5 2 ø 12.5		Aviso 26
VB63	212.59 434.22	2 ø 10.0 2 ø 10.0		-5546.27	2 ø 12.5		Aviso 26
VB64	774.21 794.70	2 ø 10.0 2 ø 10.0		-64.95 -1578.42 -47.41	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB65	576.30 714.66	2 ø 10.0 2 ø 10.0		-1382.10 -1721.06 -735.32	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB66	474.20 484.79	4 ø 12.5 4 ø 12.5	4 ø 12.5 4 ø 12.5	-2042.14 -1089.15 -1736.59	4 ø 12.5 4 ø 12.5 4 ø 12.5	4 ø 12.5 4 ø 12.5 4 ø 12.5	Aviso 26
VB67	5.62 2276.84	2 ø 10.0 2 ø 10.0		-4.80 -4052.00 -86.79	2 ø 10.0 3 ø 10.0 2 ø 10.0		Aviso 26
VB68	690.06 722.57	2 ø 10.0 2 ø 10.0		-1313.87 -1716.07 -819.13	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26
VB69	33.26 215.14	3 ø 10.0 3 ø 10.0		-46.05 -1689.86 -0.04	3 ø 10.0 3 ø 10.0 3 ø 10.0		Aviso 26
VB70	2521.59	2 ø 10.0		-2487.45 -114.98	2 ø 10.0 2 ø 10.0		Aviso 26
VB71	617.50 579.53	2 ø 10.0 2 ø 10.0		-2941.26	2 ø 10.0		Aviso 26
VB72	13.96	3 ø 10.0		-240.35 -32.32	3 ø 10.0 3 ø 10.0		Avisos 26, 02
VB73	603.30 546.51	2 ø 10.0 2 ø 10.0		-2921.06	2 ø 10.0		Aviso 26
VB74	626.08 587.94 200.53 590.88	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1265.57 -1417.00 -1083.56 -1274.91	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 26

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

	604.76	4 ø 12.5	4 ø 12.5	-1560.88	4 ø 12.5	4 ø 12.5	
	559.35	4 ø 12.5	4 ø 12.5	-1418.91	4 ø 12.5	4 ø 12.5	
	603.55	4 ø 12.5	4 ø 12.5	-1471.27	4 ø 12.5	4 ø 12.5	
	583.67	2 ø 10.0		-1537.83	4 ø 12.5	4 ø 12.5	
	180.25	4 ø 12.5	4 ø 12.5	-1331.42	4 ø 12.5	4 ø 12.5	
	648.12	4 ø 12.5	4 ø 12.5	-1089.65	4 ø 12.5	4 ø 12.5	
	662.56	2 ø 10.0		-1679.34	4 ø 12.5	4 ø 12.5	
				-1485.37	2 ø 10.0		
VC1	6.56	3 ø 12.5	3 ø 10.0	-0.04 -0.04	3 ø 10.0 3 ø 10.0		Avisos 26, 03



## 7. Pavimento TÉRREO NV-320

## 8. Cálculo dos Pilares

<b>TÉRREO NV-320</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 2</b>		$\text{cobr} = 3.00 \text{ cm}$	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 40.00	RR					3.14
		57.09	27.09	2418	5881	(*)	(4 ø 10.0)
		RR	16.30	3	8	2.43	5.50
		28.54					(7 ø 10.0)
P3	20.00 X 40.00	RR					1.57
		57.09	40.53	1562	3372	(*)	(2 ø 10.0)
		RR	23.42	1873	4045	2.16	2.36
		28.54					(3 ø 10.0)
P5	20.00 X 40.00	RR					1.57
		57.09	38.27	1460	3227	(*)	(2 ø 10.0)
		RR	22.18	1938	4283	2.21	2.36
		28.54					(3 ø 10.0)
P7	20.00 X 40.00	RR					9.42
		57.09	59.93	1244	2176	(*)	(3 ø 20.0)
		RR	34.30	10805	18891	1.75	9.42
		28.54					(3 ø 20.0)
P8	20.00 X 40.00	RR					1.57
		57.09	45.82	1769	3355	(*)	(2 ø 10.0)
		RR	26.59	2559	4853	1.90	2.36
		28.54					(3 ø 10.0)
P9	15.00 X 50.00	RR					2.45
		76.12	21.46	2012	2473	(*)	(2 ø 12.5)
		RR	12.12	1456	1790	1.23	3.68
		22.84					(3 ø 12.5)
P10	15.00 X 50.00	RR					2.36
		76.12	34.22	2629	3755	(*)	(3 ø 10.0)
		RR	19.63	5173	7388	1.43	10.21
		30.79					(13 ø 10.0)
P11	20.00 X 40.00	RR					9.42
		57.09	66.00	2181	3138	(*)	(3 ø 20.0)
		RR	37.71	11823	17007	1.44	9.42
		38.23					(3 ø 20.0)
P12	20.00 X 40.00	RR					9.42
		57.09	66.29	1840	2985	(*)	(3 ø 20.0)
		RR	37.89	11804	19146	1.62	12.57
		38.23					(4 ø 20.0)
P13	20.00 X 40.00	RR					6.28
		57.09	26.64	2885	6403	(*)	(2 ø 20.0)
		RR	16.02	838	1860	2.22	9.42
		28.54					(3 ø 20.0)
P14	15.00 X 40.00	RR					1.57
		76.12	17.75	848	1849	(*)	(2 ø 10.0)
		RR	9.07	506	1105	2.18	2.36
		28.54					(3 ø 10.0)

P16	15.00 X 40.00	RR 76.12 RR 28.54	71.73 38.75	3565 425	3548 423	(*) 1.00	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P18	15.00 X 40.00	RR 76.12 RR 28.54	67.81 36.94	3353 487	3372 489	(*) 1.01	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P20	15.00 X 40.00	RR 76.12 RR 28.54	75.54 41.69	3766 970	3888 1001	(*) 1.03	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)
P21	15.00 X 40.00	RR 78.89 RR 28.54	28.12 15.36	1694 277	2374 389	(*) 1.40	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P23	20.00 X 40.00	RR 57.09 RR 28.54	38.76 23.54	3384 277	6517 534	(*) 1.93	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)
P25	20.00 X 40.00	RR 57.09 RR 29.58	60.36 35.20	2331 1507	4386 2835	(*) 1.88	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P27	20.00 X 40.00	RR 57.09 RR 28.54	60.83 35.25	2327 1059	4611 2099	(*) 1.98	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P29	20.00 X 40.00	RR 57.09 RR 28.54	93.31 52.20	3624 4670	4021 5182	(*) 1.11	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P31	20.00 X 40.00	RR 57.09 RR 28.54	56.55 32.30	2187 655	4700 1408	(*) 2.15	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P32	20.00 X 30.00	RR 57.09 RR 38.06	25.60 14.73	31 5767	36 6683	(*) 1.16	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P33	20.00 X 30.00	RR 57.09 RR 38.06	38.92 22.28	484 6869	507 7203	(*) 1.05	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P34	20.00 X 40.00	RR 57.09 RR 38.23	91.00 51.51	3561 4827	6128 8307	(*) 1.72	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P35	20.00 X 40.00	RR 57.09 RR 38.23	96.65 55.13	3791 6227	3865 6348	(*) 1.02	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P36	20.00 X 40.00	RR 57.09 RR 28.54	36.66 22.00	3762 606	6340 1022	(*) 1.69	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P37	20.00 X 40.00	RR 57.09 RR 28.54	36.73 22.04	3505 236	7262 489	(*) 2.07	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)

P38	20.00 X 40.00	RR 57.09 RR 28.54	79.72 45.61	3148 2722	4483 3876	(*) 1.42	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P39	20.00 X 40.00	RR 57.09 RR 28.54	28.91 16.62	2388 1039	3954 1720	(*) 1.66	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P40	20.00 X 40.00	RR 57.09 RR 29.58	45.17 25.02	1800 135	4281 321	(*) 2.38	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P41	20.00 X 40.00	RR 57.09 RR 29.58	62.10 39.43	2377 1050	5373 2373	(*) 2.26	3.68 (3 ø 12.5) 3.68 (3 ø 12.5)
P42	20.00 X 40.00	RR 57.09 RR 29.58	86.73 51.96	3406 1941	7133 4064	(*) 2.09	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P43	15.00 X 50.00	RR 76.12 RR 17.94	33.51 18.20	2775 2391	2791 2406	(*) 1.01	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P44	15.00 X 50.00	RR 76.12 RR 22.84	49.55 28.50	3567 5783	3570 5787	(*) 1.00	2.36 (3 ø 10.0) 7.07 (9 ø 10.0)
P45	20.00 X 40.00	RR 57.09 RR 28.54	102.70 58.14	4044 7208	4659 8304	(*) 1.15	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P46	20.00 X 40.00	RR 57.09 RR 29.58	97.98 55.69	3854 7370	4577 8753	(*) 1.19	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P47	20.00 X 40.00	RR 57.09 RR 28.54	36.78 22.06	3463 890	5529 1420	(*) 1.60	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P50	15.00 X 40.00	RR 78.89 RR 28.54	17.95 9.17	904 746	1789 1476	1.98	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P51	20.00 X 50.00	RR 59.69 RR 23.87	19.11 9.57	2222 5143	2362 5466	(*) 1.06	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P52	20.00 X 50.00	RR 59.69 RR 23.87	20.43 10.46	3070 10196	3070 10197	(*) 1.00	2.36 (3 ø 10.0) 4.71 (6 ø 10.0)
P54	15.00 X 40.00	RR 78.89 RR 28.54	19.49 10.29	988 902	1819 1661	1.84	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P55	20.00 X 50.00	EL 114.18 EL 45.67	1.07 0.00	549 231	1722 726	(*) 3.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P56	20.00 X 50.00	EL 114.18 EL 45.67	1.07 0.00	549 231	1722 726	(*) 3.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P57	15.00 X 50.00	RR 76.12 RR 22.84	69.56 37.37	3332 4227	3366 4269	(*) 1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P58	20.00 X 40.00	RR 57.09 RR 28.54	60.33 35.99	2335 2881	4509 5563	(*) 1.93	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P61	20.00 X 40.00	RR 57.09 RR 28.54	31.59 19.49	2326 610	5289 1386	(*) 2.27	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P62	20.00 X 40.00	RR 57.09 RR 28.54	19.28 11.58	152 3320	284 6205	(*) 1.87	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P63	15.00 X 40.00	RR 76.12 RR 28.54	26.59 15.63	1206 1300	2602 2806	(*) 2.16	2.36 (3 ø 10.0) 4.71 (6 ø 10.0)
P64	60.00 X 60.00	RR 18.74 EL 37.48	75.86 45.03	7837 3374	62771 27023	(*) 8.01	15.71 (5 ø 20.0) 15.71 (5 ø 20.0)
P65	20.00 X 30.00	RR 70.58 RR 38.06	27.12 15.74	1976 3183	3289 5298	(*) 1.66	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P66	20.00 X 40.00	RR 57.09 RR 28.54	64.06 37.28	6899 1370	10932 2170	(*) 1.58	4.02 (2 ø 16.0) 16.08 (8 ø 16.0)
P67	20.00 X 40.00	RR 57.09 RR 28.54	66.41 38.82	6920 1266	11947 2186	(*) 1.73	4.02 (2 ø 16.0) 18.10 (9 ø 16.0)
P68	20.00 X 40.00	RR 57.09 RR 28.54	30.02 18.39	3321 340	6241 639	(*) 1.88	3.14 (4 ø 10.0) 6.28 (8 ø 10.0)
P69	20.00 X 50.00	RR 59.69 RR 23.87	15.97 8.26	2149 722	2810 945	(*) 1.31	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P70	20.00 X 50.00	EL 114.18 EL 45.67	1.07 0.00	482 0	1783 0	(*) 3.70	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P71	20.00 X 50.00	EL 114.18 EL 45.67	1.07 0.00	482 0	1783 0	(*) 3.70	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P72	20.00 X 50.00	RR 59.69 RR 23.87	25.13 13.01	4048 619	4188 641	(*) 1.03	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)

P73	20.00 X 40.00	RR 57.09 RR 28.54	31.59 19.43	2316 397	6829 1172	(*) 2.95	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P74	20.00 X 40.00	RR 57.09 RR 28.54	20.52 12.31	179 3391	337 6359	(*) 1.88	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P75	15.00 X 40.00	RR 76.12 RR 28.54	25.89 15.19	1173 1256	2487 2663	(*) 2.12	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P76	60.00 X 60.00	RR 18.74 EL 37.48	60.22 36.38	6525 2130	61746 20158	(*) 9.46	15.71 (5 ø 20.0) 15.71 (5 ø 20.0)
P77	15.00 X 60.00	RR 94.11 RR 23.53	14.49 4.87	2315 1036	3078 1377	(*) 1.33	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P78	20.00 X 40.00	RR 57.09 RR 28.54	51.09 30.91	1973 1347	6330 4321	(*) 3.21	2.45 (2 ø 12.5) 8.59 (7 ø 12.5)
P79	20.00 X 40.00	RR 57.09 RR 28.54	51.57 31.24	1995 1155	6503 3763	(*) 3.26	2.36 (3 ø 10.0) 7.85 (10 ø 10.0)
P80	20.00 X 40.00	RR 57.09 RR 28.54	29.50 18.09	3225 392	6826 829	(*) 2.12	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P81	15.00 X 50.00	RR 76.12 RR 22.84	68.30 36.70	3272 4043	3398 4198	(*) 1.04	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P82	20.00 X 40.00	RR 57.09 RR 28.54	64.69 39.03	2505 2740	4505 4927	(*) 1.80	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P83	15.00 X 50.00	RR 79.58 RR 22.84	16.72 8.05	2464 2595	2450 2580	(*) 0.99	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P84	15.00 X 50.00	RR 79.58 RR 23.87	32.51 16.06	1951 887	2584 1175	(*) 1.32	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P85	20.00 X 50.00	EL 114.18 EL 45.67	1.07 0.00	549 231	1722 726	(*) 3.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P86	20.00 X 50.00	EL 114.18 EL 45.67	1.07 0.00	549 231	1722 726	(*) 3.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P88	15.00 X 40.00	RR 76.12 RR 28.54	17.92 9.11	878 828	1754 1654	2.00	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P90	15.00 X 40.00	RR 78.89 RR 28.54	49.00 24.90	2934 1135	2989 1156	(*) 1.02	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P91	15.00 X 40.00	RR 97.34 RR 28.54	50.05 25.50	4079 892	4243 928	(*) 1.04	1.57 (2 ø 10.0) 7.85 (10 ø 10.0)
P93	15.00 X 40.00	RR 97.34 RR 28.54	18.39 9.59	1472 919	1866 1166	1.27	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P94	20.00 X 50.00	RR 59.69 RR 23.87	19.11 9.56	2218 4854	2395 5242	(*) 1.08	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P95	20.00 X 50.00	RR 59.69 RR 23.87	19.87 9.99	2908 8766	2935 8849	(*) 1.01	2.36 (3 ø 10.0) 3.93 (5 ø 10.0)
P97	20.00 X 40.00	RR 57.09 RR 28.54	37.33 22.60	3405 20	6883 41	(*) 2.02	2.36 (3 ø 10.0) 7.07 (9 ø 10.0)
P98	20.00 X 40.00	RR 57.09 RR 28.54	74.53 42.21	2933 2477	4457 3765	(*) 1.52	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P99	20.00 X 40.00	RR 57.09 RR 28.54	33.84 20.15	2498 1303	3888 2028	(*) 1.56	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P100	20.00 X 40.00	RR 57.09 RR 29.58	42.42 23.24	1604 251	4062 635	(*) 2.53	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P101	20.00 X 40.00	RR 59.17 RR 29.58	60.86 38.63	2425 985	4815 1955	(*) 1.99	2.36 (3 ø 10.0) 2.36 (3 ø 10.0)
P102	20.00 X 40.00	RR 59.17 RR 29.58	68.55 41.74	2717 2092	5047 3886	(*) 1.86	3.68 (3 ø 12.5) 3.68 (3 ø 12.5)
P103	15.00 X 50.00	RR 79.58 RR 17.94	23.87 13.33	1935 2169	2067 2318	(*) 1.07	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P104	15.00 X 50.00	RR 76.12 RR 23.87	32.95 18.92	2519 3165	2888 3628	(*) 1.15	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P105	20.00 X 40.00	RR 57.09 RR 28.54	65.32 38.51	2502 1797	4690 3368	(*) 1.87	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P106	20.00 X 40.00	RR 57.09 RR 28.54	65.04 39.10	2564 2250	4519 3967	(*) 1.76	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

P107	20.00 X 40.00	RR 57.09 RR 28.54	35.92 21.46	3236 661	5563 1136	(*) 1.72	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P108	20.00 X 40.00	RR 57.09 RR 28.54	36.92 22.23	3576 367	7047 723	(*) 1.97	2.45 (2 ø 12.5) 8.59 (7 ø 12.5)
P109	20.00 X 40.00	RR 57.09 RR 28.54	72.21 42.88	2819 1234	4930 2159	(*) 1.75	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P110	20.00 X 40.00	RR 57.09 RR 28.54	72.57 42.70	2775 559	5337 1076	(*) 1.92	2.36 (3 ø 10.0) 2.36 (3 ø 10.0)
P111	20.00 X 40.00	RR 57.09 RR 33.04	96.58 54.20	3748 5024	3959 5307	(*) 1.06	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P112	20.00 X 40.00	RR 57.09 RR 33.04	104.08 58.21	4133 4838	5280 6180	(*) 1.28	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P113	20.00 X 30.00	RR 58.82 RR 38.06	42.58 24.09	830 7732	855 7962	(*) 1.03	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P114	20.00 X 30.00	RR 58.82 RR 38.06	41.31 23.38	567 6896	596 7252	(*) 1.05	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P115	20.00 X 40.00	RR 57.09 RR 29.58	102.04 56.83	4000 4030	5498 5539	(*) 1.37	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P116	20.00 X 40.00	RR 57.09 RR 29.58	105.50 59.97	4176 5646	4220 5707	(*) 1.01	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P117	20.00 X 40.00	RR 57.09 RR 28.54	36.74 21.97	3764 503	6394 854	(*) 1.70	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P118	15.00 X 40.00	RR 76.12 RR 28.54	17.83 9.07	854 868	2488 2529	(*) 2.91	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P119	15.00 X 40.00	RR 76.12 RR 28.54	43.05 20.70	2084 771	2687 994	(*) 1.29	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P120	15.00 X 40.00	RR 76.12 RR 28.54	39.90 19.18	1943 880	3341 1514	(*) 1.72	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P123	15.00 X 40.00	RR 76.12 RR 28.54	17.84 9.11	853 632	1812 1341	2.12	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P126	20.00 X 40.00	RR 57.09 RR 28.54	27.51 16.56	2357 624	5699 1508	(*) 2.42	3.68 (3 ø 12.5) 6.14 (5 ø 12.5)
P127	20.00 X 40.00	RR 57.09 RR 28.54	51.15 29.96	1986 1044	7291 3833	(*) 3.67	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P128	20.00 X 40.00	RR 57.09 RR 28.54	46.70 27.41	1783 1033	5835 3383	(*) 3.27	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P129	20.00 X 40.00	RR 57.09 RR 29.58	60.85 34.81	1264 10834	2009 17226	(*) 1.59	6.03 (3 ø 16.0) 10.05 (5 ø 16.0)
P130	20.00 X 40.00	RR 57.09 RR 29.58	66.35 37.79	1792 11636	2746 17832	(*) 1.53	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P131	15.00 X 50.00	RR 76.12 RR 23.87	34.48 19.70	2735 4070	3735 5559	(*) 1.37	2.36 (3 ø 10.0) 8.64 (11 ø 10.0)
P132	15.00 X 50.00	RR 76.12 RR 23.87	34.14 19.48	2227 7009	3193 10048	(*) 1.43	2.36 (3 ø 10.0) 10.21 (13 ø 10.0)
P133	20.00 X 40.00	RR 57.09 RR 36.50	64.20 36.36	2029 12262	2893 17486	(*) 1.43	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P134	20.00 X 40.00	RR 57.09 RR 36.50	66.36 37.88	1903 13273	2601 18137	(*) 1.37	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P135	20.00 X 40.00	RR 57.09 RR 28.54	26.91 16.16	2752 697	6475 1641	(*) 2.35	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
PE-1	15.00 X 40.00	RR 99.19 RR 28.54	17.83 9.11	1469 596	1913 776	1.30	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
PES1	15.00 X 40.00	RR 59.79 RR 22.42	4.96 2.07	31 2696	49 4244	1.57	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
PES2	15.00 X 40.00	RR 59.79 RR 22.42	5.09 1.99	15 3198	21 4267	1.33	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)



## 9. Vigas do pavimento TÉRREO NV-320

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V101	5801.40 2973.37 3891.15 3202.58 6321.90	2 ø 12.5 2 ø 10.0 2 ø 10.0 2 ø 10.0 4 ø 10.0	3 ø 10.0    3 ø 10.0	-5294.94 -7812.16 -6910.14 -6125.22 -9117.45 -2778.78	2 ø 12.5 3 ø 12.5 4 ø 10.0 4 ø 10.0 2 ø 16.0 2 ø 10.0		
V102	6313.66 3086.69 6027.32	4 ø 10.0 2 ø 10.0 2 ø 12.5		-3132.17 -8005.99 -7822.35 -4965.89	2 ø 10.0 3 ø 12.5 3 ø 12.5 2 ø 12.5		
V103	16097.46 6096.36 12412.15 8463.96 18296.05	6 ø 12.5 3 ø 12.5 3 ø 16.0 3 ø 12.5 4 ø 16.0		-7227.66 -424.59 -27159.19 -4390.27 -18492.32 -28501.28 -1110.45 -24216.84 -5662.34	3 ø 12.5 3 ø 12.5 4 ø 20.0 3 ø 12.5 4 ø 16.0 4 ø 20.0 3 ø 12.5 5 ø 16.0 3 ø 12.5		Avisos 04, 38
V104	19187.76 7941.03 16798.36	4 ø 16.0 5 ø 10.0 4 ø 16.0	3 ø 10.0 3 ø 10.0	-6792.49 -23832.55 -410.62 -33710.27 -6919.28	3 ø 12.5 6 ø 16.0 4 ø 12.5 5 ø 20.0 4 ø 12.5	3 ø 10.0 3 ø 10.0 3 ø 10.0	Avisos 04, 08, 38
V105	16376.90 2690.03 15.73 8419.53 4020.03	6 ø 12.5 3 ø 12.5 3 ø 12.5 3 ø 12.5 3 ø 12.5		-7504.53 -18560.04 -3414.16 -12715.64 -11587.09 -14159.50	3 ø 12.5 4 ø 16.0 3 ø 12.5 3 ø 16.0 4 ø 12.5 3 ø 16.0		Avisos 38, 106
V106	13055.81	4 ø 16.0		-16711.31 -3001.22	3 ø 20.0 4 ø 10.0		Aviso 38
V107	16666.12 6121.35 15543.67	6 ø 12.5 3 ø 12.5 2 ø 20.0		-3640.71 -21329.36 -21060.51 -6256.71	3 ø 12.5 3 ø 20.0 3 ø 20.0 3 ø 12.5		Aviso 08
V108	1612.15 2705.23	3 ø 10.0 3 ø 10.0		-1055.16 -653.66 -7430.96	3 ø 10.0 3 ø 10.0 4 ø 12.5		
V109	11876.40	2 ø 20.0	4 ø 10.0	-161.89	4 ø 10.0		
V110	7974.29 1119.24 768.12	3 ø 12.5 4 ø 10.0 4 ø 10.0		-4941.34 -9784.69 -6160.17 -59.22	4 ø 10.0 2 ø 16.0 4 ø 10.0 4 ø 10.0		Aviso 38
V111	4157.24	4 ø 10.0		-17170.73	3 ø 20.0		
V112	5023.33 3636.91 5805.18	3 ø 12.5 2 ø 12.5 2 ø 16.0	3 ø 10.0	-6894.29 -8904.07 -10070.22 -6228.39	4 ø 12.5 2 ø 20.0 6 ø 12.5 2 ø 16.0		Avisos 38, 101
V113	7969.92 1050.83 760.37	3 ø 12.5 4 ø 10.0 4 ø 10.0		-4954.30 -9730.97 -5995.78 -75.92	4 ø 10.0 2 ø 16.0 4 ø 10.0 4 ø 10.0		Aviso 38

V114	3428.15	4 ø 10.0		-261.71 -14007.98	4 ø 10.0 4 ø 16.0		
V115	5577.72 3160.65 5420.26	2 ø 16.0 3 ø 10.0 3 ø 12.5	3 ø 10.0 3 ø 10.0	-4152.21 -9526.11 -9405.99 -5822.96	4 ø 10.0 2 ø 20.0 2 ø 20.0 2 ø 16.0		Aviso 38
V116	1936.09 2654.57	3 ø 10.0 3 ø 10.0		-1148.57 -655.83 -7596.99	3 ø 10.0 3 ø 10.0 4 ø 12.5		
V117	10990.14	3 ø 16.0		-3988.73	4 ø 10.0		
V118	15355.88 2860.50 249.21 8152.32 5047.53	2 ø 20.0 3 ø 12.5 3 ø 12.5 3 ø 12.5 3 ø 12.5		-7043.89 -17845.01 -3032.78 -12577.99 -12286.64 -9547.19	3 ø 12.5 4 ø 16.0 3 ø 12.5 3 ø 16.0 4 ø 12.5 2 ø 16.0		Avisos 38, 106
V119	5632.98	3 ø 12.5	4 ø 10.0	-10572.47 -1638.91	2 ø 20.0 4 ø 10.0		Avisos 08, 38
V120	12883.85 4838.24 13987.08	3 ø 16.0 3 ø 12.5 3 ø 16.0		-3102.45 -15876.96 -19811.71 -5848.86	3 ø 12.5 6 ø 12.5 4 ø 16.0 3 ø 12.5		Avisos 08, 38
V121	16987.22 6890.58 12138.10 9121.18 23010.77	4 ø 16.0 3 ø 12.5 4 ø 12.5 3 ø 12.5 3 ø 20.0		-7748.04 -33942.85 -2563.93 -18466.62 -29947.29 -473.28 -28768.34 -7985.60	3 ø 12.5 5 ø 20.0 3 ø 12.5 4 ø 16.0 4 ø 20.0 3 ø 12.5 4 ø 20.0 3 ø 12.5		Avisos 04, 38, 101
V122	19719.83 9006.73 16843.68	4 ø 16.0 3 ø 12.5 6 ø 12.5	3 ø 10.0 3 ø 10.0	-7081.83 -25563.22 -1140.85 -34199.65 -284.85 -6979.30	3 ø 12.5 4 ø 20.0 4 ø 12.5 5 ø 20.0 4 ø 12.5 4 ø 12.5	3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0	Avisos 04, 08, 38, 101
V123	5829.20 2995.73 3794.48 3363.67 6759.05	2 ø 12.5 2 ø 10.0 2 ø 10.0 2 ø 10.0 4 ø 10.0	2 ø 10.0 2 ø 10.0	-5305.44 -7853.65 -6697.86 -6181.29 -8984.25 -3038.64	2 ø 12.5 3 ø 12.5 4 ø 10.0 4 ø 10.0 2 ø 16.0 2 ø 10.0		
V124	6259.59 3045.78 6002.67	4 ø 10.0 2 ø 10.0 2 ø 12.5		-3199.55 -8078.10 -7765.19 -5006.31	2 ø 10.0 3 ø 12.5 3 ø 12.5 2 ø 12.5		
V125	2942.18 1265.12	2 ø 10.0 2 ø 10.0		-4713.36 -5181.48 -2891.30	3 ø 10.0 2 ø 12.5 2 ø 10.0		
V125-B	1388.43 2833.76	2 ø 10.0 2 ø 10.0		-2528.18 -5191.51 -4491.80	2 ø 10.0 2 ø 12.5 3 ø 10.0		
V125-C	2697.94 1491.26	2 ø 10.0 2 ø 10.0		-3928.90 -5114.46 -3053.65	2 ø 10.0 2 ø 12.5 2 ø 10.0		
V125-D	1829.14 2352.98	2 ø 10.0 2 ø 10.0		-2974.66 -4899.34 -4403.91	2 ø 10.0 3 ø 10.0 3 ø 10.0		
V126	445.43	2 ø 10.0		-188.85 -600.34	2 ø 10.0 2 ø 10.0		

V127	409.13	2 ø 10.0		-405.06 -490.79	2 ø 10.0 2 ø 10.0		
V128	6642.01 4276.10 12731.83 802.15	2 ø 12.5 2 ø 12.5 4 ø 12.5 2 ø 12.5		-8970.11 -12594.43 -2168.16 -17881.26 -21205.72 -226.76	3 ø 12.5 4 ø 12.5 2 ø 12.5 2 ø 20.0 4 ø 16.0 2 ø 12.5		Aviso 38
V129	1157.67 12890.38 0.11 5432.91 6487.17	2 ø 12.5 4 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5		-20952.09 -17703.18 -5253.06 -12224.54 -6289.21	4 ø 16.0 2 ø 20.0 2 ø 12.5 4 ø 12.5 2 ø 12.5		Aviso 38
V130	0.11 1263.26 0.11	3 ø 10.0 3 ø 10.0 3 ø 10.0		-240.30 -3041.21 -3080.95 -286.67	3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0		
V131	4607.52	4 ø 10.0		-5773.78 -9160.39	2 ø 16.0 2 ø 20.0		
V132	4550.64	4 ø 10.0		-8704.90 -5907.09	2 ø 20.0 2 ø 16.0		
V133	6444.15 3253.55 1891.61	2 ø 12.5 2 ø 12.5 2 ø 12.5		-8361.43 -11653.98 -4148.46 -2610.70	4 ø 10.0 2 ø 16.0 2 ø 12.5 2 ø 12.5		Avisos 08, 38
V134	1256.30 4723.35 6656.90	2 ø 12.5 2 ø 12.5 2 ø 12.5		-958.13 -5687.64 -11771.53 -6601.25	2 ø 12.5 2 ø 12.5 2 ø 16.0 2 ø 12.5		Avisos 08, 38
V135	21407.17 3683.16	4 ø 16.0 2 ø 12.5	4 ø 12.5	-26976.70 -29460.77 -3479.90	5 ø 16.0 6 ø 16.0 2 ø 12.5		Aviso 106
V136	4729.10 20776.06	2 ø 12.5 4 ø 16.0		-3691.75 -28645.22 -26820.23	2 ø 12.5 6 ø 16.0 5 ø 16.0		Aviso 106
V137	23266.08 4994.80	3 ø 20.0 2 ø 12.5	4 ø 12.5	-28749.09 -33962.86 -12214.03	6 ø 16.0 4 ø 20.0 4 ø 12.5		Aviso 106
V138	4602.78 0.11 3385.31 8778.63	2 ø 12.5 2 ø 12.5 2 ø 12.5 4 ø 10.0		-13884.24 -4550.83 -13518.68 -8700.44	4 ø 12.5 2 ø 12.5 4 ø 12.5 4 ø 10.0		Aviso 38
V139	5375.48	4 ø 10.0		-1925.05 -948.12	2 ø 10.0 2 ø 10.0		
V140	5407.02	4 ø 10.0		-536.53 -1937.67	2 ø 10.0 2 ø 10.0		
V141	9016.87 1355.80	3 ø 12.5 2 ø 10.0		-13367.86 -10700.23	4 ø 12.5 2 ø 16.0		
V142	8833.17 5222.95 3164.35	4 ø 10.0 3 ø 10.0 2 ø 10.0		-14053.41 -10374.23 -6633.65 -8911.48 -682.49	3 ø 16.0 2 ø 16.0 2 ø 12.5 3 ø 12.5 2 ø 10.0		
V143	645.41	2 ø 10.0		-572.75 -1801.34	2 ø 10.0 2 ø 10.0		
V144	2091.75 1351.21	3 ø 10.0 3 ø 10.0		-215.00 -3839.30 -3560.05	3 ø 10.0 3 ø 10.0 3 ø 10.0		Avisos 08, 38
V145	12387.36 10090.63	4 ø 12.5 3 ø 12.5	2 ø 12.5	-4494.89 -16409.76	2 ø 12.5 3 ø 16.0		Avisos 08, 38

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

				-11393.66 -13089.75	2 ø 16.0 4 ø 12.5		
V146	4217.45	2 ø 12.5		-9959.37 -4325.85	3 ø 16.0 2 ø 12.5		
V147	2511.63 1395.71 99.67	2 ø 12.5 2 ø 12.5 2 ø 12.5		-3387.78 -4296.46 -1822.42 -1911.65	2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5		Aviso 38
V148	22804.46 5201.71 7187.41	4 ø 16.0 2 ø 12.5 2 ø 12.5	4 ø 12.5	-29078.83 -33687.48 -5211.95 -14268.84 -3393.06	6 ø 16.0 4 ø 20.0 2 ø 12.5 4 ø 12.5 2 ø 12.5		Avisos 38, 106
V149	28639.04 25380.08	7 ø 16.0 7 ø 16.0	2 ø 12.5 7 ø 16.0	-14664.21 -39510.07 -34769.75 -29634.01	3 ø 16.0 5 ø 20.0 7 ø 16.0 4 ø 20.0		Avisos 101, 106
V150	24838.54 6144.48 7061.94	3 ø 20.0 2 ø 12.5 2 ø 12.5	4 ø 12.5	-31666.51 -33970.14 -2288.13 -14525.84 -3565.07	4 ø 20.0 7 ø 16.0 2 ø 12.5 3 ø 16.0 2 ø 12.5		Avisos 38, 101, 106
V151	29999.14 0.11 25988.07	10 ø 12.5 2 ø 16.0 10 ø 12.5	2 ø 12.5 2 ø 16.0 2 ø 12.5	-14547.90 -40302.12 -32307.19 -30705.12	3 ø 16.0 5 ø 20.0 4 ø 20.0 4 ø 20.0		Avisos 101, 106
V152	344.85	2 ø 10.0		-362.33 -611.10	2 ø 10.0 2 ø 10.0		
V153	326.31	2 ø 10.0		-869.67 -246.86	2 ø 10.0 2 ø 10.0		
V154	2325.48 1910.56	2 ø 10.0 2 ø 10.0		-4512.42 -5016.15 -3116.84	3 ø 10.0 2 ø 12.5 2 ø 10.0		
V154-B	1776.51 2442.11	2 ø 10.0 2 ø 10.0		-3468.83 -5308.23 -3638.82	2 ø 10.0 2 ø 12.5 2 ø 10.0		
V154-C	2609.76 1873.06	2 ø 10.0 2 ø 10.0		-3991.84 -5590.89 -3106.96	3 ø 10.0 2 ø 12.5 2 ø 10.0		
V154-D	1832.57 2341.54	2 ø 10.0 2 ø 10.0		-3454.14 -4971.89 -4177.19	2 ø 10.0 2 ø 12.5 3 ø 10.0		
V155	2992.91 5973.26 6066.09 2880.45	2 ø 10.0 4 ø 10.0 4 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0	-12443.95 -9682.39 -12626.16	3 ø 16.0 2 ø 16.0 3 ø 16.0	2 ø 10.0 2 ø 10.0 2 ø 10.0	Aviso 03
V156	2883.42 11674.58 12808.32 2777.81	2 ø 10.0 4 ø 12.5 3 ø 16.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	-17581.91 -14.77 -18581.24 -18950.13	4 ø 16.0 2 ø 12.5 4 ø 16.0 4 ø 16.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	Aviso 03
V157	2366.82	4 ø 10.0	4 ø 10.0	-2052.20 -477.49	4 ø 10.0 4 ø 10.0	4 ø 10.0 4 ø 10.0	Aviso 08
V158	1949.46	4 ø 10.0	4 ø 10.0	-104.65 -2222.47	4 ø 10.0 4 ø 10.0	4 ø 10.0 4 ø 10.0	Aviso 08

## 10. Cálculos das Lajes

<b>TÉRREO NV-320</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 2</b>		$\text{cobr} = 2.50 \text{ cm}$	

ARMADURAS POSITIVAS (LAJE)								
Laje	Direção	Momento positivo		Momento negativo		Armadura inferior	Armadura superior	Cisalhamento
		Seção	Flexão	Seção	Flexão			
L101	X	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 2587 \text{ kgf.m/m}$ $As = 5.22 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 5442 \text{ kgf.m/m}$ $As = 11.76 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 5.22 \text{ cm}^2/\text{m}$ $\phi 12.5 \text{ c}/20$ ( $6.14 \text{ cm}^2/\text{m}$ ) $M = 1636.88 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.11 \text{ mm}$		$\text{vsd} = 6.72 \text{ tf/m}$ $\text{vrd1} = 10.85 \text{ tf/m}$ Modelo II $\text{vrd2} = 63.83 \text{ tf/m}$ $\text{vsw} = 0.00 \text{ tf/m}$ $\text{asw} = 0.00 \text{ cm}^2/\text{m}$
	Y	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1126 \text{ kgf.m/m}$ $As = 2.44 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 3157 \text{ kgf.m/m}$ $As = 7.28 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 2.44 \text{ cm}^2/\text{m}$ $\phi 8.0 \text{ c}/20$ ( $2.51 \text{ cm}^2/\text{m}$ ) $M = 703.79 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.09 \text{ mm}$		$\text{vsd} = 8.19 \text{ tf/m}$ $\text{vrd1} = 9.18 \text{ tf/m}$ $\text{vrd2} = 58.08 \text{ tf/m}$ $\text{vsw} = 0.00 \text{ tf/m}$ $\text{asw} = 0.00 \text{ cm}^2/\text{m}$
L102	X	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1700 \text{ kgf.m/m}$ $As = 3.34 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 4354 \text{ kgf.m/m}$ $As = 9.21 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 3.34 \text{ cm}^2/\text{m}$ $\phi 10.0 \text{ c}/20$ ( $3.93 \text{ cm}^2/\text{m}$ ) $M = 1073.36 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.09 \text{ mm}$		$\text{vsd} = 4.72 \text{ tf/m}$ $\text{vrd1} = 10.37 \text{ tf/m}$ Modelo II $\text{vrd2} = 64.54 \text{ tf/m}$ $\text{vsw} = 0.00 \text{ tf/m}$ $\text{asw} = 0.00 \text{ cm}^2/\text{m}$
	Y	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 917 \text{ kgf.m/m}$ $As = 1.93 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1731 \text{ kgf.m/m}$ $As = 3.73 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 1.93 \text{ cm}^2/\text{m}$ $\phi 8.0 \text{ c}/20$ ( $2.51 \text{ cm}^2/\text{m}$ ) $M = 392.06 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.03 \text{ mm}$		$\text{vsd} = 2.66 \text{ tf/m}$ $\text{vrd1} = 9.36 \text{ tf/m}$ $\text{vrd2} = 59.49 \text{ tf/m}$ $\text{vsw} = 0.00 \text{ tf/m}$ $\text{asw} = 0.00 \text{ cm}^2/\text{m}$
L103	X	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1705 \text{ kgf.m/m}$ $As = 3.35 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 4740 \text{ kgf.m/m}$ $As = 10.10 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 3.35 \text{ cm}^2/\text{m}$ $\phi 10.0 \text{ c}/20$ ( $3.93 \text{ cm}^2/\text{m}$ ) $M = 1075.73 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.09 \text{ mm}$		$\text{vsd} = 5.90 \text{ tf/m}$ $\text{vrd1} = 10.37 \text{ tf/m}$ Modelo II $\text{vrd2} = 64.54 \text{ tf/m}$ $\text{vsw} = 0.00 \text{ tf/m}$ $\text{asw} = 0.00 \text{ cm}^2/\text{m}$
	Y	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1032 \text{ kgf.m/m}$ $As = 2.18 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 2421 \text{ kgf.m/m}$ $As = 5.36 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 2.18 \text{ cm}^2/\text{m}$ $\phi 8.0 \text{ c}/20$ ( $2.51 \text{ cm}^2/\text{m}$ ) $M = 654.09 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.07 \text{ mm}$		$\text{vsd} = 4.25 \text{ tf/m}$ $\text{vrd1} = 9.36 \text{ tf/m}$ $\text{vrd2} = 59.49 \text{ tf/m}$ $\text{vsw} = 0.00 \text{ tf/m}$ $\text{asw} = 0.00 \text{ cm}^2/\text{m}$
L104	X	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1595 \text{ kgf.m/m}$ $As = 3.13 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 4811 \text{ kgf.m/m}$ $As = 10.26 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 3.13 \text{ cm}^2/\text{m}$ $\phi 10.0 \text{ c}/20$ ( $3.93 \text{ cm}^2/\text{m}$ ) $M = 1005.34 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $\text{fiss} = 0.07 \text{ mm}$		$\text{vsd} = 5.28 \text{ tf/m}$ $\text{vrd1} = 10.37 \text{ tf/m}$ Modelo II $\text{vrd2} = 64.54 \text{ tf/m}$ $\text{vsw} = 0.00 \text{ tf/m}$ $\text{asw} = 0.00 \text{ cm}^2/\text{m}$

	Y	bw = 100.0 cm h = 15.0 cm	Md = 1010 kgf.m/m As = 2.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2375 kgf.m/m As = 5.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.13 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 642.13 kgf.m/m F = 0.00 tf fiss = 0.07 mm		vsd = 4.32 tf/m vrd1 = 9.36 tf/m vrd2 = 59.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L105	X	bw = 100.0 cm h = 15.0 cm	Md = 2536 kgf.m/m As = 5.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 5300 kgf.m/m As = 11.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.11 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1603.51 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 6.11 tf/m vrd1 = 10.85 tf/m Modelo II vrd2 = 63.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1096 kgf.m/m As = 2.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2828 kgf.m/m As = 6.48 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.37 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 684.17 kgf.m/m F = 0.00 tf fiss = 0.08 mm		vsd = 3.33 tf/m vrd1 = 9.18 tf/m vrd2 = 58.08 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L106	X	bw = 100.0 cm h = 15.0 cm	Md = 2288 kgf.m/m As = 4.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3311 kgf.m/m As = 6.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.54 cm <sup>2</sup> /m ø10.0 c/17 (4.62 cm <sup>2</sup> /m) M = 1443.26 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 5.79 tf/m vrd1 = 10.55 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1556 kgf.m/m As = 3.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3180 kgf.m/m As = 7.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.34 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 985.08 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 1.97 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2017.67 kgf.m/m F = 0.00 tf fiss = 0.14 mm	vsd = 5.18 tf/m vrd1 = 9.65 tf/m vrd2 = 58.92 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L107	X	bw = 100.0 cm h = 15.0 cm	Md = 1333 kgf.m/m As = 2.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3247 kgf.m/m As = 6.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.58 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 836.09 kgf.m/m F = 0.00 tf fiss = 0.09 mm		vsd = 6.39 tf/m vrd1 = 10.11 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1347 kgf.m/m As = 2.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2522 kgf.m/m As = 5.48 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.80 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 859.15 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 1.97 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1596.17 kgf.m/m F = 0.00 tf fiss = 0.12 mm	vsd = 5.41 tf/m vrd1 = 9.62 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L108	X	bw = 100.0 cm h = 15.0 cm	Md = 2444 kgf.m/m As = 4.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3281 kgf.m/m As = 6.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.86 cm <sup>2</sup> /m ø10.0 c/16 (4.91 cm <sup>2</sup> /m) M = 1544.84 kgf.m/m F = 0.00 tf fiss = 0.11 mm	A's = 0.03 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 2059.09 kgf.m/m F = 0.00 tf	vsd = 5.79 tf/m vrd1 = 10.62 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

							fiss = 0.14 mm	
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1521 kgf.m/m As = 3.27 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3225 kgf.m/m As = 7.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.27 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 961.01 kgf.m/m F = 0.00 tf fiss = 0.08 mm	A's = 1.97 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2076.03 kgf.m/m F = 0.00 tf fiss = 0.13 mm	vsd = 8.43 tf/m vrd1 = 9.65 tf/m vrd2 = 58.92 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L109	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1404 kgf.m/m As = 2.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.08 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 379.98 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 0.94 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L110	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 162.17 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 3.35 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1691 kgf.m/m As = 3.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 4.23 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L111	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1544 kgf.m/m As = 3.00 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 10.57 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 4.19 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 233.69 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 3.16 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L112	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1487 kgf.m/m As = 2.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 11.93 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.80 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 818 kgf.m/m As = 1.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 180.68 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.17 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L113	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2412 kgf.m/m As = 4.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 137.15 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 5.64 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 987 kgf.m/m As = 2.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 930 kgf.m/m As = 1.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.04 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 657.13 kgf.m/m F = 0.00 tf fiss = 0.07 mm		vsd = 1.09 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L114	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1885 kgf.m/m As = 3.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.67 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 385.24 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 1.43 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L115	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 136.92 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.16 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1781 kgf.m/m As = 3.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.24 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L116	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1778 kgf.m/m As = 3.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.45 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 354.33 kgf.m/m		vsd = 1.27 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m



			A's = 0.00 cm <sup>2</sup> /m			F = 0.00 tf fiss = 0.02 mm		
L117	X	bw = 100.0 cm h = 15.0 cm	Md = 2565 kgf.m/m  As = 5.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 5857 kgf.m/m  As = 12.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.17 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1623.26 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 10.46 tf/m vrđ1 = 10.85 tf/m Modelo II vrđ2 = 63.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1267 kgf.m/m  As = 2.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3196 kgf.m/m  As = 7.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.75 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 792.08 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 2.65 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 2053.74 kgf.m/m F = 0.00 tf fiss = 0.14 mm	vsd = 8.32 tf/m vrđ1 = 9.25 tf/m vrđ2 = 58.08 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L118	X	bw = 100.0 cm h = 15.0 cm	Md = 1131 kgf.m/m  As = 2.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2166 kgf.m/m  As = 4.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.19 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 726.04 kgf.m/m F = 0.00 tf fiss = 0.07 mm		vsd = 7.69 tf/m vrđ1 = 10.07 tf/m Modelo II vrđ2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2880 kgf.m/m  As = 6.30 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 208.76 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 8.78 tf/m vrđ1 = 9.50 tf/m vrđ2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L119	X	bw = 100.0 cm h = 15.0 cm	Md = 1380 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3977 kgf.m/m  As = 8.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.68 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 872.59 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 2.44 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2521.86 kgf.m/m F = 0.00 tf fiss = 0.13 mm	vsd = 6.20 tf/m vrđ1 = 10.14 tf/m Modelo II vrđ2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1348 kgf.m/m  As = 2.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1910 kgf.m/m  As = 4.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.81 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 859.62 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 2.15 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1236.16 kgf.m/m F = 0.00 tf fiss = 0.12 mm	vsd = 6.46 tf/m vrđ1 = 9.62 tf/m vrđ2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L120	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 486.76 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 3.66 tf/m vrđ1 = 10.07 tf/m Modelo II vrđ2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m	bw = 100.0 cm h = 15.0 cm	Md = 1486 kgf.m/m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)		vsd = 3.04 tf/m vrđ1 = 9.50 tf/m vrđ2 = 60.61 tf/m vsw = 0.00 tf/m

			As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 3.10 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 114.02 kgf.m/m F = 0.00 tf físs = 0.00 mm		asw = 0.00 cm <sup>2</sup> /m
L121	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1420 kgf.m/m As = 2.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 458.39 kgf.m/m F = 0.00 tf físs = 0.03 mm		vsd = 3.13 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1001 kgf.m/m As = 2.07 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 472.54 kgf.m/m F = 0.00 tf físs = 0.04 mm		vsd = 1.91 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L122	X	bw = 100.0 cm h = 15.0 cm	Md = 2339 kgf.m/m As = 4.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3171 kgf.m/m As = 6.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.64 cm <sup>2</sup> /m ø10.0 c/16 (4.91 cm <sup>2</sup> /m) M = 1486.65 kgf.m/m F = 0.00 tf físs = 0.11 mm	A's = 0.55 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 1990.23 kgf.m/m F = 0.00 tf físs = 0.14 mm	vsd = 4.41 tf/m vrd1 = 10.62 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1718 kgf.m/m As = 3.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3431 kgf.m/m As = 7.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.70 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1089.33 kgf.m/m F = 0.00 tf físs = 0.11 mm		vsd = 3.99 tf/m vrd1 = 9.65 tf/m vrd2 = 58.92 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L123	X	bw = 100.0 cm h = 15.0 cm	Md = 1220 kgf.m/m As = 2.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3129 kgf.m/m As = 6.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.36 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 760.40 kgf.m/m F = 0.00 tf físs = 0.08 mm		vsd = 3.47 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1518 kgf.m/m As = 3.20 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2629 kgf.m/m As = 5.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.20 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 967.10 kgf.m/m F = 0.00 tf físs = 0.08 mm		vsd = 2.63 tf/m vrd1 = 9.80 tf/m vrd2 = 60.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L124	X	bw = 100.0 cm h = 15.0 cm	Md = 2600 kgf.m/m As = 5.24 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3236 kgf.m/m As = 6.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.24 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1660.17 kgf.m/m F = 0.00 tf físs = 0.11 mm	A's = 0.25 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 2061.11 kgf.m/m F = 0.00 tf físs = 0.14 mm	vsd = 4.36 tf/m vrd1 = 10.85 tf/m Modelo II vrd2 = 63.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1765 kgf.m/m	bw = 100.0 cm h = 15.0 cm	Md = 3200 kgf.m/m	As = 3.90 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m)	A's = 0.06 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)	vsd = 6.91 tf/m vrd1 = 9.47 tf/m vrd2 = 57.52 tf/m vsw = 0.00 tf/m

			As = 3.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 7.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 1127.89 kgf.m/m F = 0.00 tf físs = 0.12 mm	M = 2028.22 kgf.m/m F = 0.00 tf físs = 0.13 mm	asw = 0.00 cm <sup>2</sup> /m
L125	X	bw = 100.0 cm h = 15.0 cm	Md = 1188 kgf.m/m As = 2.30 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 2.30 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 796.85 kgf.m/m F = 0.00 tf físs = 0.09 mm		vsd = 7.30 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 470.61 kgf.m/m F = 0.00 tf físs = 0.04 mm		vsd = 2.44 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L126	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 239.37 kgf.m/m F = 0.00 tf físs = 0.01 mm		vsd = 4.82 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1718 kgf.m/m As = 3.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 200.50 kgf.m/m F = 0.00 tf físs = 0.01 mm		vsd = 5.85 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L127	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1889 kgf.m/m As = 3.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 161.59 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 4.58 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 940 kgf.m/m As = 1.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 302.08 kgf.m/m F = 0.00 tf físs = 0.01 mm	A's = 1.94 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 619.39 kgf.m/m F = 0.00 tf físs = 0.06 mm	vsd = 3.48 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L128	X	bw = 100.0 cm h = 15.0 cm	Md = 1119 kgf.m/m As = 2.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3023 kgf.m/m As = 6.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.16 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 778.37 kgf.m/m F = 0.00 tf físs = 0.08 mm		vsd = 5.83 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 749 kgf.m/m As = 1.53 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 508.18 kgf.m/m		vsd = 1.58 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

			A's = 0.00 cm <sup>2</sup> /m		A's = 0.00 cm <sup>2</sup> /m	F = 0.00 tf fiss = 0.04 mm		
L129	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 484.01 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 2.51 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 779 kgf.m/m  As = 1.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 242.15 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.75 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L130	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1930 kgf.m/m  As = 3.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 270.27 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 3.78 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 371.00 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 2.21 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L131	X	bw = 100.0 cm h = 15.0 cm	Md = 2536 kgf.m/m  As = 5.11 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 5869 kgf.m/m  As = 12.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.11 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1602.11 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 10.44 tf/m vrd1 = 10.85 tf/m Modelo II vrd2 = 63.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1272 kgf.m/m  As = 2.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2940 kgf.m/m  As = 6.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.76 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 795.02 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 2.65 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 1880.41 kgf.m/m F = 0.00 tf fiss = 0.15 mm	vsd = 7.56 tf/m vrd1 = 9.25 tf/m vrd2 = 58.08 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L132	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 230.45 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 4.76 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1725 kgf.m/m  As = 3.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 221.01 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 5.83 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

L133	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1917 kgf.m/m As = 3.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 164.75 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 4.63 tf/m vr1 = 10.07 tf/m Modelo II vr2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 970 kgf.m/m As = 2.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 318.91 kgf.m/m F = 0.00 tf fiss = 0.02 mm	A's = 2.01 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 640.55 kgf.m/m F = 0.00 tf fiss = 0.07 mm	vsd = 3.62 tf/m vr1 = 9.50 tf/m vr2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L134	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1546 kgf.m/m As = 3.00 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 297.40 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 4.09 tf/m vr1 = 10.07 tf/m Modelo II vr2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 410.68 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 1.12 tf/m vr1 = 9.50 tf/m vr2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L135	X	bw = 100.0 cm h = 15.0 cm	Md = 2740 kgf.m/m As = 5.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 5791 kgf.m/m As = 12.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.54 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1755.00 kgf.m/m F = 0.00 tf fiss = 0.12 mm	A's = 0.02 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 3709.53 kgf.m/m F = 0.00 tf fiss = 0.16 mm	vsd = 7.10 tf/m vr1 = 10.85 tf/m Modelo II vr2 = 63.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1104 kgf.m/m As = 2.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2719 kgf.m/m As = 6.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.39 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 701.16 kgf.m/m F = 0.00 tf fiss = 0.09 mm		vsd = 3.39 tf/m vr1 = 9.18 tf/m vr2 = 58.08 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L136	X	bw = 100.0 cm h = 15.0 cm	Md = 1799 kgf.m/m As = 3.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 4764 kgf.m/m As = 10.15 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.54 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1146.43 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 5.18 tf/m vr1 = 10.37 tf/m Modelo II vr2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1730 kgf.m/m As = 3.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.93 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 361.28 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 2.67 tf/m vr1 = 9.36 tf/m vr2 = 59.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

L137	X	bw = 100.0 cm h = 15.0 cm	Md = 2807 kgf.m/m As = 5.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 5856 kgf.m/m As = 12.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.68 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1799.30 kgf.m/m F = 0.00 tf fiss = 0.13 mm		vsd = 7.18 tf/m vrd1 = 10.85 tf/m Modelo II vrd2 = 63.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1152 kgf.m/m As = 2.49 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2745 kgf.m/m As = 6.27 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.49 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 727.80 kgf.m/m F = 0.00 tf fiss = 0.09 mm		vsd = 6.51 tf/m vrd1 = 9.18 tf/m vrd2 = 58.08 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L138	X	bw = 100.0 cm h = 15.0 cm	Md = 1146 kgf.m/m As = 2.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2279 kgf.m/m As = 4.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.21 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 736.56 kgf.m/m F = 0.00 tf fiss = 0.08 mm		vsd = 7.71 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2933 kgf.m/m As = 6.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 305.15 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 8.86 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L139	X	bw = 100.0 cm h = 15.0 cm	Md = 1383 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 4002 kgf.m/m As = 8.27 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.68 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 875.20 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 2.42 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2537.63 kgf.m/m F = 0.00 tf fiss = 0.13 mm	vsd = 6.26 tf/m vrd1 = 10.14 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1347 kgf.m/m As = 2.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1972 kgf.m/m As = 4.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.80 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 858.71 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 2.18 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1280.16 kgf.m/m F = 0.00 tf fiss = 0.11 mm	vsd = 6.64 tf/m vrd1 = 9.62 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L140	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1319 kgf.m/m As = 2.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 553.10 kgf.m/m F = 0.00 tf fiss = 0.04 mm		vsd = 2.74 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 903 kgf.m/m As = 1.87 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 426.75 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 1.79 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

L141	X	bw = 100.0 cm h = 15.0 cm	Md = 1062 kgf.m/m As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 2.05 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 709.17 kgf.m/m F = 0.00 tf fiss = 0.07 mm		vsd = 3.72 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 935 kgf.m/m As = 1.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 183.55 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 2.03 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L142	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 510.82 kgf.m/m F = 0.00 tf fiss = 0.04 mm		vsd = 3.56 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1393 kgf.m/m As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 120.48 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.81 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L143	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1412 kgf.m/m As = 2.74 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.03 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 355.34 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 0.93 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L144	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1722 kgf.m/m As = 3.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 4.32 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 169.03 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 3.41 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L145	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1553 kgf.m/m As = 3.02 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 12.45 kgf.m/m		vsd = 4.20 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm <sup>2</sup> /m		A's = 0.00 cm <sup>2</sup> /m	F = 0.00 tf fiss = 0.00 mm		asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 228.70 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 3.15 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L146	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1774 kgf.m/m  As = 3.49 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 10.20 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.28 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 810 kgf.m/m  As = 1.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 201.50 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.15 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L147	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2254 kgf.m/m  As = 4.47 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 114.49 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 4.11 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 838 kgf.m/m  As = 1.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 555.09 kgf.m/m F = 0.00 tf fiss = 0.05 mm		vsd = 1.04 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L148	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1844 kgf.m/m  As = 3.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.77 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 328.78 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 1.21 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L149	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1761 kgf.m/m  As = 3.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.45 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)		vsd = 0.98 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m



			As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			M = 176.92 kgf.m/m F = 0.00 tf físs = 0.01 mm		vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L150	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1760 kgf.m/m As = 3.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 2.47 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 354.39 kgf.m/m F = 0.00 tf físs = 0.02 mm		vsd = 1.22 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L151	X	bw = 100.0 cm h = 15.0 cm	Md = 2592 kgf.m/m As = 5.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 5394 kgf.m/m As = 11.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.23 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1640.65 kgf.m/m F = 0.00 tf físs = 0.11 mm		vsd = 6.88 tf/m vrd1 = 10.85 tf/m Modelo II vrd2 = 63.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1154 kgf.m/m As = 2.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2999 kgf.m/m As = 6.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.50 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 721.15 kgf.m/m F = 0.00 tf físs = 0.09 mm		vsd = 7.82 tf/m vrd1 = 9.18 tf/m vrd2 = 58.08 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L152	X	bw = 100.0 cm h = 15.0 cm	Md = 1691 kgf.m/m As = 3.32 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 4404 kgf.m/m As = 9.32 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.32 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1067.24 kgf.m/m F = 0.00 tf físs = 0.08 mm		vsd = 4.86 tf/m vrd1 = 10.37 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1733 kgf.m/m As = 3.74 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.93 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 409.49 kgf.m/m F = 0.00 tf físs = 0.03 mm		vsd = 2.66 tf/m vrd1 = 9.36 tf/m vrd2 = 59.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L153	X	bw = 100.0 cm h = 15.0 cm	Md = 1658 kgf.m/m As = 3.26 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 4663 kgf.m/m As = 9.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.26 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1045.71 kgf.m/m F = 0.00 tf físs = 0.08 mm		vsd = 5.90 tf/m vrd1 = 10.37 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1014 kgf.m/m As = 2.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2389 kgf.m/m As = 5.28 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.14 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 647.93 kgf.m/m F = 0.00 tf físs = 0.07 mm	A's = 1.67 cm <sup>2</sup> /m ø6.3 c/18 (1.73 cm <sup>2</sup> /m) M = 1514.65 kgf.m/m F = 0.00 tf	vsd = 4.45 tf/m vrd1 = 9.36 tf/m vrd2 = 59.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

							fiss = 0.11 mm	
L154	X	bw = 100.0 cm h = 15.0 cm	Md = 1443 kgf.m/m As = 2.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3430 kgf.m/m As = 7.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.80 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 908.37 kgf.m/m F = 0.00 tf fiss = 0.08 mm		vsd = 6.07 tf/m vrd1 = 10.19 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1285 kgf.m/m As = 2.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2710 kgf.m/m As = 5.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.67 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 813.39 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 1.85 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1719.50 kgf.m/m F = 0.00 tf fiss = 0.14 mm	vsd = 5.07 tf/m vrd1 = 9.57 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L155	X	bw = 100.0 cm h = 15.0 cm	Md = 2326 kgf.m/m As = 4.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3515 kgf.m/m As = 7.20 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.62 cm <sup>2</sup> /m ø10.0 c/17 (4.62 cm <sup>2</sup> /m) M = 1468.16 kgf.m/m F = 0.00 tf fiss = 0.12 mm		vsd = 5.30 tf/m vrd1 = 10.55 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1627 kgf.m/m As = 3.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3382 kgf.m/m As = 7.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.50 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1025.74 kgf.m/m F = 0.00 tf fiss = 0.09 mm	A's = 1.78 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2144.91 kgf.m/m F = 0.00 tf fiss = 0.14 mm	vsd = 4.73 tf/m vrd1 = 9.65 tf/m vrd2 = 58.92 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L156	X	bw = 100.0 cm h = 15.0 cm	Md = 2270 kgf.m/m As = 4.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3407 kgf.m/m As = 6.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.50 cm <sup>2</sup> /m ø10.0 c/17 (4.62 cm <sup>2</sup> /m) M = 1432.49 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 5.31 tf/m vrd1 = 10.55 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1547 kgf.m/m As = 3.32 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3199 kgf.m/m As = 7.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.32 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 975.54 kgf.m/m F = 0.00 tf fiss = 0.08 mm	A's = 1.79 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2026.09 kgf.m/m F = 0.00 tf fiss = 0.14 mm	vsd = 4.77 tf/m vrd1 = 9.65 tf/m vrd2 = 58.92 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L157	X	bw = 100.0 cm h = 15.0 cm	Md = 1346 kgf.m/m As = 2.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3331 kgf.m/m As = 6.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.61 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 846.10 kgf.m/m F = 0.00 tf fiss = 0.09 mm		vsd = 6.30 tf/m vrd1 = 10.11 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1286 kgf.m/m	bw = 100.0 cm h = 15.0 cm	Md = 2678 kgf.m/m	As = 2.67 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m)	A's = 1.81 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)	vsd = 5.30 tf/m vrd1 = 9.57 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m

			As = 2.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 5.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 816.73 kgf.m/m F = 0.00 tf físs = 0.09 mm	M = 1703.26 kgf.m/m F = 0.00 tf físs = 0.13 mm	asw = 0.00 cm <sup>2</sup> /m
L158	X	bw = 100.0 cm h = 15.0 cm	Md = 2437 kgf.m/m  As = 4.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3267 kgf.m/m  As = 6.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.85 cm <sup>2</sup> /m ø10.0 c/16 (4.91 cm <sup>2</sup> /m) M = 1540.58 kgf.m/m F = 0.00 tf físs = 0.11 mm	A's = 0.01 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 2049.62 kgf.m/m F = 0.00 tf físs = 0.14 mm	vsd = 5.66 tf/m vrd1 = 10.62 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1513 kgf.m/m  As = 3.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3208 kgf.m/m  As = 7.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.25 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 956.18 kgf.m/m F = 0.00 tf físs = 0.08 mm	A's = 1.92 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2065.31 kgf.m/m F = 0.00 tf físs = 0.15 mm	vsd = 8.36 tf/m vrd1 = 9.65 tf/m vrd2 = 58.92 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

<b>ARMADURAS NEGATIVAS (NA CONTINUIDADE)</b>					
<b>Viga</b>	<b>Laje 1</b>	<b>Momento negativo</b>	<b>Momento positivo</b>	<b>Armaduras finais</b>	
	<b>Trecho</b>				
V103	L101	bw = 100.0 cm h = 15.0 cm	Md = 3157 kgf.m/m  As = 6.53 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.53 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) físs = 0.10 mm
2	L109				
V103	L101	bw = 100.0 cm h = 15.0 cm	Md = 3157 kgf.m/m  As = 6.53 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.53 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) físs = 0.10 mm
3	L109				
V129	L101	bw = 100.0 cm h = 15.0 cm	Md = 5442 kgf.m/m  As = 11.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 11.55 cm <sup>2</sup> /m (ø12.5 c/10 - 12.27 cm <sup>2</sup> /m) físs = 0.16 mm
4	L102				
V129	L101	bw = 100.0 cm h = 15.0 cm	Md = 5442 kgf.m/m  As = 11.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 11.55 cm <sup>2</sup> /m (ø12.5 c/10 - 12.27 cm <sup>2</sup> /m) físs = 0.16 mm
5	L102				
V134	L102	bw = 100.0 cm h = 15.0 cm	Md = 4740 kgf.m/m  As = 9.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 9.80 cm <sup>2</sup> /m (ø10.0 c/8 - 9.82 cm <sup>2</sup> /m) físs = 0.15 mm
3	L103				
V103	L102	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) físs = 0.02 mm
4	L110				

V103 5	L102 L110	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V134 2	L102 L103	bw = 100.0 cm h = 15.0 cm	Md = 4740 kgf.m/m As = 9.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 9.80 cm <sup>2</sup> /m (ø10.0 c/8 - 9.82 cm <sup>2</sup> /m) fiss = 0.15 mm
V104 3	L107 L115	bw = 100.0 cm h = 15.0 cm	Md = 2522 kgf.m/m As = 5.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.02 cm <sup>2</sup> /m (ø10.0 c/15 - 5.24 cm <sup>2</sup> /m) fiss = 0.14 mm
V104 4	L107 L115	bw = 100.0 cm h = 15.0 cm	Md = 2522 kgf.m/m As = 5.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.02 cm <sup>2</sup> /m (ø10.0 c/15 - 5.24 cm <sup>2</sup> /m) fiss = 0.14 mm
V151 3	L107 L108	bw = 100.0 cm h = 15.0 cm	Md = 3281 kgf.m/m As = 6.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.69 cm <sup>2</sup> /m (ø12.5 c/18 - 6.82 cm <sup>2</sup> /m) fiss = 0.18 mm
V149 3	L107 L106	bw = 100.0 cm h = 15.0 cm	Md = 3311 kgf.m/m As = 6.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.76 cm <sup>2</sup> /m (ø12.5 c/18 - 6.82 cm <sup>2</sup> /m) fiss = 0.18 mm
V104 6	L108 L116	bw = 100.0 cm h = 15.0 cm	Md = 3225 kgf.m/m As = 6.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.50 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.15 mm
V104 5	L108 L116	bw = 100.0 cm h = 15.0 cm	Md = 3225 kgf.m/m As = 6.50 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.50 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.15 mm
V129 3	L110 L109	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V105 3	L110 L118	bw = 100.0 cm h = 15.0 cm	Md = 1691 kgf.m/m As = 3.32 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.32 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V105 4	L110 L119	bw = 100.0 cm h = 15.0 cm	Md = 3937 kgf.m/m As = 8.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 8.12 cm <sup>2</sup> /m (ø12.5 c/15 - 8.18 cm <sup>2</sup> /m) fiss = 0.18 mm
V134 1	L110 L111	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm

V149 2	L115 L114	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V107 2	L115 L123	bw = 100.0 cm h = 15.0 cm	Md = 2629 kgf.m/m As = 5.24 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.24 cm <sup>2</sup> /m (ø10.0 c/14 - 5.61 cm <sup>2</sup> /m) fiss = 0.13 mm
V151 2	L115 L116	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V105 2	L117 L109	bw = 100.0 cm h = 15.0 cm	Md = 3196 kgf.m/m As = 6.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.43 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm
V129 1	L117 L126	bw = 100.0 cm h = 15.0 cm	Md = 3860 kgf.m/m As = 7.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.95 cm <sup>2</sup> /m (ø12.5 c/15 - 8.18 cm <sup>2</sup> /m) fiss = 0.17 mm
V129 2	L117 L118	bw = 100.0 cm h = 15.0 cm	Md = 5857 kgf.m/m As = 12.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 12.76 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.21 mm
V151 1	L123 L124	bw = 100.0 cm h = 15.0 cm	Md = 3236 kgf.m/m As = 6.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.52 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.15 mm
V149 1	L123 L122	bw = 100.0 cm h = 15.0 cm	Md = 3171 kgf.m/m As = 6.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.46 cm <sup>2</sup> /m (ø12.5 c/19 - 6.46 cm <sup>2</sup> /m) fiss = 0.19 mm
V107 3	L124 L116	bw = 100.0 cm h = 15.0 cm	Md = 3200 kgf.m/m As = 6.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.44 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm
V118 2	L131 L143	bw = 100.0 cm h = 15.0 cm	Md = 2940 kgf.m/m As = 5.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.89 cm <sup>2</sup> /m (ø10.0 c/13 - 6.04 cm <sup>2</sup> /m) fiss = 0.14 mm
V128 4	L131 L138	bw = 100.0 cm h = 15.0 cm	Md = 5869 kgf.m/m As = 12.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 12.79 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.21 mm
V128 5	L131 L132	bw = 100.0 cm h = 15.0 cm	Md = 3876 kgf.m/m As = 7.99 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.99 cm <sup>2</sup> /m (ø12.5 c/15 - 8.18 cm <sup>2</sup> /m) fiss = 0.18 mm

V150 4	L136 L137	bw = 100.0 cm h = 15.0 cm	Md = 5856 kgf.m/m As = 12.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 12.76 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.21 mm
V148 4	L136 L135	bw = 100.0 cm h = 15.0 cm	Md = 5791 kgf.m/m As = 12.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 12.60 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.20 mm
V148 3	L136 L135	bw = 100.0 cm h = 15.0 cm	Md = 5791 kgf.m/m As = 12.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 12.60 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.20 mm
V120 2	L136 L149	bw = 100.0 cm h = 15.0 cm	Md = 1730 kgf.m/m As = 3.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.40 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V150 3	L136 L137	bw = 100.0 cm h = 15.0 cm	Md = 5856 kgf.m/m As = 12.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 12.76 cm <sup>2</sup> /m (ø16.0 c/15 - 13.40 cm <sup>2</sup> /m) fiss = 0.21 mm
V120 3	L137 L150	bw = 100.0 cm h = 15.0 cm	Md = 2745 kgf.m/m As = 5.49 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.49 cm <sup>2</sup> /m (ø10.0 c/14 - 5.61 cm <sup>2</sup> /m) fiss = 0.14 mm
V121 2	L143 L151	bw = 100.0 cm h = 15.0 cm	Md = 2999 kgf.m/m As = 6.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.02 cm <sup>2</sup> /m (ø10.0 c/13 - 6.04 cm <sup>2</sup> /m) fiss = 0.15 mm
V121 3	L143 L151	bw = 100.0 cm h = 15.0 cm	Md = 2999 kgf.m/m As = 6.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.02 cm <sup>2</sup> /m (ø10.0 c/13 - 6.04 cm <sup>2</sup> /m) fiss = 0.15 mm
V128 3	L143 L144	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V128 2	L151 L152	bw = 100.0 cm h = 15.0 cm	Md = 5394 kgf.m/m As = 11.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 11.64 cm <sup>2</sup> /m (ø16.0 c/17 - 11.83 cm <sup>2</sup> /m) fiss = 0.22 mm
V128 1	L151 L152	bw = 100.0 cm h = 15.0 cm	Md = 5394 kgf.m/m As = 11.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 11.64 cm <sup>2</sup> /m (ø16.0 c/17 - 11.83 cm <sup>2</sup> /m) fiss = 0.22 mm
V133 2	L152 L153	bw = 100.0 cm h = 15.0 cm	Md = 4663 kgf.m/m As = 9.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 9.92 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.23 mm

V121 5	L152 L144	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V121 4	L152 L144	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V133 1	L152 L153	bw = 100.0 cm h = 15.0 cm	Md = 4663 kgf.m/m As = 9.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 9.92 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.23 mm
V118 4	L144 L139	bw = 100.0 cm h = 15.0 cm	Md = 3938 kgf.m/m As = 8.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 8.13 cm <sup>2</sup> /m (ø12.5 c/15 - 8.18 cm <sup>2</sup> /m) fiss = 0.18 mm
V118 3	L144 L138	bw = 100.0 cm h = 15.0 cm	Md = 1722 kgf.m/m As = 3.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.39 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V133 3	L144 L145	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V118 5	L145 L139	bw = 100.0 cm h = 15.0 cm	Md = 4002 kgf.m/m As = 8.27 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 8.27 cm <sup>2</sup> /m (ø12.5 c/14 - 8.77 cm <sup>2</sup> /m) fiss = 0.16 mm
V121 6	L145 L153	bw = 100.0 cm h = 15.0 cm	Md = 2389 kgf.m/m As = 4.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.75 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V121 7	L145 L153	bw = 100.0 cm h = 15.0 cm	Md = 2389 kgf.m/m As = 4.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.75 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V135 2	L145 L146	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V118 6	L142 L146	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V137 3	L142 L140	bw = 100.0 cm h = 15.0 cm	Md = 1393 kgf.m/m As = 2.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.73 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.07 mm

V135 3	L142 L139	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.04 mm
V113 3	L129 L133	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V110 3	L129 L127	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V135 1	L153 L154	bw = 100.0 cm h = 15.0 cm	Md = 2829 kgf.m/m As = 5.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.66 cm <sup>2</sup> /m (ø10.0 c/13 - 6.04 cm <sup>2</sup> /m) fiss = 0.13 mm
V137 1	L154 L155	bw = 100.0 cm h = 15.0 cm	Md = 3515 kgf.m/m As = 7.20 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.20 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.18 mm
V121 9	L154 L146	bw = 100.0 cm h = 15.0 cm	Md = 2710 kgf.m/m As = 5.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.41 cm <sup>2</sup> /m (ø10.0 c/14 - 5.61 cm <sup>2</sup> /m) fiss = 0.14 mm
V121 8	L154 L146	bw = 100.0 cm h = 15.0 cm	Md = 2710 kgf.m/m As = 5.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.41 cm <sup>2</sup> /m (ø10.0 c/14 - 5.61 cm <sup>2</sup> /m) fiss = 0.14 mm
V150 1	L157 L158	bw = 100.0 cm h = 15.0 cm	Md = 3267 kgf.m/m As = 6.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.66 cm <sup>2</sup> /m (ø12.5 c/18 - 6.82 cm <sup>2</sup> /m) fiss = 0.18 mm
V122 4	L157 L149	bw = 100.0 cm h = 15.0 cm	Md = 2678 kgf.m/m As = 5.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.35 cm <sup>2</sup> /m (ø10.0 c/14 - 5.61 cm <sup>2</sup> /m) fiss = 0.14 mm
V122 3	L157 L149	bw = 100.0 cm h = 15.0 cm	Md = 2678 kgf.m/m As = 5.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.35 cm <sup>2</sup> /m (ø10.0 c/14 - 5.61 cm <sup>2</sup> /m) fiss = 0.14 mm
V148 1	L157 L156	bw = 100.0 cm h = 15.0 cm	Md = 3407 kgf.m/m As = 6.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.96 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.17 mm
V122 6	L158 L150	bw = 100.0 cm h = 15.0 cm	Md = 3208 kgf.m/m As = 6.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.46 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.15 mm



V122 5	L158 L150	bw = 100.0 cm h = 15.0 cm	Md = 3208 kgf.m/m As = 6.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.46 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.15 mm
V137 2	L146 L147	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V150 2	L149 L150	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V148 2	L149 L148	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V120 1	L135 L148	bw = 100.0 cm h = 15.0 cm	Md = 2719 kgf.m/m As = 5.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.43 cm <sup>2</sup> /m (ø10.0 c/14 - 5.61 cm <sup>2</sup> /m) fiss = 0.14 mm
V105 5	L111 L119	bw = 100.0 cm h = 15.0 cm	Md = 3978 kgf.m/m As = 8.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 8.21 cm <sup>2</sup> /m (ø12.5 c/14 - 8.77 cm <sup>2</sup> /m) fiss = 0.16 mm
V136 2	L111 L112	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V103 7	L111 L103	bw = 100.0 cm h = 15.0 cm	Md = 2421 kgf.m/m As = 4.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.81 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V103 6	L111 L103	bw = 100.0 cm h = 15.0 cm	Md = 2421 kgf.m/m As = 4.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.81 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V138 1	L120 L121	bw = 100.0 cm h = 15.0 cm	Md = 1486 kgf.m/m As = 2.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.91 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V105 6	L120 L112	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V136 1	L120 L119	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.04 mm

V136 3	L103 L104	bw = 100.0 cm h = 15.0 cm	Md = 2587 kgf.m/m As = 5.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.16 cm <sup>2</sup> /m (ø10.0 c/15 - 5.24 cm <sup>2</sup> /m) fiss = 0.15 mm
V138 4	L105 L104	bw = 100.0 cm h = 15.0 cm	Md = 5300 kgf.m/m As = 11.07 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 11.07 cm <sup>2</sup> /m (ø10.0 c/7 - 11.22 cm <sup>2</sup> /m) fiss = 0.14 mm
V138 3	L105 L104	bw = 100.0 cm h = 15.0 cm	Md = 5300 kgf.m/m As = 11.07 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 11.07 cm <sup>2</sup> /m (ø10.0 c/7 - 11.22 cm <sup>2</sup> /m) fiss = 0.14 mm
V103 10	L105 L113	bw = 100.0 cm h = 15.0 cm	Md = 2828 kgf.m/m As = 5.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.66 cm <sup>2</sup> /m (ø10.0 c/13 - 6.04 cm <sup>2</sup> /m) fiss = 0.13 mm
V103 11	L105 L113	bw = 100.0 cm h = 15.0 cm	Md = 2828 kgf.m/m As = 5.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.66 cm <sup>2</sup> /m (ø10.0 c/13 - 6.04 cm <sup>2</sup> /m) fiss = 0.13 mm
V104 1	L106 L114	bw = 100.0 cm h = 15.0 cm	Md = 3180 kgf.m/m As = 6.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.40 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm
V104 2	L106 L114	bw = 100.0 cm h = 15.0 cm	Md = 3180 kgf.m/m As = 6.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.40 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm
V107 1	L114 L122	bw = 100.0 cm h = 15.0 cm	Md = 3431 kgf.m/m As = 6.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.93 cm <sup>2</sup> /m (ø10.0 c/11 - 7.14 cm <sup>2</sup> /m) fiss = 0.14 mm
V119 1	L147 L140	bw = 100.0 cm h = 15.0 cm	Md = 1789 kgf.m/m As = 3.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.52 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.12 mm
V121 10	L147 L155	bw = 100.0 cm h = 15.0 cm	Md = 3382 kgf.m/m As = 6.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.91 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.17 mm
V121 11	L147 L155	bw = 100.0 cm h = 15.0 cm	Md = 3382 kgf.m/m As = 6.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.91 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.17 mm
V122 1	L148 L156	bw = 100.0 cm h = 15.0 cm	Md = 3199 kgf.m/m As = 6.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.44 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm

V122 2	L148 L156	bw = 100.0 cm h = 15.0 cm	Md = 3199 kgf.m/m As = 6.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.44 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm
V103 8	L104 L112	bw = 100.0 cm h = 15.0 cm	Md = 2375 kgf.m/m As = 4.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.72 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V103 9	L104 L112	bw = 100.0 cm h = 15.0 cm	Md = 2375 kgf.m/m As = 4.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.72 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V138 2	L112 L113	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V111 1	L128 L130	bw = 100.0 cm h = 15.0 cm	Md = 3023 kgf.m/m As = 6.07 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.07 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.13 mm
V109 2	L128 L125	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V109 1	L128 L121	bw = 100.0 cm h = 15.0 cm		bw = 100.0 cm h = 15.0 cm	fiss = 0.00 mm
V130 3	L126 L127	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V108 1	L126 L118	bw = 100.0 cm h = 15.0 cm	Md = 2166 kgf.m/m As = 4.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.29 cm <sup>2</sup> /m (ø10.0 c/18 - 4.36 cm <sup>2</sup> /m) fiss = 0.14 mm
V108 3	L127 L119	bw = 100.0 cm h = 15.0 cm	Md = 1889 kgf.m/m As = 3.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.72 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.13 mm
V108 2	L127 L118	bw = 100.0 cm h = 15.0 cm	Md = 1734 kgf.m/m As = 3.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.41 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V130 1	L132 L133	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm

V116 1	L132 L138	bw = 100.0 cm h = 15.0 cm	Md = 2279 kgf.m/m As = 4.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.52 cm <sup>2</sup> /m (ø10.0 c/17 - 4.62 cm <sup>2</sup> /m) fiss = 0.14 mm
V116 2	L133 L138	bw = 100.0 cm h = 15.0 cm	Md = 1796 kgf.m/m As = 3.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.54 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.12 mm
V116 3	L133 L139	bw = 100.0 cm h = 15.0 cm	Md = 1917 kgf.m/m As = 3.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.78 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.14 mm
V131 1	L138 L139	bw = 100.0 cm h = 15.0 cm	Md = 1972 kgf.m/m As = 3.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.89 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.15 mm
V132 1	L118 L119	bw = 100.0 cm h = 15.0 cm	Md = 1910 kgf.m/m As = 3.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.77 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.14 mm
V140 1	L125 L121	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V106 1	L121 L113	bw = 100.0 cm h = 15.0 cm	Md = 2412 kgf.m/m As = 4.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.79 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V139 2	L141 L140	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V117 2	L141 L134	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V117 1	L140 L134	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V114 1	L130 L134	bw = 100.0 cm h = 15.0 cm	Md = 1548 kgf.m/m As = 3.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.04 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm

## 11. Cálculos da Escada

<b>TÉRREO NV-320</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 2</b>		$\text{cobr} = 2.50 \text{ cm}$	

## 12. ESCADA: E1

ARMADURAS POSITIVAS (LAJE)										
Laje	Direção	Momento positivo			Momento negativo			Armadura inferior	Armadura superior	Cisalhamento
		Flexão	Verificação axial (compressão)	Verificação axial (tração)	Flexão	Verificação axial (compressão)	Verificação axial (tração)			
LE1	X	Md = 3401 kgf.m/m As = 5.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 42.63 tf Situação: GE As = 0.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.67 tf Situação: GE As = 6.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 6.62 cm <sup>2</sup> /m ø12.5 c/18 (6.82 cm <sup>2</sup> /m) M = 2275.53 kgf.m/m F = 3.10 tf fiss = 0.14 mm	M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 10.73 tf/m vrd1 = 12.42 tf/m Modelo II vrd2 = 75.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 879 kgf.m/m As = 1.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.49 tf Situação: GE As = 0.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.56 tf Situação: GE As = 1.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1550 kgf.m/m As = 2.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.49 tf Situação: GE As = 2.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 0.56 tf Situação: GE As = 2.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.59 cm <sup>2</sup> /m ø8.0 c/25 (2.01 cm <sup>2</sup> /m) M = 387.83 kgf.m/m F = 0.32 tf fiss = 0.03 mm	A's = 2.91 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 1037.75 kgf.m/m F = 0.32 tf fiss = 0.10 mm	vsd = 2.98 tf/m vrd1 = 10.47 tf/m vrd2 = 69.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
LE2	X	Md = 3734 kgf.m/m As = 5.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 7.50 tf Situação: GE As = 4.26 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.47 tf Situação: GE As = 5.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 3316 kgf.m/m As = 4.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 7.50 tf Situação: GE As = 3.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 3.47 tf Situação: GE As = 5.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.69 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 2485.65 kgf.m/m F = 1.85 tf fiss = 0.13 mm		vsd = 9.55 tf/m vrd1 = 14.25 tf/m Modelo II vrd2 = 91.89 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 1216 kgf.m/m		Fd = 10.77 tf Situação: PE	Md = 952 kgf.m/m	Fd = 4.84 tf Situação: GE As = 0.70 cm <sup>2</sup> /m	Fd = 10.77 tf Situação: GE	As = 1.96 cm <sup>2</sup> /m ø8.0 c/25 (2.01 cm <sup>2</sup> /m)	A's = 0.39 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)	vsd = 5.53 tf/m vrd1 = 12.53 tf/m

		As = 1.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		As = 1.96 cm <sup>2</sup> /m A's = 0.64 cm <sup>2</sup> /m	As = 1.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	A's = 0.00 cm <sup>2</sup> /m	As = 2.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 246.29 kgf.m/m F = 6.19 tf fiss = 0.06 mm	M = 643.22 kgf.m/m F = 6.19 tf fiss = 0.07 mm	vr <sub>d2</sub> = 86.14 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
LE3	X	Md = 3989 kgf.m/m As = 7.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 17.26 tf Situação: GE As = 4.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 30.21 tf Situação: GE As = 11.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 435 kgf.m/m As = 0.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 30.21 tf Situação: PE As = 4.38 cm <sup>2</sup> /m A's = 2.56 cm <sup>2</sup> /m	As = 11.12 cm <sup>2</sup> /m ø16.0 c/18 (11.17 cm <sup>2</sup> /m) M = 2668.06 kgf.m/m F = 17.76 tf fiss = 0.17 mm	A's = 4.38 cm <sup>2</sup> /m ø10.0 c/17 (4.62 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 17.76 tf fiss = 0.05 mm	vs <sub>d</sub> = 10.91 tf/m vr <sub>d1</sub> = 13.42 tf/m Modelo II vr <sub>d2</sub> = 74.08 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 879 kgf.m/m As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.36 tf Situação: GE As = 2.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1367 kgf.m/m As = 2.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.36 tf Situação: GE As = 4.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.70 cm <sup>2</sup> /m ø10.0 c/25 (3.14 cm <sup>2</sup> /m) M = 393.13 kgf.m/m F = 5.94 tf fiss = 0.06 mm	A's = 4.19 cm <sup>2</sup> /m ø10.0 c/18 (4.36 cm <sup>2</sup> /m) M = 875.96 kgf.m/m F = 5.94 tf fiss = 0.08 mm	vs <sub>d</sub> = 6.83 tf/m vr <sub>d1</sub> = 10.45 tf/m vr <sub>d2</sub> = 66.78 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

**ARMADURAS NEGATIVAS (NA CONTINUIDADE)**

Viga	Laje 1	Momento negativo			Momento positivo			Armaduras finais
		Flexão	Flexo compressão	Flexo tração	Flexão	Flexo compressão	Flexo tração	
Barra	LE2	Md = 1758 kgf.m/m	Fd = 4.91 tf Situação: GE	Fd = 0.64 tf Situação: GE	Md = 3505 kgf.m/m	Fd = 4.91 tf Situação: GE	Fd = 0.64 tf Situação: GE	As = 2.94 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm A's = 6.07 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m)
	LE3	As = 2.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 0.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 0.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.99 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 6.07 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	
Barra	LE2	Md = 4542 kgf.m/m	Fd = 8.00 tf Situação: GE	Fd = 5.31 tf Situação: GE	Md = 3014 kgf.m/m	Fd = 8.00 tf Situação: GE	Fd = 5.31 tf Situação: GE	As = 8.55 cm <sup>2</sup> /m (ø10.0 c/9 - 8.73 cm <sup>2</sup> /m) fiss = 0.14 mm A's = 5.83 cm <sup>2</sup> /m (ø10.0 c/13 - 6.04 cm <sup>2</sup> /m)
	LE1	As = 7.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 6.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 8.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 4.06 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 5.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	

### 13. ESCADA: E2


ARMADURAS POSITIVAS (LAJE)										
Laje	Direção	Momento positivo			Momento negativo			Armadura inferior	Armadura superior	Cisalhamento
		Flexão	Verificação axial (compressão)	Verificação axial (tração)	Flexão	Verificação axial (compressão)	Verificação axial (tração)			
LE4	X	Md = 2875 kgf.m/m As = 4.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 4.44 tf Situação: GE As = 5.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m				As = 5.52 cm <sup>2</sup> /m ø12.5 c/20 (6.14 cm <sup>2</sup> /m) M = 1920.84 kgf.m/m F = 2.35 tf fiss = 0.12 mm	M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 9.24 tf/m vrd1 = 12.24 tf/m Modelo II vrd2 = 75.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 879 kgf.m/m As = 1.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 1.48 tf Situação: GE As = 1.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1172 kgf.m/m As = 2.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 6.92 tf Situação: GE As = 1.10 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 1.48 tf Situação: GE As = 2.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.59 cm <sup>2</sup> /m ø8.0 c/25 (2.01 cm <sup>2</sup> /m) M = 303.26 kgf.m/m F = 0.81 tf fiss = 0.02 mm	A's = 2.35 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 778.57 kgf.m/m F = 0.81 tf fiss = 0.08 mm	vsd = 2.29 tf/m vrd1 = 10.47 tf/m vrd2 = 69.31 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
LE5	X	Md = 6278 kgf.m/m As = 9.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 16.80 tf Situação: GE As = 6.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.88 tf Situação: GE As = 9.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 2642 kgf.m/m As = 3.64 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 16.80 tf Situação: GE As = 1.45 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 5.88 tf Situação: GE As = 4.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 9.84 cm <sup>2</sup> /m ø16.0 c/20 (10.05 cm <sup>2</sup> /m) M = 3862.68 kgf.m/m F = 3.33 tf fiss = 0.17 mm		vsd = 7.39 tf/m vrd1 = 15.12 tf/m Modelo II vrd2 = 90.91 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 1216 kgf.m/m As = 1.82 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.27 tf Situação: GE As = 0.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 7.59 tf Situação: GE As = 1.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 910 kgf.m/m As = 1.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.27 tf Situação: GE As = 0.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 7.59 tf Situação: GE As = 2.48 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.97 cm <sup>2</sup> /m ø8.0 c/25 (2.01 cm <sup>2</sup> /m) M = 281.14 kgf.m/m F = 4.20 tf fiss = 0.05 mm	A's = 0.21 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 616.07 kgf.m/m F = 4.20 tf fiss = 0.07 mm	vsd = 5.35 tf/m vrd1 = 12.30 tf/m vrd2 = 84.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
LE6	X	Md = 5987 kgf.m/m As = 10.82 cm <sup>2</sup> /m	Fd = 19.31 tf Situação: GE As = 8.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 30.37 tf Situação: GE As = 14.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 496 kgf.m/m As = 0.82 cm <sup>2</sup> /m		Fd = 30.37 tf Situação: PE As = 4.53 cm <sup>2</sup> /m A's = 2.45 cm <sup>2</sup> /m	As = 14.78 cm <sup>2</sup> /m ø16.0 c/13 (15.47 cm <sup>2</sup> /m) M = 4033.61 kgf.m/m	A's = 4.53 cm <sup>2</sup> /m ø10.0 c/17 (4.62 cm <sup>2</sup> /m) M = 0.00 kgf.m/m	vsd = 12.23 tf/m vrd1 = 14.52 tf/m Modelo II vrd2 = 74.08 tf/m

		A's = 0.00 cm <sup>2</sup> /m			A's = 0.00 cm <sup>2</sup> /m			F = 17.57 tf fiss = 0.17 mm	F = 17.57 tf fiss = 0.05 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	Md = 879 kgf.m/m  As = 1.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 4.66 tf Situação: GE As = 1.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1077 kgf.m/m  As = 2.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 4.66 tf Situação: GE As = 2.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.96 cm <sup>2</sup> /m ø10.0 c/25 (3.14 cm <sup>2</sup> /m) M = 275.38 kgf.m/m F = 2.69 tf fiss = 0.02 mm	A's = 2.73 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 721.87 kgf.m/m F = 2.69 tf fiss = 0.08 mm	vsd = 7.00 tf/m vrd1 = 10.45 tf/m vrd2 = 66.78 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

**ARMADURAS NEGATIVAS (NA CONTINUIDADE)**

Viga Trecho	Laje 1 Laje 2	Momento negativo			Momento positivo			Armaduras finais	
		Flexão	Flexo compressão	Flexo tração	Flexão	Flexo compressão	Flexo tração		
Barra	LE5 LE6	Md = 1758 kgf.m/m  As = 2.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 11.51 tf Situação: GE As = 3.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 5742 kgf.m/m  As = 10.08 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 16.80 tf Situação: GE As = 7.99 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 11.51 tf Situação: GE As = 11.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.16 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.07 mm A's = 11.55 cm <sup>2</sup> /m (ø12.5 c/10 - 12.27 cm <sup>2</sup> /m)
Barra	LE5 LE4	Md = 3818 kgf.m/m  As = 6.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 10.05 tf Situação: GE As = 5.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.44 tf Situação: GE As = 7.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Md = 1758 kgf.m/m  As = 2.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		Fd = 10.05 tf Situação: GE As = 0.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	Fd = 4.44 tf Situação: GE As = 2.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 7.13 cm <sup>2</sup> /m (ø10.0 c/11 - 7.14 cm <sup>2</sup> /m) fiss = 0.14 mm A's = 2.94 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m)



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

14. Pavimento SUPERIOR NV-640

## 15. Cálculo dos Pilares

<b>SUPERIOR NV-640</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 3</b>		$cobr = 3.00 \text{ cm}$	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 40.00	RR					3.14
		56.23	15.90	3304	3290	(*)	(4 ø 10.0)
		RR 28.11	9.94	8356	8321	1.00	5.50 (7 ø 10.0)
P3	20.00 X 40.00	RR					1.57
		56.23	18.36	53	76	(*)	(2 ø 10.0)
		RR 28.11	11.40	4487	6438	1.43	2.36 (3 ø 10.0)
P5	20.00 X 40.00	RR					1.57
		56.23	17.36	1556	1920	(*)	(2 ø 10.0)
		RR 28.11	10.75	4126	5090	1.23	2.36 (3 ø 10.0)
P7	20.00 X 40.00	RR					9.42
		56.23	26.98	781	895	(*)	(3 ø 20.0)
		RR 28.11	17.00	16756	19193	1.15	9.42 (3 ø 20.0)
P8	20.00 X 40.00	RR					1.57
		56.23	20.81	1944	1960	(*)	(2 ø 10.0)
		RR 28.11	13.02	5445	5492	1.01	2.36 (3 ø 10.0)
P9	15.00 X 50.00	RR					2.45
		74.97	9.78	1803	1914	(*)	(2 ø 12.5)
		RR 22.49	5.76	2325	2468	1.06	3.68 (3 ø 12.5)
P10	15.00 X 50.00	RR					2.36
		74.97	15.59	2568	2630	(*)	(3 ø 10.0)
		RR 22.49	9.51	10919	11181	1.02	10.21 (13 ø 10.0)
P11	20.00 X 40.00	RR					9.42
		56.23	27.74	1040	1108	(*)	(3 ø 20.0)
		RR 28.11	17.35	17831	19001	1.07	9.42 (3 ø 20.0)
P12	20.00 X 40.00	RR					9.42
		56.23	27.86	884	956	(*)	(3 ø 20.0)
		RR 28.11	17.41	19504	21093	1.08	12.57 (4 ø 20.0)
P13	20.00 X 40.00	RR					6.28
		56.23	15.87	2570	3554	(*)	(2 ø 20.0)
		RR 28.11	9.94	7933	10971	1.38	9.42 (3 ø 20.0)
P16	15.00 X 40.00	RR					1.57
		74.97	26.65	1241	2871	(*)	(2 ø 10.0)
		RR 28.11	15.97	442	1022	2.31	4.71 (6 ø 10.0)
P18	15.00 X 40.00	RR					1.57
		74.97	24.96	1175	2727	(*)	(2 ø 10.0)
		RR 28.11	15.08	187	435	2.32	3.93 (5 ø 10.0)

P20	15.00 X 40.00	RR 74.97 RR 28.11	29.83 18.52	1414 567	3544 1421	(*) 2.51	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)
P21	15.00 X 40.00	RR 74.97 RR 28.11	12.56 7.36	561 1704	1199 3644	(*) 2.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P23	20.00 X 40.00	RR 56.23 RR 28.11	20.26 12.64	4368 4463	4484 4581	(*) 1.03	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)
P27	20.00 X 40.00	RR 56.23 RR 28.11	20.06 12.24	2225 938	2849 1201	(*) 1.28	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P31	20.00 X 40.00	RR 56.23 RR 28.11	13.31 7.37	2239 1541	2350 1617	(*) 1.05	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P34	20.00 X 40.00	RR 56.23 RR 28.11	29.26 18.08	1323 14399	1693 18426	(*) 1.28	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P36	20.00 X 40.00	RR 56.23 RR 28.11	18.26 11.24	3668 6108	3993 6648	(*) 1.09	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P37	20.00 X 40.00	RR 56.23 RR 28.11	18.23 11.16	4527 5297	5045 5903	(*) 1.11	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P38	20.00 X 40.00	RR 56.23 RR 28.11	28.08 17.49	664 6452	769 7473	(*) 1.16	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P39	20.00 X 40.00	RR 56.23 RR 28.11	14.10 8.48	2929 3090	2900 3060	(*) 0.99	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P40	20.00 X 40.00	RR 56.23 RR 28.11	18.79 11.91	2795 588	2876 605	(*) 1.03	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P41	20.00 X 40.00	RR 56.23 RR 28.11	44.39 29.69	69 11725	75 12634	(*) 1.08	3.68 (3 ø 12.5) 3.68 (3 ø 12.5)
P42	20.00 X 40.00	RR 56.23 RR 28.11	47.04 30.98	3118 10271	3666 12076	(*) 1.18	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P43	15.00 X 50.00	RR 74.97 RR 22.49	15.89 9.37	2123 2260	2186 2327	(*) 1.03	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P44	15.00 X 50.00	RR 74.97 RR 22.49	20.40 12.48	2953 4184	3189 4517	(*) 1.08	2.36 (3 ø 10.0) 7.07 (9 ø 10.0)

P45	20.00 X 40.00	RR 56.23 RR 28.11	37.60 23.28	1635 10607	2077 13477	(*) 1.27	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P46	20.00 X 40.00	RR 56.23 RR 28.11	34.99 21.84	1512 11960	1750 13846	(*) 1.16	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P47	20.00 X 40.00	RR 56.23 RR 28.11	19.59 12.14	3325 3894	3960 4638	(*) 1.19	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P57	15.00 X 50.00	RR 74.97 RR 22.49	22.59 13.23	874 8210	1102 10357	(*) 1.26	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P58	20.00 X 40.00	RR 56.23 RR 28.11	32.99 21.74	3783 4627	3896 4765	(*) 1.03	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P61	20.00 X 40.00	RR 56.23 RR 28.11	19.31 12.30	3352 6775	3448 6971	(*) 1.03	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P62	20.00 X 40.00	RR 56.23 RR 28.11	9.72 5.70	95 1832	259 4978	(*) 2.72	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P63	15.00 X 40.00	RR 74.97 RR 28.11	12.49 7.71	146 8612	149 8777	(*) 1.02	2.36 (3 ø 10.0) 4.71 (6 ø 10.0)
P64	60.00 X 60.00	RR 18.74 EL 37.48	45.55 27.79	48863 6932	62630 8885	(*) 1.28	15.71 (5 ø 20.0) 15.71 (5 ø 20.0)
P65	20.00 X 30.00	RR 56.23 RR 37.48	12.00 7.43	3791 3561	3936 3697	(*) 1.04	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P66	20.00 X 40.00	RR 56.23 RR 28.11	27.63 17.46	9716 1131	9893 1152	(*) 1.02	4.02 (2 ø 16.0) 16.08 (8 ø 16.0)
P67	20.00 X 40.00	RR 57.09 RR 28.54	28.24 17.85	10116 1354	10765 1441	(*) 1.06	4.02 (2 ø 16.0) 18.10 (9 ø 16.0)
P68	20.00 X 40.00	RR 56.23 RR 28.11	18.26 11.53	2899 7950	3329 9128	(*) 1.15	3.14 (4 ø 10.0) 6.28 (8 ø 10.0)
P73	20.00 X 40.00	RR 56.23 RR 28.11	18.97 12.04	3380 7252	4283 9190	(*) 1.27	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P74	20.00 X 40.00	RR 56.23 RR 28.11	10.29 6.05	253 1757	715 4972	(*) 2.83	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P75	15.00 X 40.00	RR 74.97 RR 28.11	11.75 7.21	25 8189	25 8158	(*) 1.00	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P76	60.00 X 60.00	RR 18.74 EL 37.48	40.55 24.90	50140 11856	60138 14221	(*) 1.20	15.71 (5 ø 20.0) 15.71 (5 ø 20.0)
P77	15.00 X 60.00	RR 74.97 RR 18.74	7.79 3.33	2904 1542	3450 1833	1.19	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
P78	20.00 X 40.00	RR 56.23 RR 28.11	28.21 17.87	6393 1415	6387 1413	(*) 1.00	2.45 (2 ø 12.5) 8.59 (7 ø 12.5)
P79	20.00 X 40.00	RR 56.23 RR 28.11	28.73 18.24	6625 1674	6649 1680	1.00	3.14 (4 ø 10.0) 7.85 (10 ø 10.0)
P80	20.00 X 40.00	RR 56.23 RR 28.11	18.09 11.45	2839 7326	3995 10310	(*) 1.41	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P81	15.00 X 50.00	RR 74.97 RR 22.49	21.73 12.75	911 9932	1010 11008	(*) 1.11	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P82	20.00 X 40.00	RR 56.23 RR 28.11	36.40 24.15	3592 5236	3571 5206	(*) 0.99	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P83	15.00 X 50.00	RR 74.97 RR 22.49	4.15 1.88	1796 2950	1977 3247	(*) 1.10	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P84	15.00 X 50.00	RR 74.97 RR 22.49	12.04 6.53	207 5122	263 6526	(*) 1.27	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P97	20.00 X 40.00	RR 56.23 RR 28.11	19.96 12.49	4096 4295	4701 4930	(*) 1.15	2.36 (3 ø 10.0) 7.07 (9 ø 10.0)
P98	20.00 X 40.00	RR 56.23 RR 28.11	22.05 13.76	350 5754	417 6851	(*) 1.19	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P99	20.00 X 40.00	RR 56.23 RR 28.11	19.03 11.94	2703 2917	2907 3137	(*) 1.08	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P100	20.00 X 40.00	RR 56.23 RR 28.11	13.51 8.63	2525 662	2532 664	(*) 1.00	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P101	20.00 X 40.00	RR 56.23 RR 28.11	42.21 28.27	33 10411	33 10364	(*) 1.00	2.36 (3 ø 10.0) 2.36 (3 ø 10.0)

P102	20.00 X 40.00	RR 56.23 RR 28.11	41.65 27.19	2619 9693	2601 9626	(*) 0.99	3.68 (3 ø 12.5) 3.68 (3 ø 12.5)
P103	15.00 X 50.00	RR 74.97 RR 22.49	13.80 7.99	1497 1955	1662 2170	(*) 1.11	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P104	15.00 X 50.00	RR 74.97 RR 22.49	15.82 9.49	2336 2544	2496 2718	(*) 1.07	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P105	20.00 X 40.00	RR 56.23 RR 28.11	37.99 23.25	438 9829	483 10834	(*) 1.10	3.14 (4 ø 10.0) 2.36 (3 ø 10.0)
P106	20.00 X 40.00	RR 56.23 RR 28.11	37.89 23.48	3862 1637	4182 1773	(*) 1.08	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P107	20.00 X 40.00	RR 56.23 RR 28.11	19.22 11.89	3226 4718	3758 5496	(*) 1.16	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P108	20.00 X 40.00	RR 56.23 RR 28.11	18.55 11.36	4717 5423	4814 5534	(*) 1.02	2.45 (2 ø 12.5) 8.59 (7 ø 12.5)
P110	20.00 X 40.00	RR 56.23 RR 28.11	36.32 22.41	2135 8024	2114 7944	(*) 0.99	2.36 (3 ø 10.0) 2.36 (3 ø 10.0)
P112	20.00 X 40.00	RR 56.23 RR 28.11	31.44 19.31	2451 11925	2540 12359	(*) 1.04	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P115	20.00 X 40.00	RR 56.23 RR 28.11	29.22 18.12	803 11858	970 14328	(*) 1.21	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P117	20.00 X 40.00	RR 56.23 RR 28.11	18.61 11.40	3712 5362	4161 6010	(*) 1.12	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P126	20.00 X 40.00	RR 56.23 RR 28.11	15.89 9.95	3470 8336	3710 8915	1.07	4.91 (4 ø 12.5) 6.14 (5 ø 12.5)
P127	20.00 X 40.00	RR 56.23 RR 28.11	28.10 17.63	898 14680	1160 18965	(*) 1.29	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P128	20.00 X 40.00	RR 56.23 RR 28.11	25.69 16.06	1090 13722	1109 13961	(*) 1.02	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P129	20.00 X 40.00	RR 56.23 RR 28.11	27.55 17.35	847 17124	839 16977	(*) 0.99	6.03 (3 ø 16.0) 10.05 (5 ø 16.0)

P130	20.00 X 40.00	RR 56.23 RR 28.11	29.30 18.47	2165 17273	2201 17554	(*) 1.02	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P131	15.00 X 50.00	RR 74.97 RR 22.49	16.00 9.77	2048 12465	2031 12364	(*) 0.99	2.36 (3 ø 10.0) 8.64 (11 ø 10.0)
P132	15.00 X 50.00	RR 74.97 RR 22.49	15.74 9.61	2376 12046	2422 12275	(*) 1.02	2.36 (3 ø 10.0) 10.21 (13 ø 10.0)
P133	20.00 X 40.00	RR 56.23 RR 28.11	27.95 17.46	836 17192	934 19200	(*) 1.12	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P134	20.00 X 40.00	RR 56.23 RR 28.11	28.01 17.49	1104 18465	1135 18990	(*) 1.03	9.42 (3 ø 20.0) 9.42 (3 ø 20.0)
P135	20.00 X 40.00	RR 56.23 RR 28.11	15.96 9.99	2734 8286	3599 10910	(*) 1.32	6.28 (2 ø 20.0) 9.42 (3 ø 20.0)
P136	20.00 X 40.00	RR 56.23 RR 28.11	12.28 7.69	2205 227	2556 263	1.16	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P137	20.00 X 40.00	RR 56.23 RR 28.11	10.21 5.72	1683 248	2355 347	(*) 1.40	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P138	20.00 X 40.00	RR 56.23 RR 28.11	17.52 10.85	1514 1056	2640 1842	(*) 1.74	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P139	20.00 X 40.00	RR 56.23 RR 28.11	14.17 8.38	2099 1221	2498 1453	1.19	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P140	20.00 X 40.00	RR 56.23 RR 28.11	8.17 5.15	2659 53	2749 55	1.03	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P141	20.00 X 40.00	RR 56.23 RR 28.11	15.19 9.43	3888 1746	4132 1855	1.06	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P142	20.00 X 40.00	RR 56.23 RR 28.11	19.34 11.67	1129 2774	2098 5155	1.86	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P143	20.00 X 40.00	RR 56.23 RR 28.11	18.26 11.38	3267 2401	3263 2399	1.00	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P144	20.00 X 40.00	RR 56.23 RR 28.11	21.14 13.23	2556 376	3122 459	1.22	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P145	20.00 X 40.00	RR 56.23 RR 28.11	18.66 10.93	1908 450	2850 673	(*) 1.49	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P146	20.00 X 40.00	RR 56.23 RR 28.11	18.63 11.52	1500 1497	2579 2575	(*) 1.72	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P147	20.00 X 40.00	RR 56.23 RR 28.11	15.82 9.47	2338 1738	2532 1883	1.08	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P148	20.00 X 40.00	RR 56.23 RR 28.11	15.87 10.06	3287 1269	3331 1285	1.01	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P149	20.00 X 40.00	RR 56.23 RR 28.11	16.13 10.07	3761 1276	3897 1322	1.04	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P150	20.00 X 40.00	RR 56.23 RR 28.11	17.42 10.56	1403 1807	2380 3064	1.70	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P151	20.00 X 40.00	RR 56.23 RR 28.11	17.10 10.73	3108 1756	3297 1863	1.06	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)

(\*) Quantidade de barras alterada pelo usuário (para mais)



 <b>CINNANTI</b> Arquitetura & Engenharia	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## 16. Vigas do pavimento SUPERIOR NV-640

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V201	22.28	5 ø 10.0	5 ø 10.0	-4.73 -825.13	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	Aviso 38
V202	684.15 576.66 596.55 512.59 427.11	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0	-536.86 -1217.76 -658.09 -944.87 -431.17 -809.06 -358.73 -699.93 -457.87 -460.91	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	Avisos 13, 48
V203	4174.89 2079.83 3150.95 2698.31 4771.88	3 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 3 ø 10.0		-4008.16 -5662.68 -5510.46 -5628.79 -7334.01 -1451.96	3 ø 10.0 2 ø 12.5 2 ø 12.5 2 ø 12.5 3 ø 12.5 2 ø 10.0		
V204	4973.42 2893.34 4456.94	2 ø 12.5 2 ø 10.0 3 ø 10.0		-2002.42 -7110.13 -6883.45 -3266.49	2 ø 10.0 4 ø 10.0 4 ø 10.0 2 ø 10.0		
V205	535.47 549.35 672.64	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-620.75 -802.12 -535.43 -742.10 -324.96 -278.02	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0	Avisos 13, 48
V206	0.11	5 ø 10.0	5 ø 10.0	-826.02 -45.92	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	Aviso 38
V207	145.99	5 ø 10.0		-34.76 -798.13	5 ø 10.0 5 ø 10.0		
V208	7219.12 0.11 1510.10 5250.59 1317.31 2268.82 7010.32	3 ø 12.5 4 ø 10.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 3 ø 12.5		-5007.15 -3536.45 -1279.45 -5971.62 -7961.92 -4334.64 -5287.49 -10258.99	4 ø 10.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 2 ø 16.0 4 ø 10.0 4 ø 10.0 3 ø 16.0		
V209	171.82 5550.94 2709.31 1776.43 7298.12	4 ø 10.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 2 ø 16.0		-4738.41 -9046.65 -7405.40 -5412.54 -3901.20	4 ø 10.0 4 ø 12.5 2 ø 16.0 4 ø 10.0 4 ø 10.0		
V210	89.37	5 ø 10.0		-429.25 -10.73	5 ø 10.0 5 ø 10.0		
V211	7564.70 1796.03 0.11 11213.35	2 ø 16.0 4 ø 10.0 4 ø 10.0 3 ø 16.0		-4246.26 -8718.86 -1496.10 -11162.79	4 ø 10.0 4 ø 12.5 4 ø 10.0 3 ø 16.0		Aviso 38

	2626.86 5783.73	4 ø 10.0 4 ø 10.0		-11095.03 -9839.37 -0.04	3 ø 16.0 4 ø 12.5 4 ø 10.0		
V212	7373.34 5056.79 7061.30	2 ø 16.0 4 ø 10.0 3 ø 12.5		-1915.83 -11329.39 -11235.98 -4010.21	4 ø 10.0 3 ø 16.0 3 ø 16.0 4 ø 10.0		
V213	40.43	5 ø 10.0		-898.84 -104.09	5 ø 10.0 5 ø 10.0		
V214	0.11 2798.50	4 ø 10.0 4 ø 10.0		-375.69 -6727.97 -15241.87	4 ø 10.0 3 ø 12.5 4 ø 16.0		
V215	79.25	5 ø 10.0	5 ø 10.0	-115.79 -1153.53	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	
V216	3914.90 0.11 2267.58	3 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-4373.51 -507.89 -3962.87 -11159.71	2 ø 12.5 3 ø 10.0 2 ø 12.5 4 ø 12.5	2 ø 10.0 2 ø 10.0 2 ø 10.0	
V217	2222.40 100.65	2 ø 10.0 2 ø 10.0		-516.03 -2569.69	2 ø 10.0 2 ø 10.0		Avisos 04, 08, 48
V218	4545.34	3 ø 12.5		-27247.63	7 ø 16.0		Aviso 106
V219	1848.08 1183.66 1888.74	2 ø 10.0 2 ø 10.0 2 ø 10.0		-7.10 -2589.31 -1749.01 -2802.81 -307.43	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		Avisos 04, 48
V220	3774.76 2650.16 3873.81	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-4320.81 -6476.17 -6678.90 -217.48 -3887.48	3 ø 10.0 4 ø 10.0 3 ø 12.5 3 ø 10.0 2 ø 12.5	2 ø 10.0 2 ø 10.0 2 ø 10.0	
V221	73.19	5 ø 10.0	5 ø 10.0	-960.68 -72.70	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	
V222	74.79	5 ø 10.0	5 ø 10.0	-82.84 -1000.11	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	
V223	3915.70 0.11 1956.41	3 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-4233.56 -395.49 -4005.24 -10407.87	2 ø 12.5 3 ø 10.0 2 ø 12.5 4 ø 12.5	2 ø 10.0 2 ø 10.0 2 ø 10.0	
V224	2202.68 108.97	2 ø 10.0 2 ø 10.0		-515.33 -2515.32	2 ø 10.0 2 ø 10.0		Avisos 04, 08, 48
V225	4502.47	3 ø 12.5		-27546.37	7 ø 16.0		Aviso 106
V226	2450.93 1416.13 2301.19	2 ø 10.0 2 ø 10.0 2 ø 10.0		-3665.85 -2392.13 -3914.83 -144.78	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		Avisos 04, 48
V227	3822.57 2455.81 3594.67	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-4799.43 -6264.54 -6376.79 -91.23 -3631.83	3 ø 10.0 4 ø 10.0 3 ø 12.5 3 ø 10.0 3 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0	
V228	74.56	5 ø 10.0	5 ø 10.0	-946.48 -71.02	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	
V229	0.11 1919.71	3 ø 12.5 3 ø 12.5		-414.88 -10699.16 -20522.19	3 ø 12.5 4 ø 12.5 3 ø 20.0		
V230	97.98	5 ø 10.0	5 ø 10.0	-99.00 -1083.36	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	Aviso 08
V231	6793.32 2026.16	3 ø 12.5 4 ø 10.0		-4925.57 -7920.73	4 ø 10.0 2 ø 16.0		Aviso 38

	10203.37 2390.46 5250.82	3 ø 16.0 4 ø 10.0 4 ø 10.0		-949.37 -10119.42 -10241.30 -9015.38 -0.04	4 ø 10.0 4 ø 12.5 3 ø 16.0 4 ø 12.5 4 ø 10.0		
V232	7003.69 5255.44 6969.15	3 ø 12.5 4 ø 10.0 3 ø 12.5		-1705.39 -11215.66 -12941.61 -3906.39	4 ø 10.0 3 ø 16.0 6 ø 12.5 4 ø 10.0		Aviso 38
V233	40.24	5 ø 10.0		-890.63 -105.23	5 ø 10.0 5 ø 10.0		
V234	7877.20 2527.18 2842.41 5686.99 1211.91 3039.05 6470.00 802.32	2 ø 16.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 3 ø 12.5 4 ø 10.0		-4443.45 -5550.89 -10081.26 -9397.21 -5909.39 -6202.68 -11323.70 -3278.54	4 ø 10.0 4 ø 10.0 4 ø 12.5 4 ø 12.5 4 ø 10.0 4 ø 10.0 3 ø 16.0 4 ø 10.0		Aviso 02
V235	450.52 5577.34 2816.72 834.41 7186.24	4 ø 10.0 4 ø 10.0 4 ø 10.0 4 ø 10.0 3 ø 12.5		-4609.91 -9393.18 -6892.56 -5297.93 -3945.22	4 ø 10.0 4 ø 12.5 3 ø 12.5 4 ø 10.0 4 ø 10.0		Aviso 02
V236	90.75	5 ø 10.0		-433.62 -9.46	5 ø 10.0 5 ø 10.0		
V237	0.28	5 ø 10.0	5 ø 10.0	-30.35 -715.42	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	Aviso 38
V238	763.56 544.60 643.52 524.28 461.67	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-463.91 -1029.84 -512.87 -751.34 -343.54 -715.04 -349.34 -742.14 -468.08 -478.30	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0	Avisos 13, 48
V239	4566.74 3045.99 3236.40 2819.44 5317.69	3 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 12.5		-4018.21 -6917.83 -6306.89 -5898.89 -7900.48 -1579.67	3 ø 10.0 4 ø 10.0 4 ø 10.0 2 ø 12.5 3 ø 12.5 2 ø 10.0		
V240	5000.51 2873.21 4419.10	2 ø 12.5 2 ø 10.0 3 ø 10.0		-1840.36 -7262.46 -6779.48 -3413.62	2 ø 10.0 4 ø 10.0 4 ø 10.0 2 ø 10.0		
V241	508.46 550.01 690.60	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-591.42 -804.30 -534.31 -761.55 -305.76 -274.80	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0	Avisos 13, 48
V242	0.11	5 ø 10.0	5 ø 10.0	-813.02 -40.12	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	Aviso 38
V243	0.11 1015.60 654.79 462.19 807.01	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0	-795.00 -1134.11 -127.40 -605.77 -1205.82	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		Avisos 26, 02, 13, 06, 08, 48

	967.40 0.11	2 ø 10.0 2 ø 10.0		-586.94 -673.12 -853.22 -971.94 -933.22 -321.94 -505.79 -941.03 -200.58 -1094.05 -687.49	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	
V244	7148.09 0.11 6637.71	4 ø 10.0 2 ø 10.0 4 ø 10.0		-8023.50 -10185.24 -9271.29 -7811.06	3 ø 12.5 4 ø 12.5 2 ø 16.0 3 ø 12.5		
V245	6757.55 0.11 6813.57	4 ø 10.0 2 ø 10.0 4 ø 10.0		-7368.46 -9948.41 -9329.90 -8026.96	3 ø 12.5 4 ø 12.5 2 ø 16.0 3 ø 12.5		
V246	483.25	2 ø 10.0	2 ø 10.0	-319.05 -183.41 -196.50 -349.18	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	Avisos 13, 08, 48
V247	8.65	5 ø 10.0		-241.90 -596.35	5 ø 10.0 5 ø 10.0		Avisos 02, 13, 38, 101
V248	11672.33 5938.50 0.11 60.39	2 ø 20.0 4 ø 10.0 3 ø 10.0 3 ø 10.0		-14251.43 -11637.12 -7903.69 -11034.84 -2026.82 -71.88	4 ø 16.0 2 ø 20.0 2 ø 16.0 3 ø 16.0 3 ø 12.5 3 ø 10.0		Avisos 04, 38
V249	62.52 0.11 5233.11 0.11 2507.05 2616.78	2 ø 10.0 2 ø 10.0 4 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-69.88 -1655.73 -9931.87 -8645.51 -867.39 -6357.83 -3997.20	2 ø 10.0 4 ø 10.0 3 ø 16.0 4 ø 12.5 2 ø 10.0 3 ø 12.5 3 ø 10.0		Avisos 02, 04, 38
V250	15.16	5 ø 10.0	5 ø 10.0	-748.82 -236.58	5 ø 10.0 5 ø 10.0	5 ø 10.0 5 ø 10.0	Avisos 02, 13, 08, 38
V251	822.32	2 ø 10.0		-1015.19	2 ø 10.0		Aviso 08
V252	2895.95	2 ø 12.5		-0.04 -0.04	2 ø 12.5 2 ø 12.5		Avisos 26, 04, 12, 48
V253	867.25	2 ø 10.0		-953.27	2 ø 10.0		Aviso 08
V254	4608.63	3 ø 10.0		-2911.90 -4298.09	3 ø 10.0 3 ø 10.0		
V255	3499.46	3 ø 10.0		-3247.67 -3186.18	2 ø 10.0 2 ø 10.0		
V256	102.88	5 ø 10.0		-95.74 -442.20	5 ø 10.0 5 ø 10.0		Avisos 38, 101
V257	10659.63 470.96	3 ø 16.0 3 ø 10.0		-12804.51 -16250.92 -401.03	6 ø 12.5 3 ø 20.0 3 ø 10.0		Aviso 38
V258	311.06 1969.54 2854.47	2 ø 10.0 2 ø 10.0 2 ø 10.0		-624.28 -2736.90 -5487.72 -4145.68	2 ø 10.0 2 ø 10.0 4 ø 10.0 2 ø 12.5		Aviso 38
V259	119.38	5 ø 10.0		-640.21 -82.39	5 ø 10.0 5 ø 10.0		Avisos 08, 38
V260	112.78	5 ø 10.0		-108.78	5 ø 10.0		Avisos 38, 101

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

				-498.88	5 ø 10.0		
V261	14326.68 0.11 1198.48	4 ø 16.0 4 ø 10.0 4 ø 10.0		-16169.76 -11317.75 -29366.18	4 ø 16.0 3 ø 16.0 5 ø 20.0		Aviso 38
V262	1063.21 0.11 12964.62	4 ø 10.0 4 ø 10.0 6 ø 12.5		-30581.84 -10098.50 -15730.50	8 ø 16.0 4 ø 12.5 4 ø 16.0		Aviso 38
V263	80.34	5 ø 10.0		-606.32 -149.18	5 ø 10.0 5 ø 10.0		Aviso 38
V264	85.92	5 ø 10.0		-105.05 -472.98	5 ø 10.0 5 ø 10.0		Avisos 38, 101
V265	13930.21 0.11 7226.81	4 ø 16.0 4 ø 10.0 3 ø 12.5		-15823.17 -18228.20 -17021.89	4 ø 16.0 3 ø 20.0 3 ø 20.0		Avisos 38, 106
V266	6991.31 2516.08 5057.95	3 ø 12.5 4 ø 10.0 4 ø 10.0		-16715.29 -618.09 -7692.20 -4990.20	3 ø 20.0 4 ø 10.0 2 ø 16.0 4 ø 10.0		Avisos 38, 106
V267	103.88	5 ø 10.0		-445.10 -87.07	5 ø 10.0 5 ø 10.0		Aviso 38
V268	55.68	3 ø 10.0	3 ø 10.0	-77.68 -194.30	3 ø 10.0 3 ø 10.0	3 ø 10.0 3 ø 10.0	Avisos 02, 13, 08, 38
V269	79.78	3 ø 10.0	3 ø 10.0	-102.92 -220.95	3 ø 10.0 3 ø 10.0	3 ø 10.0 3 ø 10.0	Avisos 02, 13, 08, 38
V270	7053.44 2992.53 957.75	4 ø 10.0 3 ø 10.0 3 ø 10.0		-9847.85 -1671.32 -6074.86 -5032.57 -981.02	2 ø 16.0 3 ø 10.0 2 ø 12.5 2 ø 12.5 3 ø 10.0		Avisos 08, 38
V271	7252.57 1273.22 570.01	4 ø 10.0 3 ø 10.0 3 ø 10.0		-10117.25 -842.84 -8093.43 -1965.79 -667.00	4 ø 12.5 3 ø 10.0 3 ø 12.5 3 ø 10.0 3 ø 10.0		Avisos 08, 38
V272	0.11	4 ø 16.0		-10070.35 -8320.65 -16143.58	4 ø 16.0 4 ø 16.0 4 ø 16.0		Avisos 26, 04, 48
V273	12.34 6938.70 7207.28	3 ø 10.0 4 ø 10.0 4 ø 10.0		-3.57 -3463.61 -10714.76 -3284.75 -8888.98	3 ø 10.0 3 ø 12.5 4 ø 12.5 3 ø 10.0 2 ø 16.0		Avisos 02, 08, 38
V274	2177.94 3239.10 915.31	3 ø 10.0 3 ø 10.0 3 ø 10.0		-3057.59 -5307.09 -4899.88 -1878.40	3 ø 10.0 2 ø 12.5 3 ø 10.0 3 ø 10.0		Aviso 38
V275	74.43	3 ø 10.0	3 ø 10.0	-239.99 -109.73	3 ø 10.0 3 ø 10.0	3 ø 10.0 3 ø 10.0	Avisos 02, 13, 38
V276	52.46	3 ø 10.0	3 ø 10.0	-201.78 -81.94	3 ø 10.0 3 ø 10.0	3 ø 10.0 3 ø 10.0	Avisos 02, 13, 08, 38
V277	54.39	5 ø 10.0		-194.60 -501.37	5 ø 10.0 5 ø 10.0		Avisos 02, 13, 38, 101
V278	10588.65 0.11 12290.97 0.11	3 ø 16.0 3 ø 10.0 5 ø 12.5 3 ø 10.0		-15362.40 -15563.41 -18473.89 -8576.83 -245.73	4 ø 16.0 4 ø 16.0 5 ø 16.0 4 ø 12.5 3 ø 10.0		Avisos 04, 38, 101
V279	43.79 11567.95 0.11	3 ø 10.0 2 ø 20.0 3 ø 10.0		-187.22 -10333.49 -17954.27	3 ø 10.0 3 ø 16.0 3 ø 20.0		Avisos 02, 04, 38

	<b>CINNANTI</b> Arquitetura & Engenharia		<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF		29/12/2022	

	10409.43	3 ø 16.0		-16308.40 -14897.62	3 ø 20.0 4 ø 16.0		
V280	57.94	5 ø 10.0		-493.52 -189.74	5 ø 10.0 5 ø 10.0		Avisos 02, 13, 38, 101
V281	55.95	5 ø 10.0		-114.57 -461.39	5 ø 10.0 5 ø 10.0		Avisos 38, 101
V282	11351.89 0.11 12662.11 0.11	3 ø 16.0 3 ø 10.0 6 ø 12.5 3 ø 10.0		-16712.69 -9576.11 -15987.60 -8934.74 -202.55	3 ø 20.0 4 ø 12.5 3 ø 20.0 4 ø 12.5 3 ø 10.0		Avisos 38, 101
V283	19.19 11455.40 0.11 11203.07	3 ø 10.0 2 ø 20.0 3 ø 10.0 3 ø 16.0		-154.44 -10534.25 -17899.16 -10321.60 -16306.32	3 ø 10.0 3 ø 16.0 3 ø 20.0 3 ø 16.0 3 ø 20.0		Avisos 02, 38
V284	55.38	5 ø 10.0		-460.35 -115.83	5 ø 10.0 5 ø 10.0		Aviso 38
V285	329.01	2 ø 10.0	2 ø 10.0	-396.34 -311.66 -292.55 -351.21	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	Avisos 13, 08, 48
V286	0.11 969.19 194.39 740.60 412.87 736.95 208.68 968.39 0.11	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-624.91 -1041.87 -195.24 -718.97 -433.87 -754.60 -572.92 -666.78 -823.45 -825.07 -670.58 -571.64 -767.35 -439.66 -712.51 -193.95 -1060.91 -636.79	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		Avisos 26, 02, 13, 06, 08, 48
V287	7127.65 0.11 6837.63	4 ø 10.0 2 ø 10.0 4 ø 10.0		-8037.93 -9930.55 -9392.29 -7962.69	3 ø 12.5 4 ø 12.5 2 ø 16.0 3 ø 12.5		
V288	6726.60 0.11 7180.25	4 ø 10.0 2 ø 10.0 4 ø 10.0		-8242.69 -9156.55 -10097.51 -7685.81	3 ø 12.5 2 ø 16.0 4 ø 12.5 3 ø 12.5		
V289	506.72 0.11 3055.53	2 ø 12.5 2 ø 12.5 2 ø 12.5		-408.51 -9358.83 -3216.90	2 ø 12.5 4 ø 10.0 2 ø 12.5		Avisos 48, 101
V290	37899.72	3 ø 20.0		-32293.60 -14005.93	4 ø 16.0 3 ø 12.5		Avisos 26, 48
V291	2704.83 0.11	2 ø 12.5 2 ø 12.5		-13017.16 -2835.39	2 ø 16.0 2 ø 12.5		Avisos 48, 101
V292	20223.17	4 ø 12.5		-4108.64 -1518.25 -1906.96	3 ø 12.5 3 ø 12.5 3 ø 12.5		Avisos 26, 08, 48
V293	0.11 2791.86	2 ø 12.5 2 ø 12.5		-3999.30 -12991.34	2 ø 12.5 2 ø 16.0		Avisos 48, 101

V294	7623.45 9108.15	3 ø 12.5 2 ø 16.0	2 ø 10.0 2 ø 10.0	-9376.25 -298.08 -10100.93	4 ø 12.5 4 ø 12.5 4 ø 12.5	2 ø 10.0 2 ø 10.0 2 ø 10.0	Avisos 26, 03
V295	11744.21	3 ø 16.0	4 ø 10.0	-10678.59 -11295.17	3 ø 16.0 3 ø 16.0	4 ø 10.0 4 ø 10.0	Avisos 26, 03
V296	38075.74	3 ø 20.0		-13478.78 -33374.48	3 ø 12.5 4 ø 16.0		Avisos 26, 48
V297	17224.06	2 ø 16.0		-377.45 -1483.57 -3952.96	3 ø 12.5 3 ø 12.5 3 ø 12.5		Avisos 26, 08, 48
V298	1684.09 2292.54	3 ø 12.5 3 ø 12.5		-20925.63 -4394.69	4 ø 12.5 3 ø 12.5		Avisos 26, 48

## 17. Cálculos das Lajes

<b>SUPERIOR NV-640</b>	fck = 400.00 kgf/cm <sup>2</sup>	E = 318758 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 3</b>		cobr = 2.50 cm	

ARMADURAS POSITIVAS (LAJE)								
Laje	Direção	Momento positivo		Momento negativo		Armadura inferior	Armadura superior	Cisalhamento
		Seção	Flexão	Seção	Flexão			
L201	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 313 kgf.m/m As = 0.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 4.21 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.27 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1801 kgf.m/m As = 3.82 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 566.95 kgf.m/m F = 0.00 tf fiss = 0.05 mm		vsd = 8.75 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L202	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 186 kgf.m/m As = 0.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 79.33 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.72 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 593 kgf.m/m As = 1.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 375.02 kgf.m/m F = 0.00 tf fiss = 0.02 mm	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 422.07 kgf.m/m F = 0.00 tf fiss = 0.06 mm	vsd = 4.20 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L203	X	bw = 100.0 cm h = 15.0 cm	Md = 952 kgf.m/m As = 1.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1730 kgf.m/m As = 3.40 cm <sup>2</sup> /m	As = 1.83 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 666.14 kgf.m/m F = 0.00 tf		vsd = 2.75 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

					A's = 0.00 cm <sup>2</sup> /m	fiss = 0.06 mm		
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1308 kgf.m/m  As = 2.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3537 kgf.m/m  As = 7.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.72 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 908.00 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 4.58 tf/m vrd1 = 9.57 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 819 kgf.m/m  As = 1.56 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 314.99 kgf.m/m F = 0.00 tf fiss = 0.01 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 563.44 kgf.m/m F = 0.00 tf fiss = 0.08 mm	vsd = 1.55 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L204	Y	bw = 100.0 cm h = 15.0 cm	Md = 1059 kgf.m/m  As = 2.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3200 kgf.m/m  As = 7.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.19 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 736.05 kgf.m/m F = 0.00 tf fiss = 0.09 mm		vsd = 3.98 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 59.91 kgf.m/m F = 0.00 tf fiss = 0.00 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.52 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 1.86 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L205	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 691 kgf.m/m  As = 1.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 210.58 kgf.m/m F = 0.00 tf fiss = 0.01 mm	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 497.36 kgf.m/m F = 0.00 tf fiss = 0.08 mm	vsd = 3.97 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 981 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3187 kgf.m/m  As = 6.49 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 681.07 kgf.m/m F = 0.00 tf fiss = 0.06 mm	A's = 1.93 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2223.19 kgf.m/m F = 0.00 tf fiss = 0.16 mm	vsd = 4.36 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L206	Y	bw = 100.0 cm h = 15.0 cm	Md = 991 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 4295 kgf.m/m  As = 9.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.05 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 697.89 kgf.m/m F = 0.00 tf fiss = 0.08 mm		vsd = 8.10 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 155 kgf.m/m  As = 0.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 62.97 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.38 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L207	Y	bw = 100.0 cm	Md = 917 kgf.m/m	bw = 100.0 cm	Md = 973 kgf.m/m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)	vsd = 3.93 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m



		h = 15.0 cm	As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 15.0 cm	As = 2.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 226.48 kgf.m/m F = 0.00 tf fiss = 0.01 mm	M = 703.94 kgf.m/m F = 0.00 tf fiss = 0.08 mm	vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L208	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 160 kgf.m/m As = 0.30 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 25.63 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.23 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 913 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 167.74 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 3.59 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L209	X	bw = 100.0 cm h = 15.0 cm	Md = 959 kgf.m/m As = 1.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3357 kgf.m/m As = 6.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.85 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 666.47 kgf.m/m F = 0.00 tf fiss = 0.06 mm		vsd = 3.70 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 982 kgf.m/m As = 2.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2363 kgf.m/m As = 5.06 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.03 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 692.54 kgf.m/m F = 0.00 tf fiss = 0.08 mm		vsd = 3.77 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L210	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 180 kgf.m/m As = 0.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 11.29 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.07 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1043 kgf.m/m As = 2.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 368.92 kgf.m/m F = 0.00 tf fiss = 0.02 mm	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 757.65 kgf.m/m F = 0.00 tf fiss = 0.09 mm	vsd = 3.63 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L211	X	bw = 100.0 cm h = 15.0 cm	Md = 1516 kgf.m/m As = 2.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3338 kgf.m/m As = 6.82 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.95 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 1054.90 kgf.m/m F = 0.00 tf fiss = 0.11 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2328.57 kgf.m/m F = 0.00 tf fiss = 0.18 mm	vsd = 3.84 tf/m vrd1 = 10.19 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1835 kgf.m/m As = 3.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 452.43 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 2.92 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

L212	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 188 kgf.m/m  As = 0.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 39.48 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.46 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 940 kgf.m/m  As = 1.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 399.69 kgf.m/m F = 0.00 tf fiss = 0.03 mm	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 679.27 kgf.m/m F = 0.00 tf fiss = 0.07 mm	vsd = 3.73 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L213	X	bw = 100.0 cm h = 15.0 cm	Md = 1225 kgf.m/m  As = 2.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1510 kgf.m/m  As = 2.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.37 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 850.47 kgf.m/m F = 0.00 tf fiss = 0.10 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1057.99 kgf.m/m F = 0.00 tf fiss = 0.11 mm	vsd = 4.27 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1419 kgf.m/m  As = 2.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2712 kgf.m/m  As = 5.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.96 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 992.10 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 4.50 tf/m vrd1 = 9.62 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L214	X	bw = 100.0 cm h = 15.0 cm	Md = 1478 kgf.m/m  As = 2.87 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3143 kgf.m/m  As = 6.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.87 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 1034.15 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 4.92 tf/m vrd1 = 10.19 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1533 kgf.m/m  As = 3.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 444.19 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 4.19 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L215	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 162 kgf.m/m  As = 0.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 17.56 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.58 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 760 kgf.m/m  As = 1.56 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 156.39 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 3.70 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L216	X	bw = 100.0 cm h = 15.0 cm	Md = 1456 kgf.m/m  As = 2.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3428 kgf.m/m  As = 7.01 cm <sup>2</sup> /m	As = 2.83 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 1018.27 kgf.m/m		vsd = 5.41 tf/m vrd1 = 10.19 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m

					A's = 0.00 cm <sup>2</sup> /m	F = 0.00 tf físs = 0.10 mm		asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1097 kgf.m/m  As = 2.27 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1537 kgf.m/m  As = 3.24 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.27 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 760.29 kgf.m/m F = 0.00 tf físs = 0.09 mm		vsd = 4.25 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L217	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 179 kgf.m/m  As = 0.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 18.51 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 1.50 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 916 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 394.35 kgf.m/m F = 0.00 tf físs = 0.02 mm		vsd = 3.79 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L218	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 213 kgf.m/m  As = 0.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2.15 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 0.97 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1427 kgf.m/m  As = 2.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 587.96 kgf.m/m F = 0.00 tf físs = 0.06 mm		vsd = 5.97 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L219	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 276 kgf.m/m  As = 0.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 5.80 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 1.82 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1747 kgf.m/m  As = 3.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 539.57 kgf.m/m F = 0.00 tf físs = 0.05 mm		vsd = 9.51 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L220	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 1.57 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm	Md = 917 kgf.m/m	bw = 100.0 cm	Md = 716 kgf.m/m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)		vsd = 1.17 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m

		h = 15.0 cm	As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 15.0 cm	As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 385.33 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L221	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 965 kgf.m/m  As = 1.86 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 33.41 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.02 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 753 kgf.m/m  As = 1.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 77.94 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.34 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L222	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 855 kgf.m/m  As = 1.63 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.46 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 118.66 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.01 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L223	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1312 kgf.m/m  As = 2.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 52.09 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 6.76 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 350.10 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 3.82 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L224	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1047 kgf.m/m  As = 2.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 218.37 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 3.26 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1411 kgf.m/m  As = 2.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 514.28 kgf.m/m F = 0.00 tf fiss = 0.04 mm		vsd = 4.17 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

L225	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1085 kgf.m/m  As = 2.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 45.26 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 2.86 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1115 kgf.m/m  As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 152.69 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 3.58 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L226	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 989 kgf.m/m  As = 1.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 227.17 kgf.m/m F = 0.00 tf fiss = 0.01 mm	vsd = 3.99 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1284 kgf.m/m  As = 2.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 87.41 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 3.05 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L227	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 958 kgf.m/m  As = 1.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 351.84 kgf.m/m F = 0.00 tf fiss = 0.02 mm	vsd = 2.19 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1830 kgf.m/m  As = 3.88 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 1.89 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L228	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1730 kgf.m/m  As = 3.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 1.41 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 920 kgf.m/m  As = 1.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 201.84 kgf.m/m F = 0.00 tf fiss = 0.01 mm	vsd = 1.97 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L229	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1808 kgf.m/m  As = 3.56 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf	vsd = 1.47 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m

					A's = 0.00 cm <sup>2</sup> /m	fiss = 0.00 mm		asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 982 kgf.m/m  As = 2.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 369.11 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 2.20 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L230	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 199 kgf.m/m  As = 0.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.65 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.74 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1388 kgf.m/m  As = 2.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 5.91 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L231	X	bw = 100.0 cm h = 15.0 cm	Md = 1019 kgf.m/m  As = 1.97 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2046 kgf.m/m  As = 4.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.97 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 711.75 kgf.m/m F = 0.00 tf fiss = 0.07 mm	A's = 1.92 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1451.04 kgf.m/m F = 0.00 tf fiss = 0.14 mm	vsd = 4.56 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1388 kgf.m/m  As = 2.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3566 kgf.m/m  As = 7.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.89 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 964.41 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 6.97 tf/m vrd1 = 9.62 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L232	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2048 kgf.m/m  As = 4.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 90.62 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 5.04 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1790 kgf.m/m  As = 3.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 515.95 kgf.m/m F = 0.00 tf fiss = 0.04 mm		vsd = 5.42 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L233	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 113.06 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 0.47 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm	Md = 407 kgf.m/m	bw = 100.0 cm	Md = 315 kgf.m/m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)		vsd = 0.67 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m

		h = 10.0 cm	As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 10.0 cm	As = 1.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 1.05 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L234	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 820 kgf.m/m  As = 2.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 142.25 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 1.73 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 152.80 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 0.81 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L235	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 360 kgf.m/m  As = 1.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 114.16 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.07 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 585 kgf.m/m  As = 2.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 112.17 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 0.89 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L236	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 958 kgf.m/m  As = 3.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 97.21 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.03 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 346 kgf.m/m  As = 1.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 129.06 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 0.90 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L237	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 371 kgf.m/m  As = 1.21 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 73.92 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.09 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 300 kgf.m/m  As = 1.07 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 132.45 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 1.36 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

L238	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 66.74 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.63 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 317 kgf.m/m  As = 1.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 119.16 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.07 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L239	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 402 kgf.m/m  As = 1.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 115.56 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.00 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 123.79 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.36 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L240	X	bw = 100.0 cm h = 15.0 cm	Md = 1255 kgf.m/m  As = 2.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1464 kgf.m/m  As = 2.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.43 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 871.40 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 4.93 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1550 kgf.m/m  As = 3.27 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1882 kgf.m/m  As = 3.99 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.27 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1085.13 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 3.28 tf/m vrd1 = 9.80 tf/m vrd2 = 60.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L241	X	bw = 100.0 cm h = 15.0 cm	Md = 1624 kgf.m/m  As = 3.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2014 kgf.m/m  As = 3.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.19 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1135.56 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 3.07 tf/m vrd1 = 10.37 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1436 kgf.m/m  As = 3.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.93 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 423.48 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 4.72 tf/m vrd1 = 9.36 tf/m vrd2 = 59.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L242	X	bw = 100.0 cm h = 15.0 cm	Md = 1539 kgf.m/m  As = 2.99 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2143 kgf.m/m  As = 4.24 cm <sup>2</sup> /m	As = 2.99 cm <sup>2</sup> /m ø8.0 c/16 (3.14 cm <sup>2</sup> /m) M = 1079.15 kgf.m/m		vsd = 5.08 tf/m vrd1 = 10.23 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m



					A's = 0.00 cm <sup>2</sup> /m	F = 0.00 tf físs = 0.10 mm		asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1141 kgf.m/m  As = 2.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1478 kgf.m/m  As = 3.08 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.37 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 790.90 kgf.m/m F = 0.00 tf físs = 0.10 mm		vsd = 4.88 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L243	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 171 kgf.m/m  As = 0.32 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 5.80 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 0.78 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1156 kgf.m/m  As = 2.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 556.08 kgf.m/m F = 0.00 tf físs = 0.05 mm		vsd = 4.44 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L244	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 352 kgf.m/m  As = 1.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 84.71 kgf.m/m F = 0.00 tf físs = 0.01 mm		vsd = 0.93 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 19.83 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 0.34 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L245	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 471 kgf.m/m  As = 1.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 89.42 kgf.m/m F = 0.00 tf físs = 0.01 mm		vsd = 1.28 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 461 kgf.m/m  As = 1.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 44.60 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 1.99 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L246	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1127 kgf.m/m  As = 2.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 304.24 kgf.m/m F = 0.00 tf físs = 0.01 mm		vsd = 5.57 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm	Md = 917 kgf.m/m	bw = 100.0 cm	Md = 1386 kgf.m/m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)		vsd = 5.59 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m

		h = 15.0 cm	As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 15.0 cm	As = 2.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L247	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 862 kgf.m/m  As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 120.54 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.73 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 330 kgf.m/m  As = 1.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 25.51 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.68 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L248	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 350 kgf.m/m  As = 0.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 638.60 kgf.m/m F = 0.00 tf fiss = 0.06 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 254.01 kgf.m/m F = 0.00 tf fiss = 0.02 mm	vsd = 4.10 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2406 kgf.m/m  As = 5.22 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 8.00 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L249	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 7.52 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.58 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 378.87 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 5.56 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L250	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.67 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 954 kgf.m/m  As = 1.97 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 68.01 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 7.47 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L251	X	bw = 100.0 cm	Md = 407 kgf.m/m	bw = 100.0 cm	Md = 1170 kgf.m/m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)		vsd = 4.64 tf/m vrd1 = 6.20 tf/m Modelo II

		h = 10.0 cm	As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 10.0 cm	As = 4.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 159.87 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vr2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 327 kgf.m/m As = 1.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 254.26 kgf.m/m F = 0.00 tf fiss = 0.06 mm		vsd = 3.35 tf/m vr1 = 5.71 tf/m vr2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L252	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1371 kgf.m/m As = 2.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 115.03 kgf.m/m F = 0.00 tf fiss = 0.00 mm	A's = 2.66 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 993.25 kgf.m/m F = 0.00 tf fiss = 0.11 mm	vsd = 2.34 tf/m vr1 = 10.07 tf/m Modelo II vr2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1947 kgf.m/m As = 4.14 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 467.13 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 6.02 tf/m vr1 = 9.50 tf/m vr2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L253	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 7.26 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.85 tf/m vr1 = 10.07 tf/m Modelo II vr2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 275.29 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 3.04 tf/m vr1 = 9.50 tf/m vr2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L254	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 4.90 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.65 tf/m vr1 = 10.07 tf/m Modelo II vr2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 147.48 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.34 tf/m vr1 = 9.50 tf/m vr2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L255	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 5.61 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.88 tf/m vr1 = 10.07 tf/m Modelo II vr2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)		vsd = 7.01 tf/m vr1 = 9.50 tf/m vr2 = 60.61 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm <sup>2</sup> /m			M = 438.50 kgf.m/m F = 0.00 tf fiss = 0.03 mm		asw = 0.00 cm <sup>2</sup> /m
L256	X	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 261 kgf.m/m As = 0.49 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.65 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 743.97 kgf.m/m F = 0.00 tf fiss = 0.06 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 190.51 kgf.m/m F = 0.00 tf fiss = 0.01 mm	vsd = 4.42 tf/m vrd1 = 10.14 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 684 kgf.m/m As = 1.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2118 kgf.m/m As = 4.51 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.41 cm <sup>2</sup> /m ø8.0 c/25 (2.01 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 6.90 tf/m vrd1 = 9.37 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L257	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 141 kgf.m/m As = 0.27 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 36.21 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.07 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1251 kgf.m/m As = 2.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 556.16 kgf.m/m F = 0.00 tf fiss = 0.05 mm	A's = 2.42 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 902.97 kgf.m/m F = 0.00 tf fiss = 0.12 mm	vsd = 4.37 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L258	X	bw = 100.0 cm h = 15.0 cm	Md = 1013 kgf.m/m As = 1.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2041 kgf.m/m As = 4.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.95 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 707.51 kgf.m/m F = 0.00 tf fiss = 0.07 mm	A's = 1.91 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1447.86 kgf.m/m F = 0.00 tf fiss = 0.14 mm	vsd = 4.54 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1389 kgf.m/m As = 2.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3747 kgf.m/m As = 8.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.89 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 965.84 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 7.40 tf/m vrd1 = 9.62 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L259	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 7.46 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.58 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 375.84 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 5.48 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L260	X	bw = 100.0 cm	Md = 917 kgf.m/m	bw = 100.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20		vsd = 1.54 tf/m vrd1 = 10.07 tf/m

		h = 15.0 cm	As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 15.0 cm		(2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 880 kgf.m/m As = 1.82 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 55.31 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 6.86 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L261	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1128 kgf.m/m As = 2.18 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 300.81 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 4.89 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1180 kgf.m/m As = 2.45 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 4.89 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L262	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 780 kgf.m/m As = 2.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 96.58 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.51 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 19.47 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.45 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L263	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 441 kgf.m/m As = 1.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 52.38 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.83 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 437 kgf.m/m As = 1.57 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 86.11 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.58 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L264	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 365 kgf.m/m As = 1.19 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 136.50 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 0.95 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 113.68 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.18 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2.45 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.75 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L265	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 281.14 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 4.17 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 1378 kgf.m/m  As = 2.67 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1431 kgf.m/m  As = 2.78 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.67 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 958.99 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 4.83 tf/m vrd1 = 10.14 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L266	Y	bw = 100.0 cm h = 15.0 cm	Md = 1520 kgf.m/m  As = 3.20 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1819 kgf.m/m  As = 3.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.20 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1065.60 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 3.20 tf/m vrd1 = 9.80 tf/m vrd2 = 60.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 1649 kgf.m/m  As = 3.24 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2033 kgf.m/m  As = 4.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.24 cm <sup>2</sup> /m ø10.0 c/20 (3.93 cm <sup>2</sup> /m) M = 1152.87 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 3.02 tf/m vrd1 = 10.37 tf/m Modelo II vrd2 = 64.54 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L267	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1414 kgf.m/m  As = 3.00 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.93 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 434.47 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 4.67 tf/m vrd1 = 9.36 tf/m vrd2 = 59.49 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 16.63 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.65 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L268	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 126.06 kgf.m/m F = 0.00 tf		vsd = 1.51 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

						fiss = 0.00 mm		
L269	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 11.62 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.88 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm		As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 503.27 kgf.m/m F = 0.00 tf fiss = 0.04 mm		vsd = 8.26 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L270	X	bw = 100.0 cm h = 15.0 cm	Md = 1564 kgf.m/m As = 3.04 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2207 kgf.m/m As = 4.37 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 3.04 cm <sup>2</sup> /m ø8.0 c/16 (3.14 cm <sup>2</sup> /m) M = 1095.87 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 5.23 tf/m vrd1 = 10.23 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1133 kgf.m/m As = 2.35 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1359 kgf.m/m As = 2.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.35 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 785.38 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 2.62 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L271	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 174 kgf.m/m As = 0.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 5.26 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.80 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1136 kgf.m/m As = 2.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 556.26 kgf.m/m F = 0.00 tf fiss = 0.05 mm		vsd = 4.45 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L272	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1591 kgf.m/m As = 3.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 478.86 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 4.91 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1765 kgf.m/m As = 3.74 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 97.84 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 4.61 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L273	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m)		vsd = 0.51 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m

			A's = 0.00 cm <sup>2</sup> /m			M = 96.89 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 380 kgf.m/m As = 1.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 10.35 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.00 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L274	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 85.42 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 0.61 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 26.71 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.51 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L275	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 375 kgf.m/m As = 1.22 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 86.75 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.29 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 119.57 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.63 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L276	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 565 kgf.m/m As = 1.87 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 116.31 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 0.94 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 359 kgf.m/m As = 1.28 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 107.65 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.07 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L277	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 944 kgf.m/m As = 3.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 104.79 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.03 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m



	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 327 kgf.m/m  As = 1.17 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 138.46 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 0.87 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L278	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 80.84 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 0.65 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 337 kgf.m/m  As = 1.20 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 115.65 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 1.10 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L279	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 596 kgf.m/m  As = 1.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 155.01 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 1.43 tf/m vrd1 = 6.20 tf/m Modelo II vrd2 = 37.52 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m  As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 108.91 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 0.50 tf/m vrd1 = 5.71 tf/m vrd2 = 33.98 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L280	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 205 kgf.m/m  As = 0.39 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 33.87 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.31 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 770 kgf.m/m  As = 1.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 591.04 kgf.m/m F = 0.00 tf fiss = 0.06 mm	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 549.04 kgf.m/m F = 0.00 tf fiss = 0.09 mm	vsd = 2.83 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L281	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1968 kgf.m/m  As = 3.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 2.12 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 663 kgf.m/m  As = 1.35 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 361.24 kgf.m/m		vsd = 0.76 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

					A's = 0.00 cm <sup>2</sup> /m	F = 0.00 tf físs = 0.02 mm		
L282	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1074 kgf.m/m  As = 2.07 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 4.79 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 1.69 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 835 kgf.m/m  As = 1.72 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 321.55 kgf.m/m F = 0.00 tf físs = 0.02 mm		vsd = 2.27 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L283	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1438 kgf.m/m  As = 2.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 2.74 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 869 kgf.m/m  As = 1.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 181.59 kgf.m/m F = 0.00 tf físs = 0.01 mm		vsd = 2.38 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L284	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1644 kgf.m/m  As = 3.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 37.50 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 7.91 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 880 kgf.m/m  As = 1.82 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 330.15 kgf.m/m F = 0.00 tf físs = 0.02 mm		vsd = 4.44 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L285	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1023 kgf.m/m  As = 1.97 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 174.17 kgf.m/m F = 0.00 tf físs = 0.00 mm		vsd = 3.23 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1403 kgf.m/m  As = 2.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 533.69 kgf.m/m F = 0.00 tf físs = 0.05 mm		vsd = 4.22 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L286	X	bw = 100.0 cm	Md = 917 kgf.m/m	bw = 100.0 cm	Md = 1350 kgf.m/m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m)		vsd = 2.70 tf/m vrd1 = 10.07 tf/m Modelo II

		h = 15.0 cm	As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 15.0 cm	As = 2.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1043 kgf.m/m As = 2.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 186.58 kgf.m/m F = 0.00 tf fiss = 0.01 mm		v <sub>s</sub> d = 3.35 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L287	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2240 kgf.m/m As = 4.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 99.78 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>s</sub> d = 6.56 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 786 kgf.m/m As = 1.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 226.27 kgf.m/m F = 0.00 tf fiss = 0.01 mm		v <sub>s</sub> d = 3.95 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L288	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2314 kgf.m/m As = 4.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>s</sub> d = 7.07 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 957 kgf.m/m As = 1.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 329.25 kgf.m/m F = 0.00 tf fiss = 0.02 mm		v <sub>s</sub> d = 4.11 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L289	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1880 kgf.m/m As = 3.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>s</sub> d = 2.17 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 896 kgf.m/m As = 1.85 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 209.23 kgf.m/m F = 0.00 tf fiss = 0.01 mm		v <sub>s</sub> d = 1.90 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L290	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1804 kgf.m/m As = 3.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>s</sub> d = 2.00 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 790 kgf.m/m  As = 1.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 369.09 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 0.98 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L291	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 200 kgf.m/m  As = 0.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.65 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.74 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1394 kgf.m/m  As = 2.90 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 5.94 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L292	X	bw = 100.0 cm h = 15.0 cm	Md = 1447 kgf.m/m  As = 2.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3463 kgf.m/m  As = 7.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.81 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 1011.07 kgf.m/m F = 0.00 tf fiss = 0.10 mm		vsd = 5.40 tf/m vrd1 = 10.19 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1116 kgf.m/m  As = 2.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1574 kgf.m/m  As = 3.32 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.31 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 773.27 kgf.m/m F = 0.00 tf fiss = 0.10 mm	A's = 1.62 cm <sup>2</sup> /m ø6.3 c/19 (1.64 cm <sup>2</sup> /m) M = 1095.52 kgf.m/m F = 0.00 tf fiss = 0.10 mm	vsd = 4.15 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L293	X	bw = 100.0 cm h = 15.0 cm	Md = 1425 kgf.m/m  As = 2.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 4127 kgf.m/m  As = 8.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.76 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 996.46 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vsd = 6.88 tf/m vrd1 = 10.14 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1566 kgf.m/m  As = 3.30 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 459.80 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 4.19 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L294	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1656 kgf.m/m  As = 3.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 541.63 kgf.m/m F = 0.00 tf fiss = 0.04 mm	A's = 2.10 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1144.38 kgf.m/m F = 0.00 tf fiss = 0.10 mm	vsd = 4.37 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1322 kgf.m/m  As = 2.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 4590 kgf.m/m  As = 10.61 cm <sup>2</sup> /m	As = 2.75 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 925.76 kgf.m/m		vsd = 8.53 tf/m vrd1 = 9.57 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

					A's = 0.00 cm <sup>2</sup> /m	F = 0.00 tf físs = 0.11 mm		
L295	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1699 kgf.m/m  As = 3.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 510.02 kgf.m/m F = 0.00 tf físs = 0.04 mm		vsd = 3.49 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1231 kgf.m/m  As = 2.56 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2583 kgf.m/m  As = 5.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.56 cm <sup>2</sup> /m ø8.0 c/19 (2.65 cm <sup>2</sup> /m) M = 864.10 kgf.m/m F = 0.00 tf físs = 0.11 mm		vsd = 4.10 tf/m vrd1 = 9.53 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L296	X	bw = 100.0 cm h = 15.0 cm	Md = 1252 kgf.m/m  As = 2.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1761 kgf.m/m  As = 3.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.42 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 868.90 kgf.m/m F = 0.00 tf físs = 0.10 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1216.99 kgf.m/m F = 0.00 tf físs = 0.11 mm	vsd = 4.27 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1318 kgf.m/m  As = 2.74 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3031 kgf.m/m  As = 6.65 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.74 cm <sup>2</sup> /m ø8.0 c/18 (2.79 cm <sup>2</sup> /m) M = 922.79 kgf.m/m F = 0.00 tf físs = 0.11 mm		vsd = 6.40 tf/m vrd1 = 9.57 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L297	X	bw = 100.0 cm h = 15.0 cm	Md = 1211 kgf.m/m  As = 2.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1514 kgf.m/m  As = 2.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.34 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 840.80 kgf.m/m F = 0.00 tf físs = 0.10 mm	A's = 2.25 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 1061.07 kgf.m/m F = 0.00 tf físs = 0.11 mm	vsd = 4.47 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1428 kgf.m/m  As = 2.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 2928 kgf.m/m  As = 6.41 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.98 cm <sup>2</sup> /m ø8.0 c/16 (3.14 cm <sup>2</sup> /m) M = 998.43 kgf.m/m F = 0.00 tf físs = 0.10 mm		vsd = 6.80 tf/m vrd1 = 9.66 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L298	X	bw = 100.0 cm h = 15.0 cm	Md = 1480 kgf.m/m  As = 2.88 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 3146 kgf.m/m  As = 6.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.88 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m) M = 1035.55 kgf.m/m F = 0.00 tf físs = 0.11 mm		vsd = 4.94 tf/m vrd1 = 10.19 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1532 kgf.m/m  As = 3.23 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 443.49 kgf.m/m F = 0.00 tf físs = 0.03 mm		vsd = 4.20 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L299	X	bw = 100.0 cm	Md = 1461 kgf.m/m	bw = 100.0 cm	Md = 3425 kgf.m/m	As = 2.84 cm <sup>2</sup> /m ø8.0 c/17 (2.96 cm <sup>2</sup> /m)		vsd = 5.42 tf/m vrd1 = 10.19 tf/m Modelo II

		h = 15.0 cm	As = 2.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	h = 15.0 cm	As = 7.00 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	M = 1021.73 kgf.m/m F = 0.00 tf fiss = 0.11 mm		vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 1098 kgf.m/m As = 2.28 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1537 kgf.m/m As = 3.24 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 2.28 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 761.31 kgf.m/m F = 0.00 tf fiss = 0.09 mm		v <sub>sd</sub> = 4.27 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L300	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 214 kgf.m/m As = 0.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 2.13 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>sd</sub> = 0.97 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1429 kgf.m/m As = 2.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 588.76 kgf.m/m F = 0.00 tf fiss = 0.06 mm		v <sub>sd</sub> = 5.99 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L301	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 168 kgf.m/m As = 0.32 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 22.30 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>sd</sub> = 1.61 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 828 kgf.m/m As = 1.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 397.16 kgf.m/m F = 0.00 tf fiss = 0.03 mm		v <sub>sd</sub> = 3.78 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L302	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 158 kgf.m/m As = 0.30 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 19.56 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>sd</sub> = 1.61 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 776 kgf.m/m As = 1.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 185.63 kgf.m/m F = 0.00 tf fiss = 0.01 mm		v <sub>sd</sub> = 3.75 tf/m vr <sub>d1</sub> = 9.50 tf/m vr <sub>d2</sub> = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L303	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 154 kgf.m/m As = 0.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 8.41 kgf.m/m F = 0.00 tf fiss = 0.00 mm		v <sub>sd</sub> = 1.24 tf/m vr <sub>d1</sub> = 10.07 tf/m Modelo II vr <sub>d2</sub> = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 698 kgf.m/m  As = 1.43 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 231.82 kgf.m/m F = 0.00 tf fiss = 0.01 mm		vsd = 3.02 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L304	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 156 kgf.m/m  As = 0.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 10.92 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.32 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 941 kgf.m/m  As = 1.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 175.92 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 3.45 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L305	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 181 kgf.m/m  As = 0.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 28.99 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.32 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 1089 kgf.m/m  As = 2.26 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 409.24 kgf.m/m F = 0.00 tf fiss = 0.03 mm	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 789.40 kgf.m/m F = 0.00 tf fiss = 0.10 mm	vsd = 3.71 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L306	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 188 kgf.m/m  As = 0.36 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 38.27 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.47 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 928 kgf.m/m  As = 1.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 400.21 kgf.m/m F = 0.00 tf fiss = 0.03 mm	A's = 2.41 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 670.63 kgf.m/m F = 0.00 tf fiss = 0.07 mm	vsd = 3.73 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L307	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 162 kgf.m/m  As = 0.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 17.64 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.58 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 762 kgf.m/m  As = 1.56 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 156.24 kgf.m/m		vsd = 3.71 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

					A's = 0.00 cm <sup>2</sup> /m	F = 0.00 tf fiss = 0.00 mm		
L308	X	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.77 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 179 kgf.m/m  As = 0.34 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.77 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 18.51 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 1.51 tf/m vrd1 = 10.07 tf/m Modelo II vrd2 = 65.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 15.0 cm	Md = 917 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	Md = 915 kgf.m/m  As = 1.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.89 cm <sup>2</sup> /m ø8.0 c/20 (2.51 cm <sup>2</sup> /m) M = 394.67 kgf.m/m F = 0.00 tf fiss = 0.02 mm		vsd = 3.79 tf/m vrd1 = 9.50 tf/m vrd2 = 60.61 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

ARMADURAS NEGATIVAS (NA CONTINUIDADE)					
Viga Trecho	Laje 1	Momento negativo Seção	Flexão	Momento positivo Seção	Armaduras finais
	Laje 2				
V208 1	L203 L220	bw = 100.0 cm h = 15.0 cm	Md = 1730 kgf.m/m  As = 3.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.40 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V208 2	L203 L220	bw = 100.0 cm h = 15.0 cm	Md = 1730 kgf.m/m  As = 3.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.40 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V249 5	L203 L204	bw = 100.0 cm h = 15.0 cm	Md = 3378 kgf.m/m  As = 7.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.02 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.12 mm
V249 6	L203 L204	bw = 100.0 cm h = 15.0 cm	Md = 3378 kgf.m/m  As = 7.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.02 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.12 mm
V203 1	L203 L202	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V245 3	L203 L201	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V208 3	L204 L221	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm



			$A's = 0.00 \text{ cm}^2/\text{m}$		
V208 4	L204 L222	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V258 2	L204 L206	bw = 100.0 cm h = 15.0 cm	Md = 3187 kgf.m/m  As = 6.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.60 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.11 mm
V258 3	L204 L206	bw = 100.0 cm h = 15.0 cm	Md = 3187 kgf.m/m  As = 6.60 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.60 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.11 mm
V209 4	L214 L228	bw = 100.0 cm h = 15.0 cm	Md = 2663 kgf.m/m  As = 5.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.46 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm
V283 4	L214 L216	bw = 100.0 cm h = 15.0 cm	Md = 1537 kgf.m/m  As = 3.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.01 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
V204 2	L214 L215	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V279 4	L214 L213	bw = 100.0 cm h = 15.0 cm	Md = 1510 kgf.m/m  As = 2.96 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.96 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
V209 3	L214 L228	bw = 100.0 cm h = 15.0 cm	Md = 2663 kgf.m/m  As = 5.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.46 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm
V204 3	L216 L217	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V209 5	L216 L229	bw = 100.0 cm h = 15.0 cm	Md = 3428 kgf.m/m  As = 7.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.13 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.12 mm
V209 6	L216 L229	bw = 100.0 cm h = 15.0 cm	Md = 3428 kgf.m/m  As = 7.13 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.13 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.12 mm

V288 3	L216 L218	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V249 4	L220 L221	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V245 2	L220 L219	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V211 1	L220 L231	bw = 100.0 cm h = 15.0 cm	Md = 1505 kgf.m/m  As = 2.95 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.95 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
V212 2	L228 L241	bw = 100.0 cm h = 15.0 cm	Md = 2014 kgf.m/m  As = 3.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.98 cm <sup>2</sup> /m (ø10.0 c/19 - 4.13 cm <sup>2</sup> /m) fiss = 0.14 mm
V283 3	L228 L229	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.04 mm
V279 3	L228 L227	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V212 3	L229 L242	bw = 100.0 cm h = 15.0 cm	Md = 1859 kgf.m/m  As = 3.66 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.66 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.13 mm
V288 2	L229 L230	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V216 2	L231 L249	bw = 100.0 cm h = 15.0 cm	Md = 2046 kgf.m/m  As = 4.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.09 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm
V249 2	L231 L246	bw = 100.0 cm h = 15.0 cm	Md = 3235 kgf.m/m  As = 6.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.59 cm <sup>2</sup> /m (ø12.5 c/18 - 6.82 cm <sup>2</sup> /m) fiss = 0.17 mm
V249 3	L231 L232	bw = 100.0 cm h = 15.0 cm	Md = 3566 kgf.m/m  As = 7.31 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.31 cm <sup>2</sup> /m (ø12.5 c/16 - 7.67 cm <sup>2</sup> /m) fiss = 0.17 mm

V245 1	L231 L219	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V216 1	L231 L248	bw = 100.0 cm h = 15.0 cm	Md = 2406 kgf.m/m  As = 4.84 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.84 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.12 mm
V220 2	L241 L254	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V283 2	L241 L242	bw = 100.0 cm h = 15.0 cm	Md = 1478 kgf.m/m  As = 2.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.89 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V279 2	L241 L240	bw = 100.0 cm h = 15.0 cm	Md = 1464 kgf.m/m  As = 2.87 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.87 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V220 3	L242 L255	bw = 100.0 cm h = 15.0 cm	Md = 2143 kgf.m/m  As = 4.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.29 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm
V220 4	L242 L256	bw = 100.0 cm h = 15.0 cm	Md = 2047 kgf.m/m  As = 4.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.09 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm
V288 1	L242 L243	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V248 4	L258 L261	bw = 100.0 cm h = 15.0 cm	Md = 3409 kgf.m/m  As = 6.97 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.97 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.17 mm
V223 2	L258 L259	bw = 100.0 cm h = 15.0 cm	Md = 2041 kgf.m/m  As = 4.08 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.08 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.08 mm
V223 1	L258 L248	bw = 100.0 cm h = 15.0 cm	Md = 2402 kgf.m/m  As = 4.83 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.83 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.12 mm
V244 3	L258 L257	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm

V231 1	L258 L281	bw = 100.0 cm h = 15.0 cm	Md = 1491 kgf.m/m  As = 2.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.92 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V248 3	L258 L272	bw = 100.0 cm h = 15.0 cm	Md = 3747 kgf.m/m  As = 7.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.70 cm <sup>2</sup> /m (ø12.5 c/15 - 8.18 cm <sup>2</sup> /m) fiss = 0.16 mm
V227 2	L267 L268	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V278 3	L267 L266	bw = 100.0 cm h = 15.0 cm	Md = 1431 kgf.m/m  As = 2.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.80 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V232 2	L267 L289	bw = 100.0 cm h = 15.0 cm	Md = 2033 kgf.m/m  As = 4.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.02 cm <sup>2</sup> /m (ø10.0 c/19 - 4.13 cm <sup>2</sup> /m) fiss = 0.14 mm
V282 3	L267 L270	bw = 100.0 cm h = 15.0 cm	Md = 1379 kgf.m/m  As = 2.70 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.70 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.07 mm
V227 4	L270 L256	bw = 100.0 cm h = 15.0 cm	Md = 2118 kgf.m/m  As = 4.24 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.24 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.09 mm
V227 3	L270 L269	bw = 100.0 cm h = 15.0 cm	Md = 2207 kgf.m/m  As = 4.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.42 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.10 mm
V232 3	L270 L290	bw = 100.0 cm h = 15.0 cm	Md = 1907 kgf.m/m  As = 3.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.76 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.14 mm
V287 3	L270 L271	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V248 2	L281 L282	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V244 2	L281 L280	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm

V234 1	L281 L292	bw = 100.0 cm h = 15.0 cm	Md = 3463 kgf.m/m  As = 7.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.09 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.18 mm
V234 2	L281 L292	bw = 100.0 cm h = 15.0 cm	Md = 3463 kgf.m/m  As = 7.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.09 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.18 mm
V235 4	L289 L298	bw = 100.0 cm h = 15.0 cm	Md = 2655 kgf.m/m  As = 5.45 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.45 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm
V282 2	L289 L290	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V278 2	L289 L288	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V235 3	L289 L298	bw = 100.0 cm h = 15.0 cm	Md = 2655 kgf.m/m  As = 5.45 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.45 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm
V235 5	L290 L299	bw = 100.0 cm h = 15.0 cm	Md = 3425 kgf.m/m  As = 7.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.12 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.12 mm
V235 6	L290 L299	bw = 100.0 cm h = 15.0 cm	Md = 3425 kgf.m/m  As = 7.12 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 7.12 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.12 mm
V287 2	L290 L291	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V239 1	L292 L301	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V248 1	L292 L293	bw = 100.0 cm h = 15.0 cm	Md = 1574 kgf.m/m  As = 3.09 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.09 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
V244	L292	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m)

1	L280		As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		fiss = 0.00 mm
V239	L293	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
2	L302		As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V257	L293	bw = 100.0 cm h = 15.0 cm	Md = 1386 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.71 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.07 mm
1	L294		As = 2.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V234	L293	bw = 100.0 cm h = 15.0 cm	Md = 3199 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 6.44 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm
4	L283		As = 6.44 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V234	L293	bw = 100.0 cm h = 15.0 cm	Md = 4127 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 8.54 cm <sup>2</sup> /m (ø12.5 c/14 - 8.77 cm <sup>2</sup> /m) fiss = 0.17 mm
3	L282		As = 8.54 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V282	L298	bw = 100.0 cm h = 15.0 cm	Md = 1537 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 3.01 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
1	L299		As = 3.01 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V278	L298	bw = 100.0 cm h = 15.0 cm	Md = 1514 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.97 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
1	L297		As = 2.97 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V240	L298	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
2	L307		As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V240	L299	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
3	L308		As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V287	L299	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
1	L300		As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V222	L248	bw = 100.0 cm h = 15.0 cm	Md = 1469 kgf.m/m	bw = 100.0 cm h = 15.0 cm	As = 2.91 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.04 mm
1	L257		As = 2.91 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m		
V246	L248	bw = 100.0 cm h = 15.0 cm		bw = 100.0 cm h = 15.0 cm	fiss = 0.00 mm
1	L259				
V246	L248	bw = 100.0 cm h = 15.0 cm		bw = 100.0 cm h = 15.0 cm	fiss = 0.00 mm
4	L249				

V215 1	L248 L219	bw = 100.0 cm h = 15.0 cm	Md = 1479 kgf.m/m As = 2.93 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.93 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.04 mm
V207 1	L219 L201	bw = 100.0 cm h = 15.0 cm	Md = 1801 kgf.m/m As = 3.55 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.55 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.12 mm
V247 1	L301 L302	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V256 1	L302 L303	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V277 1	L307 L306	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V281 1	L307 L308	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V242 1	L308 L300	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.71 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.01 mm
V236 1	L300 L291	bw = 100.0 cm h = 15.0 cm	Md = 1429 kgf.m/m As = 2.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.80 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V233 1	L291 L271	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.71 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.03 mm
V228 1	L271 L256	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.71 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.04 mm
V221 1	L256 L243	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.71 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.04 mm
V285 4	L256 L255	bw = 100.0 cm h = 15.0 cm		bw = 100.0 cm h = 15.0 cm	fiss = 0.00 mm

V285 1	L256 L269	bw = 100.0 cm h = 15.0 cm		bw = 100.0 cm h = 15.0 cm	fiss = 0.00 mm
V213 1	L243 L230	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.06 mm
V210 1	L230 L218	bw = 100.0 cm h = 15.0 cm	Md = 1427 kgf.m/m As = 2.79 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.79 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V206 1	L218 L217	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V284 1	L215 L217	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V280 1	L215 L212	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V201 1	L202 L201	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V279 1	L254 L253	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V283 1	L254 L255	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V278 4	L268 L265	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V282 4	L268 L269	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V249 1	L249 L250	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm



V248 5	L259 L260	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V252 4	L250 L251	bw = 100.0 cm h = 10.0 cm	Md = 1170 kgf.m/m  As = 4.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 4.05 cm <sup>2</sup> /m (ø10.0 c/19 - 4.13 cm <sup>2</sup> /m) fiss = 0.14 mm
V216 3	L250 L246	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V223 3	L260 L261	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V252 1	L260 L251	bw = 100.0 cm h = 10.0 cm	Md = 1104 kgf.m/m  As = 3.81 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 3.81 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.14 mm
V239 3	L294 L303	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V261 1	L294 L295	bw = 100.0 cm h = 15.0 cm	Md = 1656 kgf.m/m  As = 3.25 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.25 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.10 mm
V234 6	L294 L285	bw = 100.0 cm h = 15.0 cm	Md = 4590 kgf.m/m  As = 9.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 9.58 cm <sup>2</sup> /m (ø12.5 c/12 - 10.23 cm <sup>2</sup> /m) fiss = 0.16 mm
V234 5	L294 L284	bw = 100.0 cm h = 15.0 cm	Md = 3374 kgf.m/m  As = 6.89 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.89 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.17 mm
V239 4	L295 L304	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V265 1	L295 L296	bw = 100.0 cm h = 15.0 cm	Md = 1761 kgf.m/m  As = 3.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.46 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.12 mm
V234 8	L295 L286	bw = 100.0 cm h = 15.0 cm	Md = 2583 kgf.m/m  As = 5.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.29 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm

V234 7	L295 L286	bw = 100.0 cm h = 15.0 cm	Md = 2583 kgf.m/m As = 5.29 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.29 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.07 mm
V239 5	L296 L305	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V234 10	L296 L287	bw = 100.0 cm h = 15.0 cm	Md = 2789 kgf.m/m As = 5.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.73 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.08 mm
V234 9	L296 L287	bw = 100.0 cm h = 15.0 cm	Md = 2789 kgf.m/m As = 5.73 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 5.73 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.08 mm
V235 2	L297 L288	bw = 100.0 cm h = 15.0 cm	Md = 2438 kgf.m/m As = 4.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.98 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.06 mm
V235 1	L297 L288	bw = 100.0 cm h = 15.0 cm	Md = 2438 kgf.m/m As = 4.98 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.98 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.06 mm
V240 1	L297 L306	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V232 1	L288 L266	bw = 100.0 cm h = 15.0 cm	Md = 1819 kgf.m/m As = 3.58 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.58 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.13 mm
V231 7	L287 L278	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V265 2	L287 L286	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V231 6	L286 L277	bw = 100.0 cm h = 10.0 cm	Md = 1051 kgf.m/m As = 3.62 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 3.62 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.13 mm

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

V261 2	L286 L285	bw = 100.0 cm h = 15.0 cm	Md = 1403 kgf.m/m  As = 2.75 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.75 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.07 mm
V223 4	L251 L262	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V216 4	L251 L247	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V265 3	L277 L275	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V261 3	L277 L276	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V227 1	L266 L265	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V203 3	L207 L206	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V263 1	L207 L208	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.04 mm
V208 6	L206 L224	bw = 100.0 cm h = 15.0 cm	Md = 4295 kgf.m/m  As = 8.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 8.92 cm <sup>2</sup> /m (ø12.5 c/13 - 9.44 cm <sup>2</sup> /m) fiss = 0.16 mm
V262 3	L206 L209	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.05 mm
V208 5	L206 L223	bw = 100.0 cm h = 15.0 cm	Md = 3106 kgf.m/m  As = 6.24 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.24 cm <sup>2</sup> /m (ø10.0 c/12 - 6.54 cm <sup>2</sup> /m) fiss = 0.14 mm
V203 4	L208 L209	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm

V267 1	L208 L210	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.04 mm
V208 8	L209 L225	bw = 100.0 cm h = 15.0 cm	Md = 2363 kgf.m/m  As = 4.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.69 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V266 3	L209 L211	bw = 100.0 cm h = 15.0 cm	Md = 3260 kgf.m/m  As = 6.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.76 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.11 mm
V266 4	L209 L211	bw = 100.0 cm h = 15.0 cm	Md = 3260 kgf.m/m  As = 6.76 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 6.76 cm <sup>2</sup> /m (ø16.0 c/20 - 10.05 cm <sup>2</sup> /m) fiss = 0.11 mm
V208 7	L209 L225	bw = 100.0 cm h = 15.0 cm	Md = 2363 kgf.m/m  As = 4.69 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 4.69 cm <sup>2</sup> /m (ø10.0 c/16 - 4.91 cm <sup>2</sup> /m) fiss = 0.14 mm
V203 5	L210 L211	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V208 10	L211 L226	bw = 100.0 cm h = 15.0 cm	Md = 1835 kgf.m/m  As = 3.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.61 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.13 mm
V208 9	L211 L226	bw = 100.0 cm h = 15.0 cm	Md = 1835 kgf.m/m  As = 3.61 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.61 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.13 mm
V204 1	L212 L213	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V209 2	L213 L227	bw = 100.0 cm h = 15.0 cm	Md = 1806 kgf.m/m  As = 3.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.59 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.07 mm
V209 1	L213 L227	bw = 100.0 cm h = 15.0 cm	Md = 1806 kgf.m/m  As = 3.59 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.59 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.07 mm
V260 1	L303 L304	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm

			$A's = 0.00 \text{ cm}^2/\text{m}$		
V264 1	L304 L305	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1368 \text{ kgf.m/m}$ $A_s = 2.68 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$A_s = 2.68 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.04 \text{ mm}$
V220 1	L253 L240	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1368 \text{ kgf.m/m}$ $A_s = 2.68 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$A_s = 2.68 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.01 \text{ mm}$
V262 2	L225 L224	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1411 \text{ kgf.m/m}$ $A_s = 2.76 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$A_s = 2.76 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.08 \text{ mm}$
V211 6	L225 L236	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 1079 \text{ kgf.m/m}$ $A_s = 3.72 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$A_s = 3.72 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.13 \text{ mm}$
V266 2	L225 L226	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1368 \text{ kgf.m/m}$ $A_s = 2.68 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$A_s = 2.68 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.04 \text{ mm}$
V266 1	L236 L237	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 608 \text{ kgf.m/m}$ $A_s = 2.05 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$A_s = 2.05 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.01 \text{ mm}$
V262 1	L236 L235	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 608 \text{ kgf.m/m}$ $A_s = 2.05 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$A_s = 2.05 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.01 \text{ mm}$
V211 7	L226 L238	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 608 \text{ kgf.m/m}$ $A_s = 2.05 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$A_s = 2.05 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.04 \text{ mm}$
V251 1	L262 L261	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 608 \text{ kgf.m/m}$ $A_s = 2.05 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$A_s = 2.05 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.01 \text{ mm}$
V229 2	L262 L272	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 1315 \text{ kgf.m/m}$ $A_s = 4.69 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$A_s = 4.69 \text{ cm}^2/\text{m}$ ( $\emptyset 12.5 \text{ c}/20 - 6.14 \text{ cm}^2/\text{m}$ ) $fiss = 0.11 \text{ mm}$
V229 3	L262 L274	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 780 \text{ kgf.m/m}$ $A_s = 2.65 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$A_s = 2.65 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.07 \text{ mm}$
V229 1	L261 L272	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$Md = 1591 \text{ kgf.m/m}$ $A_s = 3.12 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 15.0 \text{ cm}$	$A_s = 3.12 \text{ cm}^2/\text{m}$ ( $\emptyset 10.0 \text{ c}/20 - 3.93 \text{ cm}^2/\text{m}$ ) $fiss = 0.10 \text{ mm}$

V253 1	L247 L246	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V214 3	L247 L244	bw = 100.0 cm h = 10.0 cm	Md = 862 kgf.m/m  As = 2.94 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.94 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.09 mm
V214 2	L247 L232	bw = 100.0 cm h = 10.0 cm	Md = 1496 kgf.m/m  As = 5.38 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 5.38 cm <sup>2</sup> /m (ø12.5 c/20 - 6.14 cm <sup>2</sup> /m) fiss = 0.14 mm
V214 1	L246 L232	bw = 100.0 cm h = 15.0 cm	Md = 1790 kgf.m/m  As = 3.52 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.52 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.12 mm
V212 1	L227 L240	bw = 100.0 cm h = 15.0 cm	Md = 1882 kgf.m/m  As = 3.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 3.71 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.13 mm
V225 1	L252 L263	bw = 100.0 cm h = 10.0 cm	Md = 1925 kgf.m/m  As = 7.10 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 7.10 cm <sup>2</sup> /m (ø12.5 c/17 - 7.22 cm <sup>2</sup> /m) fiss = 0.17 mm
V218 1	L252 L245	bw = 100.0 cm h = 10.0 cm	Md = 1947 kgf.m/m  As = 7.03 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 7.03 cm <sup>2</sup> /m (ø10.0 c/11 - 7.14 cm <sup>2</sup> /m) fiss = 0.14 mm
V296 1	L275 L278	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V293 2	L275 L263	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V296 2	L263 L264	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V293 1	L264 L278	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V290 2	L238 L237	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm

V291 2	L238 L239	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V291 1	L237 L245	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V290 1	L245 L239	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm
V289 1	L222 L221	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V211 3	L222 L234	bw = 100.0 cm h = 10.0 cm	Md = 855 kgf.m/m  As = 2.92 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.92 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V258 1	L222 L223	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V211 2	L221 L232	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.04 mm
V289 3	L244 L235	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V292 1	L244 L233	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V292 2	L235 L234	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V211 5	L235 L224	bw = 100.0 cm h = 10.0 cm	Md = 994 kgf.m/m  As = 3.42 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 3.42 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V292 3	L223 L224	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm

V211 4	L223 L234	bw = 100.0 cm h = 10.0 cm	Md = 820 kgf.m/m  As = 2.80 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.80 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.08 mm
V231 5	L285 L276	bw = 100.0 cm h = 10.0 cm	Md = 991 kgf.m/m  As = 3.40 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 3.40 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.11 mm
V297 1	L285 L284	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V231 4	L284 L279	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.04 mm
V257 2	L284 L283	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V297 2	L279 L276	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V298 2	L279 L273	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V231 3	L279 L283	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V298 3	L276 L274	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V297 3	L274 L273	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V298 1	L282 L283	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.01 mm
V231 2	L282 L272	bw = 100.0 cm h = 15.0 cm	Md = 1368 kgf.m/m  As = 2.68 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 15.0 cm	As = 2.68 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm



V254 1	L272 L273	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.03 mm
V289 2	L234 L233	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.00 mm
V255 1	L233 L232	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m  As = 2.05 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	As = 2.05 cm <sup>2</sup> /m (ø10.0 c/20 - 3.93 cm <sup>2</sup> /m) fiss = 0.02 mm

## 18. Pavimento PLATIBANDA NV-770

## 19. Cálculo dos Pilares

<b>PLATIBANDA NV-770</b>	fck = 400.00 kgf/cm <sup>2</sup>	E = 318758 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 4</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P39	20.00 X 40.00	EL 29.41 EL 14.71	0.34 0.00	50 0	2495 1	(*) 50.23	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P42	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	34 9	3723 1022	(*) 110.62	6.28 (2 ø 20.0) 6.28 (2 ø 20.0)
P43	15.00 X 50.00	EL 20.76 EL 6.23	0.38 0.00	40 11	1769 503	(*) 43.74	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P58	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	34 9	2993 821	(*) 88.88	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P64	60.00 X 60.00	EL 14.99 EL 14.99	1.65 0.07	106 6554	694 42896	(*) 6.54	12.57 (4 ø 20.0) 12.57 (4 ø 20.0)
P65	20.00 X 30.00	RR 22.49 EL 29.99	0.44 0.14	35 915	251 6533	(*) 7.14	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P76	60.00 X 60.00	RR 18.74 EL 37.48	1.59 0.01	63 6346	426 42934	(*) 6.77	12.57 (4 ø 20.0) 12.57 (4 ø 20.0)

P77	15.00 X 60.00	RR 29.99 EL 14.99	0.69 0.18	1222 94	2777 212	(*) 2.27	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P82	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	34 9	2562 703	(*) 76.11	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P99	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	48 0	2174 1	(*) 45.69	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P102	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	34 9	3086 847	(*) 91.67	3.68 (3 ø 12.5) 3.68 (3 ø 12.5)
P103	15.00 X 50.00	EL 20.76 EL 6.23	0.38 0.00	42 0	1274 1	(*) 30.41	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P137	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	35 0	1685 1	(*) 48.63	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P138	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	35 0	1686 1	(*) 48.66	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P145	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	35 0	1686 1	(*) 48.63	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P146	20.00 X 40.00	EL 15.57 EL 7.78	0.34 0.00	35 0	1686 1	(*) 48.67	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P152	15.00 X 30.00	RR 29.99 RR 14.99	1.05 0.60	616 664	775 835	1.26	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P153	15.00 X 30.00	EL 59.97 RR 14.99	0.26 0.00	7 316	40 1718	5.43	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P154	15.00 X 30.00	EL 59.97 RR 14.99	1.01 0.58	144 69	827 398	5.74	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P155	15.00 X 30.00	EL 59.97 RR 14.99	0.19 -0.06	2 256	16 1713	6.68	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P156	15.00 X 30.00	EL 59.97 RR 14.99	0.89 0.49	15 829	32 1797	2.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P157	15.00 X 30.00	EL 59.97 RR 14.99	0.29 0.04	3 390	14 1726	4.42	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

P158	15.00 X 30.00	EL 59.97 RR 14.99	0.72 0.37	18 990	32 1777	1.80	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P159	15.00 X 30.00	EL 59.97 RR 14.99	0.55 0.24	11 1150	17 1758	1.53	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P160	15.00 X 30.00	EL 59.97 RR 14.99	0.39 0.12	3 298	20 1738	5.84	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P161	15.00 X 30.00	EL 59.97 RR 14.99	0.78 0.41	5 1003	10 1787	1.78	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P162	15.00 X 30.00	EL 59.97 RR 14.99	0.18 -0.07	1 139	12 1713	12.34	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P163	15.00 X 30.00	EL 59.97 RR 14.99	0.58 0.25	59 905	114 1747	1.93	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P164	15.00 X 30.00	EL 59.97 RR 14.99	0.60 0.27	7 1118	11 1766	1.58	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P165	15.00 X 30.00	EL 59.97 RR 14.99	0.23 -0.02	1 107	11 1719	16.01	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P166	15.00 X 30.00	EL 59.97 RR 14.99	0.90 0.50	150 113	796 600	5.30	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P167	15.00 X 30.00	EL 59.97 RR 14.99	0.26 0.01	4 264	26 1720	6.51	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P168	15.00 X 30.00	EL 59.97 RR 14.99	0.87 0.48	19 532	64 1790	3.37	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P169	15.00 X 30.00	EL 59.97 RR 14.99	0.33 0.07	7 601	19 1731	2.88	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P170	15.00 X 30.00	EL 59.97 RR 14.99	0.08 -0.19	9 862	17 1697	1.97	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P171	15.00 X 30.00	RR 29.99 RR 14.99	1.24 0.72	372 602	738 1195	1.98	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P172	15.00 X 30.00	EL 59.97 RR 14.99	0.24 -0.02	8 951	15 1719	1.81	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P173	15.00 X 30.00	EL 59.97 RR 14.99	0.26 0.00	1 943	2 1723	1.83	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P174	15.00 X 30.00	EL 59.97 RR 14.99	0.40 0.12	28 1482	33 1737	1.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P175	15.00 X 30.00	EL 59.97 RR 14.99	0.32 0.06	8 1465	9 1730	1.18	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P176	15.00 X 30.00	EL 59.97 RR 14.99	1.05 0.60	37 625	107 1803	2.89	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P177	15.00 X 30.00	EL 59.97 RR 14.99	0.98 0.55	49 761	116 1793	2.36	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P178	15.00 X 30.00	EL 59.97 RR 14.99	0.43 0.15	5 1245	6 1746	1.40	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P179	15.00 X 30.00	EL 59.97 RR 14.99	0.69 0.34	19 1704	19 1775	1.04	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P180	15.00 X 30.00	EL 59.97 RR 14.99	0.12 -0.15	1 700	3 1705	2.44	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P181	15.00 X 30.00	EL 59.97 RR 14.99	0.12 -0.15	2 106	32 1701	16.08	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P182	15.00 X 30.00	EL 59.97 RR 14.99	0.86 0.47	53 2223	62 2571	1.16	2.36 (3 ø 10.0) 1.57 (2 ø 10.0)
P183	15.00 X 30.00	EL 59.97 RR 14.99	0.76 0.40	1 1714	1 1787	1.04	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P184	15.00 X 30.00	RR 29.99 RR 14.99	0.91 0.48	695 822	759 897	1.09	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P185	15.00 X 30.00	EL 59.97 RR 14.99	0.28 0.02	16 468	60 1718	3.67	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P186	15.00 X 30.00	EL 59.97 RR 14.99	0.82 0.42	9 852	18 1789	2.10	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P187	15.00 X 30.00	RR 29.99 RR 14.99	0.54 0.22	409 490	741 886	1.81	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P188	15.00 X 30.00	EL 59.97 RR 14.99	0.38 0.10	48 816	101 1724	2.11	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P189	15.00 X 30.00	EL 59.97 RR 14.99	0.85 0.46	53 761	124 1779	2.34	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P190	15.00 X 30.00	EL 59.97 RR 14.99	0.37 0.10	45 47	745 781	16.65	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P191	15.00 X 30.00	EL 59.97 RR 14.99	0.89 0.48	37 472	140 1780	3.77	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P192	15.00 X 30.00	EL 59.97 RR 14.99	0.38 0.10	2 1656	2 1738	1.05	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P193	15.00 X 30.00	RR 29.99 RR 14.99	0.82 0.41	476 739	725 1126	1.52	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P194	15.00 X 30.00	EL 59.97 RR 14.99	0.67 0.33	73 34	812 377	11.09	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P195	15.00 X 30.00	EL 59.97 RR 14.99	0.00 -0.40	33 69	644 1365	19.74	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P196	15.00 X 30.00	EL 59.97 RR 14.99	0.17 -0.08	77 1	828 11	10.72	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P197	15.00 X 30.00	EL 59.97 RR 14.99	0.43 0.15	134 224	700 1169	5.22	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P198	15.00 X 30.00	EL 59.97 RR 14.99	0.00 -0.41	2 75	40 1668	22.34	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P199	15.00 X 30.00	EL 59.97 RR 14.99	0.66 0.32	64 6	848 78	13.34	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P200	15.00 X 30.00	RR 29.99 RR 14.99	0.90 0.48	697 835	757 907	1.09	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P201	15.00 X 30.00	EL 59.97 RR 14.99	0.28 0.02	17 453	63 1718	3.79	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P202	15.00 X 30.00	EL 59.97 RR 14.99	0.81 0.42	53 844	111 1775	2.10	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P203	15.00 X 30.00	RR 29.99 RR 14.99	0.54 0.22	390 495	735 932	1.88	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P204	15.00 X 30.00	EL 59.97 RR 14.99	0.30 0.03	32 1427	39 1722	1.21	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P205	15.00 X 30.00	EL 59.97 RR 14.99	0.83 0.44	80 1085	130 1776	1.64	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P206	15.00 X 30.00	EL 59.97 RR 14.99	0.45 0.16	27 134	336 1698	12.66	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P207	15.00 X 30.00	EL 59.97 RR 14.99	0.86 0.45	153 169	763 844	4.98	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P208	15.00 X 30.00	EL 59.97 RR 14.99	0.43 0.14	8 1933	10 2526	1.31	2.36 (3 ø 10.0) 1.57 (2 ø 10.0)
P209	15.00 X 30.00	RR 29.99 RR 14.99	0.78 0.38	265 751	576 1629	2.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P210	15.00 X 30.00	EL 59.97 RR 14.99	0.76 0.40	1 1753	1 1786	1.02	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P211	15.00 X 30.00	EL 59.97 RR 14.99	0.76 0.40	2 1717	2 1786	1.04	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P212	15.00 X 30.00	EL 59.97 RR 14.99	0.11 -0.16	1 78	12 1702	21.80	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P213	15.00 X 30.00	EL 59.97 RR 14.99	0.12 -0.15	2 103	31 1701	16.51	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P214	15.00 X 30.00	EL 59.97 RR 14.99	0.81 0.44	0 1626	0 1792	1.10	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P215	15.00 X 30.00	EL 59.97 RR 14.99	0.69 0.34	19 1709	20 1774	1.04	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P216	15.00 X 30.00	EL 59.97 RR 14.99	0.88 0.47	0 1528	0 1799	1.18	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P217	15.00 X 30.00	EL 59.97 RR 14.99	0.99 0.55	49 736	119 1793	2.44	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P218	15.00 X 30.00	EL 59.97 RR 14.99	0.27 0.02	1 1301	1 1725	1.33	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P219	15.00 X 30.00	EL 59.97 RR 14.99	0.32 0.06	8 1467	9 1730	1.18	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P220	15.00 X 30.00	EL 59.97 RR 14.99	0.25 -0.01	5 1179	7 1722	1.46	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P221	15.00 X 30.00	EL 59.97 RR 14.99	0.26 0.00	0 941	1 1724	1.83	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P222	15.00 X 30.00	RR 29.99 RR 14.99	1.06 0.61	575 838	744 1084	1.29	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P223	15.00 X 30.00	EL 59.97 RR 14.99	0.26 0.00	8 528	27 1718	3.26	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P224	15.00 X 30.00	EL 59.97 RR 14.99	1.01 0.57	162 341	693 1459	4.28	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P225	15.00 X 30.00	EL 59.97 RR 14.99	0.26 0.01	4 279	26 1720	6.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P226	15.00 X 30.00	EL 59.97 RR 14.99	0.87 0.47	4 499	14 1796	3.60	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P227	15.00 X 30.00	EL 59.97 RR 14.99	0.31 0.05	0 558	0 1730	3.10	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P228	15.00 X 30.00	EL 59.97 RR 14.99	0.69 0.35	1 804	2 1778	2.21	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P229	15.00 X 30.00	EL 59.97 RR 14.99	0.53 0.23	1 1092	2 1758	1.61	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P230	15.00 X 30.00	EL 59.97 RR 14.99	0.40 0.12	2 405	7 1741	4.30	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P231	15.00 X 30.00	EL 59.97 RR 14.99	0.79 0.42	6 1023	11 1788	1.75	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P232	15.00 X 30.00	EL 59.97 RR 14.99	0.17 -0.09	0 172	3 1712	9.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

P233	15.00 X 30.00	EL 59.97 RR 14.99	0.60 0.26	63 966	115 1749	1.81	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P234	15.00 X 30.00	EL 59.97 RR 14.99	0.59 0.26	9 1085	15 1764	1.63	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P235	15.00 X 30.00	EL 59.97 RR 14.99	0.23 -0.02	1 46	36 1715	37.25	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P236	15.00 X 30.00	EL 59.97 RR 14.99	0.91 0.51	154 119	794 615	5.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P237	15.00 X 30.00	EL 59.97 RR 14.99	0.26 0.01	4 269	28 1720	6.41	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P238	15.00 X 30.00	EL 59.97 RR 14.99	0.88 0.49	18 511	64 1791	3.51	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P239	15.00 X 30.00	EL 59.97 RR 14.99	0.33 0.07	6 643	17 1731	2.69	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P240	15.00 X 30.00	EL 59.97 RR 14.99	0.08 -0.18	8 830	17 1698	2.05	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P241	15.00 X 30.00	RR 29.99 RR 14.99	1.23 0.71	361 591	736 1207	2.04	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)



## 20. Vigas do pavimento PLATIBANDA NV-770

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V301	224.48	2 ø 10.0		-316.37	2 ø 10.0		
	190.29	2 ø 10.0		-354.66	2 ø 10.0		
	124.03	2 ø 10.0		-284.15	2 ø 10.0	2 ø 10.0	
	55.93	2 ø 10.0	2 ø 10.0	-231.63	2 ø 10.0	2 ø 10.0	
	75.16	2 ø 10.0	2 ø 10.0	-16.67	2 ø 10.0	2 ø 10.0	
		2 ø 10.0		-212.46	2 ø 10.0	2 ø 10.0	
	162.66	2 ø 10.0		-0.04	2 ø 10.0	2 ø 10.0	
V302	174.62	2 ø 10.0		-264.00	2 ø 10.0		
	149.61	2 ø 10.0		-257.13	2 ø 10.0		
	240.40	2 ø 10.0		-320.15	2 ø 10.0		
				-270.69	2 ø 10.0		
				-262.52	2 ø 10.0		
V303	134.78	2 ø 10.0		-148.27	2 ø 10.0		
	73.53	2 ø 10.0	2 ø 10.0	-236.16	2 ø 10.0		
V304	191.85	2 ø 10.0		-231.37	2 ø 10.0		
	82.83	2 ø 10.0	2 ø 10.0	-267.92	2 ø 10.0	2 ø 10.0	
	190.85	2 ø 10.0	2 ø 10.0	-27.12	2 ø 10.0		
				-48.22	2 ø 10.0		
				-323.03	2 ø 10.0	2 ø 10.0	
V305	132.01	2 ø 10.0		-291.69	2 ø 10.0	2 ø 10.0	
	71.69	2 ø 10.0	2 ø 10.0	-82.45	2 ø 10.0	2 ø 10.0	
V306	234.54	2 ø 10.0	2 ø 10.0	-123.11	2 ø 10.0	2 ø 10.0	
	38.75	2 ø 10.0	2 ø 10.0	-232.44	2 ø 10.0	2 ø 10.0	
	60.07	2 ø 10.0	2 ø 10.0	-265.21	2 ø 10.0	2 ø 10.0	
	188.62	2 ø 10.0	2 ø 10.0	-163.89	2 ø 10.0	2 ø 10.0	
				-29.50	2 ø 10.0	2 ø 10.0	
				-357.26	2 ø 10.0	2 ø 10.0	
V307	254.61	2 ø 10.0	2 ø 10.0	-37.13	2 ø 10.0	2 ø 10.0	
	151.72	2 ø 10.0	2 ø 10.0	-290.78	2 ø 10.0	2 ø 10.0	
	145.91	2 ø 10.0	2 ø 10.0	-140.08	2 ø 10.0	2 ø 10.0	
	59.49	2 ø 10.0	2 ø 10.0	-65.65	2 ø 10.0	2 ø 10.0	
	65.07	2 ø 10.0	2 ø 10.0	-287.63	2 ø 10.0	2 ø 10.0	
	180.64	2 ø 10.0	2 ø 10.0	-384.65	2 ø 10.0	2 ø 10.0	
V308	161.58	2 ø 10.0		-260.61	2 ø 10.0	2 ø 10.0	
	149.48	2 ø 10.0		-188.94	2 ø 10.0	2 ø 10.0	
	233.46	2 ø 10.0		-198.03	2 ø 10.0	2 ø 10.0	
				-266.50	2 ø 10.0	2 ø 10.0	
				-275.38	2 ø 10.0	2 ø 10.0	
V309	337.83	2 ø 10.0	2 ø 10.0	-307.22	2 ø 10.0		
	46.36	2 ø 10.0	2 ø 10.0	-273.24	2 ø 10.0		
	231.55	2 ø 10.0	2 ø 10.0	-270.81	2 ø 10.0		
	48.63	2 ø 10.0	2 ø 10.0	-3.89	2 ø 10.0		
	56.74	2 ø 10.0	2 ø 10.0	-139.99	2 ø 10.0		
	361.27	2 ø 10.0	2 ø 10.0	-229.96	2 ø 10.0		
	299.25	2 ø 10.0	2 ø 10.0	-478.72	2 ø 10.0		
				-42.69	2 ø 10.0		
				-108.98	2 ø 10.0	2 ø 10.0	Aviso 26

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

				-200.96 -352.17 -169.23 -439.34	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
V310	157.48	2 ø 10.0		-200.56 -201.99	2 ø 10.0 2 ø 10.0		
V311	59.28	2 ø 10.0		-100.22 -100.10	2 ø 10.0 2 ø 10.0		
V312	15.99 14.78	2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0	-18.49 -71.23 -70.11	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0	
V314	3.44	2 ø 10.0		-0.48 -59.02	2 ø 10.0 2 ø 10.0		Aviso 02
V315	160.98	2 ø 10.0		-203.08 -200.85	2 ø 10.0 2 ø 10.0		
V316	321.43 79.13 231.09 49.80 48.24 231.93 76.01 322.71	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0  2 ø 10.0  2 ø 10.0	-420.36 -0.07 -159.57 -445.98 -343.86 -372.88 -124.80 -373.94 -343.37 -447.52 -158.70 -0.25 -422.65	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	Aviso 26

	CINNANTI ARQUITETURA E ENGENHARIA LTDA	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

# MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO E FUNDAÇÕES

## CED QUADRA 04 AE 02 – ESTRUTURAL (QUADRA DE ESPORTES)

**Autor do Projeto: Eng. Civil Dalmo Blanco Cinnanti**

**CREA: 7962/D-DF**

### Critérios de projeto

### Memorial de cálculo

R00	30/12/2022	Versão inicial	DALMO CINNANTI
REVISÃO	DATA	DESCRIÇÃO	RESPONSÁVEL
<i>Nome do projeto</i>		<i>MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO – CED QD 04 - ESTRUTURAL</i>	
<i>Número do projeto</i>		<i>314-SEEDF-CED-ESTRUTURAL QD. 04 - MEM-QUADRA DE ESPORTES-EST-R01</i>	
<i>Local</i>		<i>Quadra 04 AE 02 - RA XXV - SCIA / ESTRUTURAL - Vila Estrutural - DF</i>	

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Sumário

1. RESUMO DE RESULTADOS .....	3
a) Cargas verticais:.....	3
b) Deslocamento horizontal: .....	3
c) Verificação de estabilidade (Gama-Z): .....	3
d) Análise de 2ª ordem: .....	3
2. Deslocamentos Horizontais Devido à Ação do Vento.....	4
3. Relatório de Esforços nas Fundações por Elementos .....	5
4. Pavimento FUNDAÇÕES NV--60 .....	38
a) Resultado dos Blocos.....	38
b) Cálculo dos Pilares.....	41
c) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares.....	45
d) Vigas do pavimento FUNDAÇÕES NV--60 .....	46
5. Dados do Radier.....	47
a) Cálculos do Radier .....	48
6. Pavimento QUADRA-NV 000 .....	49
a) Cálculo dos Pilares.....	49
b) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares.....	52
c) Vigas do pavimento QUADRA-NV 000.....	53
7. Pavimento TÉRREO NV 300.....	54
a) Cálculo dos Pilares.....	54
b) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares.....	57
c) Vigas do pavimento TÉRREO NV 300 .....	58
d) Dados das Lajes.....	59
e) Cálculos das Lajes .....	59
8. Pavimento COBERTURA NV 620 .....	61
a) Cálculo dos Pilares.....	61
b) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares.....	63
c) Vigas do pavimento COBERTURA NV 620.....	63

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## 1. RESUMO DE RESULTADOS

### a) Cargas verticais:

Peso próprio = 360.13 tf

Adicional = 250.45 tf

Acidental = 290.19 tf

Desaprumo X+ = 0.00 tf

Desaprumo X- = 0.00 tf

Desaprumo Y+ = 0.00 tf

Desaprumo Y- = 0.00 tf

Total = 900.77 tf

Área aproximada = 621.21 m<sup>2</sup>

Relação = 1450.03 kgf/m<sup>2</sup>

### b) Deslocamento horizontal:

X+ = 0.00 cm (limite 0.43)

X- = 0.00 cm (limite 0.43)

Y+ = 0.00 cm (limite 0.43)

Y- = 0.00 cm (limite 0.43)

### c) Verificação de estabilidade (Gama-Z):

Gama-Z tende ao infinito (estrutura instável)

### d) Análise de 2ª ordem:

Processo P-Delta

Deslocamentos no topo da edificação:

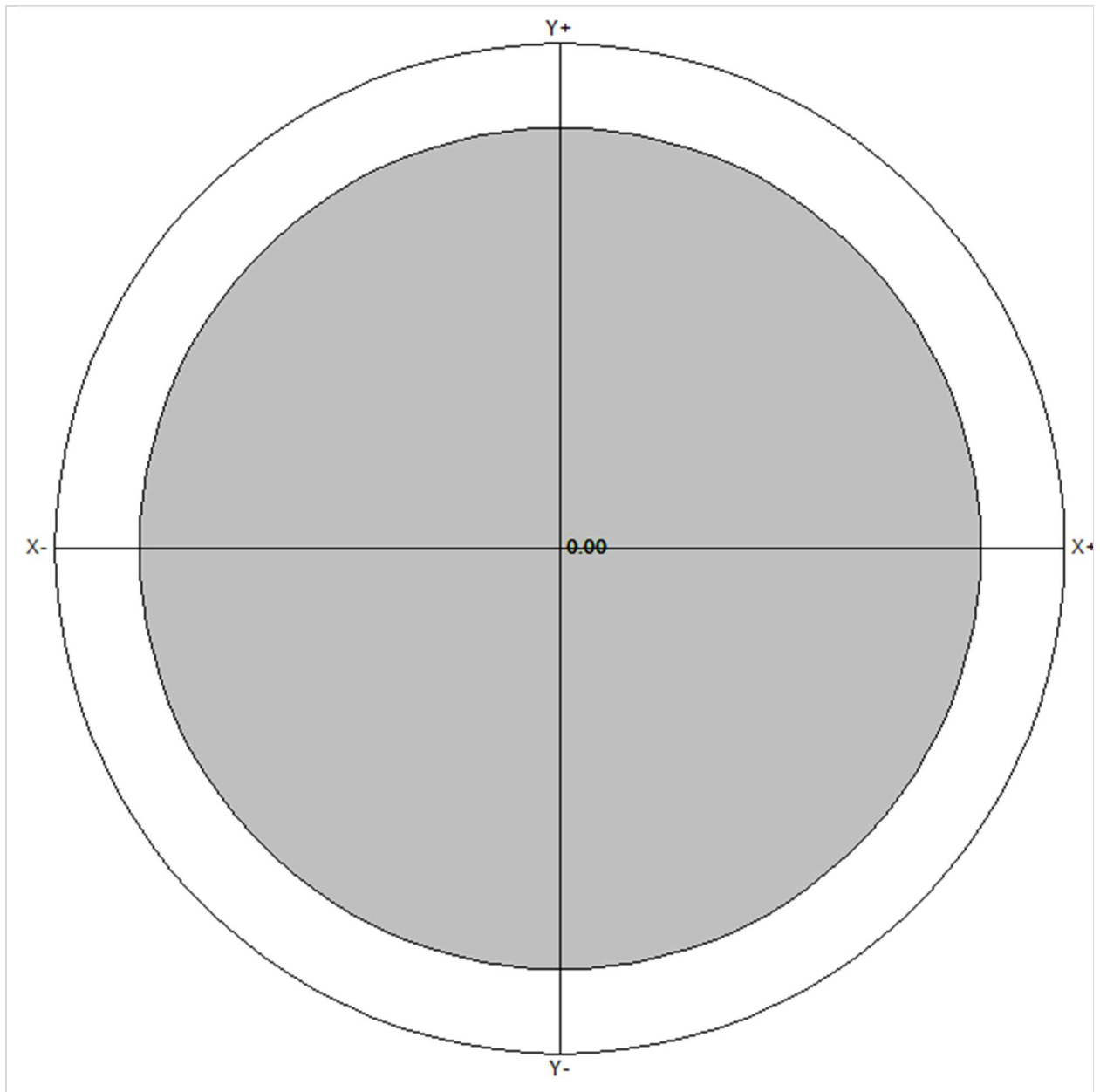
Desaprumo X+: 0.08 »» 0.08 (+6.74%)

Desaprumo X-: 0.08 »» 0.08 (+6.74%)

Desaprumo Y+: 0.02 »» 0.02 (+1.71%)

Desaprumo Y-: 0.02 »» 0.02 (+1.71%)

## 2. Deslocamentos Horizontais Devido à Ação do Vento



Verificações	X+	X-	Y+	Y-
Altura total da edificação (cm)	733.00			
Deslocamento limite (cm)	0.43			
Deslocamento característico (cm)	0.00	0.00	0.00	0.00
gf2	0.30	0.30	0.30	0.30

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Deslocamento combinações frequentes (cm)	0.00	0.00	0.00	0.00
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Pavimento	Altura (cm)	Deslocamento combinações frequentes (cm)				Diferença (cm)				Limite (cm)
		X+	X-	Y+	Y-	X+	X-	Y+	Y-	
COBERTURA NV 620	320.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
TÉRREO NV 300	305.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
QUADRA-NV 000	48.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
FUNDAÇÕES NV--60	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07

### 3. Relatório de Esforços nas Fundações por Elementos

Fundação B2						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.26	199.92	7.02	0.00	0.48	0.48
Adicional (G2)	9.02	-4384.14	2203.37	-0.55	1.15	868.17
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.24	124.03	2.48	0.00	0.17	-0.08
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.02	0.32	0.00	0.00	0.12
Vento X- (V2)	0.00	0.02	-0.32	0.00	0.00	-0.12
Vento Y+ (V3)	0.00	-1.43	-0.01	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.43	0.01	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-3.55	81.24	0.00	0.01	30.22
Desaprumo X- (D2)	0.00	3.55	-81.24	0.00	-0.01	-30.22
Desaprumo Y+ (D3)	0.05	-130.99	-1.05	0.00	0.00	-0.45
Desaprumo Y- (D4)	-0.05	130.99	1.05	0.00	0.00	0.45
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	12.45	-4100.96	2293.56	-0.55	1.76	898.90
G1+G2+0.7Q+0.6V2+D2	12.44	-4093.85	2130.69	-0.55	1.74	838.30
G1+G2+0.7Q+0.6V3+D3	12.50	-4229.25	2211.07	-0.55	1.75	868.14
G1+G2+0.7Q+0.6V4+D4	12.40	-3965.55	2213.18	-0.55	1.76	869.05
G1+G2+0.7Q+V1+0.6D1	12.45	-4099.55	2261.19	-0.55	1.76	886.86
G1+G2+0.7Q+V2+0.6D2	12.44	-4095.26	2163.05	-0.55	1.74	850.34
G1+G2+0.7Q+V3+0.6D3	12.48	-4177.43	2211.49	-0.55	1.75	868.32
G1+G2+0.7Q+V4+0.6D4	12.42	-4017.38	2212.76	-0.55	1.75	868.87
G1+G2+D1	12.29	-4187.77	2291.63	-0.56	1.64	898.88
G1+G2+D2	12.28	-4180.68	2129.14	-0.55	1.62	838.43
G1+G2+D3	12.33	-4315.21	2209.33	-0.55	1.63	868.20
G1+G2+D4	12.23	-4053.23	2211.44	-0.55	1.64	869.11
G1+G2+Q+0.6V1+0.6D1	12.52	-4062.33	2261.81	-0.55	1.81	886.78
G1+G2+Q+0.6V2+0.6D2	12.52	-4058.06	2163.93	-0.55	1.79	850.37
G1+G2+Q+0.6V3+0.6D3	12.55	-4139.65	2212.23	-0.55	1.80	868.30
G1+G2+Q+0.6V4+0.6D4	12.49	-3980.74	2213.50	-0.55	1.80	868.85
G1+G2+Q+D1	12.52	-4063.74	2294.11	-0.55	1.81	898.80
G1+G2+Q+D2	12.51	-4056.65	2131.63	-0.55	1.79	838.35
G1+G2+Q+D3	12.57	-4191.18	2211.82	-0.55	1.80	868.12

G1+G2+Q+D4	12.47	-3929.20	2213.92	-0.55	1.81	869.03
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Fundação B3						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.43	272.52	1.18	0.00	0.60	1.24
Adicional (G2)	8.83	-4771.19	2230.66	-0.48	-0.19	857.13
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.29	150.84	0.60	0.00	0.20	0.25
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.02	0.33	0.00	0.00	0.12
Vento X- (V2)	0.00	0.02	-0.33	0.00	0.00	-0.12
Vento Y+ (V3)	0.00	-1.53	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.53	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-3.53	81.50	0.00	0.01	29.60
Desaprumo X- (D2)	0.00	3.53	-81.50	0.00	-0.01	-29.60
Desaprumo Y+ (D3)	0.04	-144.16	-0.27	0.00	0.00	-0.10
Desaprumo Y- (D4)	-0.04	144.16	0.27	0.00	0.00	0.10
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	12.47	-4396.62	2313.96	-0.49	0.56	888.21
G1+G2+0.7Q+0.6V2+D2	12.47	-4389.55	2150.56	-0.48	0.55	828.87
G1+G2+0.7Q+0.6V3+D3	12.51	-4538.16	2231.99	-0.49	0.56	858.45
G1+G2+0.7Q+0.6V4+D4	12.42	-4248.01	2232.53	-0.49	0.55	858.64
G1+G2+0.7Q+V1+0.6D1	12.47	-4395.21	2281.48	-0.49	0.56	876.42
G1+G2+0.7Q+V2+0.6D2	12.47	-4390.95	2183.03	-0.48	0.55	840.67
G1+G2+0.7Q+V3+0.6D3	12.49	-4481.11	2232.10	-0.49	0.55	858.49
G1+G2+0.7Q+V4+0.6D4	12.44	-4305.06	2232.42	-0.49	0.55	858.60
G1+G2+D1	12.27	-4502.20	2313.34	-0.49	0.42	887.96
G1+G2+D2	12.27	-4495.14	2150.34	-0.48	0.40	828.77
G1+G2+D3	12.31	-4642.83	2231.57	-0.49	0.41	858.27
G1+G2+D4	12.22	-4354.51	2232.11	-0.49	0.41	858.46
G1+G2+Q+0.6V1+0.6D1	12.55	-4349.96	2281.54	-0.49	0.62	876.45
G1+G2+Q+0.6V2+0.6D2	12.55	-4345.71	2183.34	-0.48	0.61	840.79
G1+G2+Q+0.6V3+0.6D3	12.58	-4435.25	2232.28	-0.49	0.62	858.56
G1+G2+Q+0.6V4+0.6D4	12.53	-4260.42	2232.60	-0.49	0.61	858.68
G1+G2+Q+D1	12.55	-4351.36	2313.94	-0.49	0.62	888.22
G1+G2+Q+D2	12.55	-4344.31	2150.94	-0.48	0.61	829.02
G1+G2+Q+D3	12.59	-4491.99	2232.17	-0.49	0.62	858.52
G1+G2+Q+D4	12.51	-4203.67	2232.71	-0.49	0.61	858.72

Fundação B4						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.43	265.36	-0.03	0.00	0.61	2.56
Adicional (G2)	8.85	-4775.55	2239.56	-0.47	-0.18	852.77
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.29	148.04	0.09	0.00	0.21	0.77
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.33	0.00	0.00	0.12
Vento X- (V2)	0.00	0.01	-0.33	0.00	0.00	-0.12



Vento Y+ (V3)	0.00	-1.53	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.53	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-3.11	81.59	0.00	0.01	29.63
Desaprumo X- (D2)	0.00	3.11	-81.59	0.00	-0.01	-29.63
Desaprumo Y+ (D3)	0.04	-145.17	-0.09	0.00	0.00	-0.28
Desaprumo Y- (D4)	-0.04	145.17	0.09	0.00	0.00	0.28
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	12.48	-4409.68	2321.38	-0.48	0.59	885.56
G1+G2+0.7Q+0.6V2+D2	12.48	-4403.45	2157.80	-0.47	0.58	826.16
G1+G2+0.7Q+0.6V3+D3	12.52	-4552.65	2239.50	-0.48	0.59	855.59
G1+G2+0.7Q+0.6V4+D4	12.44	-4260.48	2239.67	-0.48	0.58	856.14
G1+G2+0.7Q+V1+0.6D1	12.48	-4408.44	2288.87	-0.48	0.59	873.76
G1+G2+0.7Q+V2+0.6D2	12.48	-4404.68	2190.31	-0.48	0.58	837.97
G1+G2+0.7Q+V3+0.6D3	12.51	-4495.19	2239.54	-0.48	0.59	855.69
G1+G2+0.7Q+V4+0.6D4	12.46	-4317.93	2239.64	-0.48	0.58	856.03
G1+G2+D1	12.28	-4513.30	2321.12	-0.48	0.44	884.95
G1+G2+D2	12.28	-4507.08	2157.93	-0.47	0.43	825.70
G1+G2+D3	12.32	-4655.36	2239.44	-0.47	0.44	855.05
G1+G2+D4	12.24	-4365.02	2239.61	-0.48	0.43	855.60
G1+G2+Q+0.6V1+0.6D1	12.57	-4364.02	2288.77	-0.48	0.65	873.94
G1+G2+Q+0.6V2+0.6D2	12.57	-4360.28	2190.46	-0.48	0.64	838.24
G1+G2+Q+0.6V3+0.6D3	12.59	-4450.17	2239.57	-0.48	0.65	855.93
G1+G2+Q+0.6V4+0.6D4	12.54	-4274.13	2239.67	-0.48	0.64	856.26
G1+G2+Q+D1	12.57	-4365.26	2321.21	-0.48	0.65	885.72
G1+G2+Q+D2	12.57	-4359.04	2158.02	-0.48	0.64	826.47
G1+G2+Q+D3	12.61	-4507.32	2239.53	-0.48	0.65	855.82
G1+G2+Q+D4	12.53	-4216.98	2239.70	-0.48	0.64	856.37

**Fundação B5**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.41	242.78	-3.43	-0.01	0.62	3.25
Adicional (G2)	8.73	-4586.58	2252.98	-0.46	0.96	854.31
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.28	136.74	-0.83	0.00	0.22	1.20
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.33	0.00	0.00	0.12
Vento X- (V2)	0.00	0.01	-0.33	0.00	0.00	-0.12
Vento Y+ (V3)	0.00	-1.46	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.46	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-3.68	81.58	0.00	0.01	29.78
Desaprumo X- (D2)	0.00	3.68	-81.58	0.00	-0.01	-29.78
Desaprumo Y+ (D3)	0.04	-138.17	0.22	0.00	-0.01	-0.44
Desaprumo Y- (D4)	-0.04	138.17	-0.22	0.00	0.01	0.44
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	12.34	-4251.77	2330.76	-0.47	1.74	888.26
G1+G2+0.7Q+0.6V2+D2	12.34	-4244.38	2167.20	-0.47	1.72	828.55
G1+G2+0.7Q+0.6V3+D3	12.38	-4387.12	2249.20	-0.47	1.72	857.95
G1+G2+0.7Q+0.6V4+D4	12.29	-4109.02	2248.75	-0.47	1.74	858.85
G1+G2+0.7Q+V1+0.6D1	12.34	-4250.30	2298.25	-0.47	1.74	876.39
G1+G2+0.7Q+V2+0.6D2	12.34	-4245.85	2199.70	-0.47	1.73	840.41
G1+G2+0.7Q+V3+0.6D3	12.36	-4332.44	2249.11	-0.47	1.73	858.13

G1+G2+0.7Q+V4+0.6D4	12.31	-4163.71	2248.84	-0.47	1.74	858.67
G1+G2+D1	12.14	-4347.48	2331.14	-0.47	1.59	887.34
G1+G2+D2	12.14	-4340.11	2167.97	-0.46	1.57	827.78
G1+G2+D3	12.18	-4481.97	2249.78	-0.47	1.57	857.11
G1+G2+D4	12.10	-4205.62	2249.34	-0.47	1.59	858.00
G1+G2+Q+0.6V1+0.6D1	12.42	-4209.27	2297.87	-0.47	1.80	876.70
G1+G2+Q+0.6V2+0.6D2	12.42	-4204.83	2199.58	-0.47	1.79	840.82
G1+G2+Q+0.6V3+0.6D3	12.45	-4290.83	2248.86	-0.47	1.79	858.49
G1+G2+Q+0.6V4+0.6D4	12.39	-4123.27	2248.59	-0.47	1.80	859.03
G1+G2+Q+D1	12.42	-4210.73	2330.31	-0.47	1.80	888.54
G1+G2+Q+D2	12.42	-4203.37	2167.14	-0.47	1.79	828.98
G1+G2+Q+D3	12.46	-4345.22	2248.95	-0.47	1.79	858.32
G1+G2+Q+D4	12.38	-4068.88	2248.51	-0.47	1.80	859.21

Fundação B6						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.44	147.18	-166.74	-0.60	-0.08	77.91
Adicional (G2)	8.22	-2235.20	893.54	0.15	-1.83	-90.82
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.19	41.86	-5.34	-0.04	-0.01	7.57
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.17	0.18	0.00	0.00	0.04
Vento X- (V2)	0.00	-0.17	-0.18	0.00	0.00	-0.04
Vento Y+ (V3)	0.00	-1.08	-0.06	0.00	0.00	-0.10
Vento Y- (V4)	0.00	1.08	0.06	0.00	0.00	0.10
Desaprumo X+ (D1)	-0.01	40.31	42.81	0.02	-0.04	9.11
Desaprumo X- (D2)	0.01	-40.31	-42.81	-0.02	0.04	-9.11
Desaprumo Y+ (D3)	0.05	-96.34	-6.16	-0.01	-0.05	-10.08
Desaprumo Y- (D4)	-0.05	96.34	6.16	0.01	0.05	10.08
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	11.79	-2018.31	765.98	-0.46	-1.96	1.52
G1+G2+0.7Q+0.6V2+D2	11.81	-2099.13	680.15	-0.51	-1.88	-16.74
G1+G2+0.7Q+0.6V3+D3	11.84	-2155.71	716.87	-0.49	-1.97	-17.75
G1+G2+0.7Q+0.6V4+D4	11.75	-1961.73	729.26	-0.48	-1.87	2.54
G1+G2+0.7Q+V1+0.6D1	11.79	-2034.37	748.93	-0.47	-1.95	-2.11
G1+G2+0.7Q+V2+0.6D2	11.80	-2083.07	697.20	-0.50	-1.90	-13.11
G1+G2+0.7Q+V3+0.6D3	11.82	-2117.61	719.31	-0.49	-1.95	-13.76
G1+G2+0.7Q+V4+0.6D4	11.77	-1999.83	726.82	-0.48	-1.89	-1.45
G1+G2+D1	11.65	-2047.71	769.61	-0.43	-1.96	-3.79
G1+G2+D2	11.67	-2128.33	684.00	-0.48	-1.88	-22.02
G1+G2+D3	11.71	-2184.36	720.64	-0.46	-1.97	-22.99
G1+G2+D4	11.62	-1991.68	732.96	-0.45	-1.86	-2.82
G1+G2+Q+0.6V1+0.6D1	11.85	-2021.88	747.25	-0.48	-1.95	0.15
G1+G2+Q+0.6V2+0.6D2	11.86	-2070.45	695.67	-0.51	-1.90	-10.82
G1+G2+Q+0.6V3+0.6D3	11.88	-2104.62	717.73	-0.50	-1.96	-11.45
G1+G2+Q+0.6V4+0.6D4	11.82	-1987.71	725.20	-0.49	-1.89	0.78
G1+G2+Q+D1	11.84	-2005.85	764.27	-0.47	-1.96	3.77
G1+G2+Q+D2	11.86	-2086.48	678.66	-0.52	-1.88	-14.45
G1+G2+Q+D3	11.90	-2142.50	715.31	-0.50	-1.98	-15.42
G1+G2+Q+D4	11.80	-1949.82	727.62	-0.49	-1.87	4.75

<b>Fundação B8</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	2.86	-5.32	188.10	0.03	0.26	17.76
Adicional (G2)	2.21	-134.92	580.81	-0.93	1.39	61.15
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.26	-3.57	-34.81	0.11	0.07	5.41
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.31	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.31	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.11	0.02	0.00	0.00	0.02
Vento Y- (V4)	0.00	0.11	-0.02	0.00	0.00	-0.02
Desaprumo X+ (D1)	-0.02	0.66	46.95	0.09	0.00	0.63
Desaprumo X- (D2)	0.02	-0.66	-46.95	-0.09	0.00	-0.63
Desaprumo Y+ (D3)	0.04	-8.17	-3.89	0.00	0.06	1.13
Desaprumo Y- (D4)	-0.04	8.17	3.89	0.00	-0.06	-1.13
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	5.24	-142.08	791.68	-0.73	1.70	83.32
G1+G2+0.7Q+0.6V2+D2	5.29	-143.40	697.42	-0.90	1.70	82.06
G1+G2+0.7Q+0.6V3+D3	5.30	-150.98	740.66	-0.82	1.76	83.83
G1+G2+0.7Q+0.6V4+D4	5.22	-134.51	748.43	-0.81	1.63	81.54
G1+G2+0.7Q+V1+0.6D1	5.25	-142.35	773.02	-0.76	1.70	83.07
G1+G2+0.7Q+V2+0.6D2	5.28	-143.14	716.07	-0.87	1.70	82.31
G1+G2+0.7Q+V3+0.6D3	5.29	-147.75	742.23	-0.82	1.74	83.39
G1+G2+0.7Q+V4+0.6D4	5.24	-137.73	746.87	-0.81	1.66	81.99
G1+G2+D1	5.05	-139.59	815.86	-0.81	1.65	79.54
G1+G2+D2	5.10	-140.91	721.97	-0.98	1.65	78.27
G1+G2+D3	5.12	-148.42	765.02	-0.90	1.71	80.04
G1+G2+D4	5.04	-132.07	772.81	-0.89	1.59	77.78
G1+G2+Q+0.6V1+0.6D1	5.33	-143.42	762.45	-0.73	1.72	84.69
G1+G2+Q+0.6V2+0.6D2	5.36	-144.21	705.75	-0.83	1.72	83.93
G1+G2+Q+0.6V3+0.6D3	5.37	-148.78	731.78	-0.78	1.76	85.00
G1+G2+Q+0.6V4+0.6D4	5.32	-138.85	736.43	-0.78	1.68	83.62
G1+G2+Q+D1	5.32	-143.15	781.05	-0.70	1.72	84.95
G1+G2+Q+D2	5.36	-144.47	687.16	-0.87	1.72	83.68
G1+G2+Q+D3	5.38	-151.99	730.21	-0.79	1.78	85.44
G1+G2+Q+D4	5.30	-135.64	738.00	-0.78	1.66	83.18

<b>Fundação B11</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	1.37	-97.04	-22.83	0.03	-0.23	5.22
Adicional (G2)	0.42	-515.83	14.53	0.17	2.39	33.44
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.48	-52.71	-28.31	0.05	-0.14	10.41
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.03	0.05	0.00	0.00	-0.02
Vento X- (V2)	0.00	-0.03	-0.05	0.00	0.00	0.02

Vento Y+ (V3)	0.00	-0.64	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.64	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.01	2.34	4.11	0.01	0.02	0.07
Desaprumo X- (D2)	-0.01	-2.34	-4.11	-0.01	-0.02	-0.07
Desaprumo Y+ (D3)	-0.04	-39.80	0.65	0.00	0.13	-0.44
Desaprumo Y- (D4)	0.04	39.80	-0.65	0.00	-0.13	0.44
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	2.14	-647.41	-23.98	0.24	2.08	46.00
G1+G2+0.7Q+0.6V2+D2	2.13	-652.12	-32.26	0.22	2.05	45.89
G1+G2+0.7Q+0.6V3+D3	2.10	-689.96	-27.46	0.23	2.20	45.51
G1+G2+0.7Q+0.6V4+D4	2.17	-609.57	-28.77	0.23	1.94	46.38
G1+G2+0.7Q+V1+0.6D1	2.14	-648.33	-25.60	0.24	2.08	45.96
G1+G2+0.7Q+V2+0.6D2	2.13	-651.20	-30.63	0.23	2.06	45.93
G1+G2+0.7Q+V3+0.6D3	2.11	-674.29	-27.72	0.23	2.15	45.68
G1+G2+0.7Q+V4+0.6D4	2.16	-625.24	-28.51	0.23	1.99	46.21
G1+G2+D1	1.80	-610.53	-4.19	0.20	2.18	38.73
G1+G2+D2	1.79	-615.20	-12.41	0.19	2.15	38.59
G1+G2+D3	1.76	-652.67	-7.65	0.19	2.30	38.22
G1+G2+D4	1.83	-573.06	-8.95	0.19	2.04	39.10
G1+G2+Q+0.6V1+0.6D1	2.28	-664.16	-34.11	0.25	2.03	49.10
G1+G2+Q+0.6V2+0.6D2	2.27	-667.00	-39.10	0.24	2.02	49.04
G1+G2+Q+0.6V3+0.6D3	2.26	-689.85	-36.22	0.25	2.10	48.81
G1+G2+Q+0.6V4+0.6D4	2.30	-641.31	-37.00	0.25	1.95	49.33
G1+G2+Q+D1	2.29	-663.24	-32.50	0.25	2.04	49.14
G1+G2+Q+D2	2.27	-667.91	-40.72	0.24	2.01	49.00
G1+G2+Q+D3	2.24	-705.38	-35.96	0.25	2.15	48.63
G1+G2+Q+D4	2.31	-625.77	-37.26	0.25	1.90	49.50

Fundação B12						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	4.91	3.35	-21.08	-0.13	-0.13	-0.57
Adicional (G2)	3.01	-198.73	-72.17	-0.51	-0.19	-47.57
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.81	18.36	9.19	0.05	-0.01	5.17
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.01	0.03	0.00	0.00	0.00
Vento X- (V2)	0.00	-0.01	-0.03	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.35	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.35	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	-0.02	4.62	8.01	0.02	0.00	-0.09
Desaprumo X- (D2)	0.02	-4.62	-8.01	-0.02	0.00	0.09
Desaprumo Y+ (D3)	0.02	-23.20	-0.39	0.00	0.02	0.11
Desaprumo Y- (D4)	-0.02	23.20	0.39	0.00	-0.02	-0.11
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	8.47	-177.90	-78.79	-0.58	-0.34	-44.61
G1+G2+0.7Q+0.6V2+D2	8.50	-187.16	-94.84	-0.62	-0.33	-44.44
G1+G2+0.7Q+0.6V3+D3	8.50	-205.94	-87.20	-0.60	-0.31	-44.42
G1+G2+0.7Q+0.6V4+D4	8.46	-159.12	-86.43	-0.60	-0.36	-44.64
G1+G2+0.7Q+V1+0.6D1	8.47	-179.75	-81.99	-0.59	-0.34	-44.58
G1+G2+0.7Q+V2+0.6D2	8.49	-185.31	-91.65	-0.61	-0.33	-44.47
G1+G2+0.7Q+V3+0.6D3	8.49	-196.80	-87.05	-0.60	-0.32	-44.46

G1+G2+0.7Q+V4+0.6D4	8.47	-168.26	-86.58	-0.60	-0.35	-44.60
G1+G2+D1	7.90	-190.76	-85.24	-0.62	-0.33	-48.23
G1+G2+D2	7.93	-200.00	-101.26	-0.65	-0.32	-48.06
G1+G2+D3	7.94	-218.58	-93.63	-0.64	-0.30	-48.03
G1+G2+D4	7.90	-172.18	-92.86	-0.63	-0.35	-48.25
G1+G2+Q+0.6V1+0.6D1	8.71	-174.24	-79.24	-0.57	-0.34	-43.03
G1+G2+Q+0.6V2+0.6D2	8.73	-179.80	-88.88	-0.60	-0.34	-42.93
G1+G2+Q+0.6V3+0.6D3	8.74	-191.15	-84.29	-0.59	-0.32	-42.91
G1+G2+Q+0.6V4+0.6D4	8.71	-162.89	-83.83	-0.59	-0.35	-43.04
G1+G2+Q+D1	8.71	-172.40	-76.05	-0.57	-0.34	-43.06
G1+G2+Q+D2	8.74	-181.65	-92.07	-0.61	-0.34	-42.89
G1+G2+Q+D3	8.74	-200.22	-84.44	-0.59	-0.31	-42.87
G1+G2+Q+D4	8.70	-153.82	-83.67	-0.59	-0.36	-43.09

Fundação B13						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	5.09	19.67	35.05	0.15	0.01	0.97
Adicional (G2)	4.29	-366.01	139.50	0.63	0.28	-13.64
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.82	-0.60	-7.33	-0.05	0.01	0.01
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.02	0.03	0.00	0.00	0.00
Vento X- (V2)	0.00	-0.02	-0.03	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.41	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.41	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.01	4.74	7.94	0.02	-0.01	-0.16
Desaprumo X- (D2)	-0.01	-4.74	-7.94	-0.02	0.01	0.16
Desaprumo Y+ (D3)	0.01	-27.92	-0.35	0.00	0.04	0.00
Desaprumo Y- (D4)	-0.01	27.92	0.35	0.00	-0.04	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	9.97	-342.02	177.39	0.77	0.30	-12.82
G1+G2+0.7Q+0.6V2+D2	9.94	-351.51	161.47	0.73	0.31	-12.50
G1+G2+0.7Q+0.6V3+D3	9.97	-374.93	169.07	0.75	0.34	-12.66
G1+G2+0.7Q+0.6V4+D4	9.94	-318.59	169.78	0.75	0.27	-12.67
G1+G2+0.7Q+V1+0.6D1	9.96	-343.90	174.22	0.76	0.30	-12.76
G1+G2+0.7Q+V2+0.6D2	9.95	-349.62	164.63	0.74	0.31	-12.57
G1+G2+0.7Q+V3+0.6D3	9.96	-363.93	169.21	0.75	0.33	-12.66
G1+G2+0.7Q+V4+0.6D4	9.95	-329.60	169.64	0.75	0.28	-12.66
G1+G2+D1	9.39	-341.61	182.50	0.80	0.29	-12.82
G1+G2+D2	9.37	-351.08	166.61	0.76	0.30	-12.51
G1+G2+D3	9.40	-374.27	174.20	0.78	0.33	-12.66
G1+G2+D4	9.37	-318.42	174.91	0.78	0.26	-12.67
G1+G2+Q+0.6V1+0.6D1	10.21	-344.09	172.01	0.75	0.31	-12.75
G1+G2+Q+0.6V2+0.6D2	10.19	-349.79	162.45	0.72	0.31	-12.56
G1+G2+Q+0.6V3+0.6D3	10.21	-363.94	167.02	0.74	0.33	-12.66
G1+G2+Q+0.6V4+0.6D4	10.19	-329.94	167.44	0.74	0.29	-12.66
G1+G2+Q+D1	10.21	-342.21	175.17	0.76	0.30	-12.82
G1+G2+Q+D2	10.19	-351.68	159.28	0.72	0.32	-12.50
G1+G2+Q+D3	10.21	-374.86	166.88	0.74	0.35	-12.65
G1+G2+Q+D4	10.18	-319.02	167.58	0.74	0.27	-12.66

Fundação B14						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.20	5.62	20.67	-0.17	-0.05	-2.46
Adicional (G2)	1.16	-54.60	854.01	0.19	0.10	-9.11
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.19	5.60	-31.50	-0.03	-0.02	-1.69
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.21	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.21	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.09	-0.07	0.00	0.00	0.01
Vento Y- (V4)	0.00	0.09	0.07	0.00	0.00	-0.01
Desaprumo X+ (D1)	-0.01	1.38	37.76	0.03	0.00	-0.36
Desaprumo X- (D2)	0.01	-1.38	-37.76	-0.03	0.00	0.36
Desaprumo Y+ (D3)	-0.02	-5.94	-6.34	-0.01	0.02	0.42
Desaprumo Y- (D4)	0.02	5.94	6.34	0.01	-0.02	-0.42
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	3.49	-43.67	890.52	0.03	0.03	-13.11
G1+G2+0.7Q+0.6V2+D2	3.50	-46.44	814.74	-0.02	0.04	-12.39
G1+G2+0.7Q+0.6V3+D3	3.47	-51.05	846.25	0.00	0.05	-12.32
G1+G2+0.7Q+0.6V4+D4	3.51	-39.06	859.01	0.01	0.02	-13.18
G1+G2+0.7Q+V1+0.6D1	3.49	-44.22	875.49	0.02	0.03	-12.97
G1+G2+0.7Q+V2+0.6D2	3.50	-45.89	829.77	-0.01	0.04	-12.54
G1+G2+0.7Q+V3+0.6D3	3.48	-48.71	848.76	0.00	0.04	-12.49
G1+G2+0.7Q+V4+0.6D4	3.50	-41.40	856.50	0.01	0.02	-13.02
G1+G2+D1	3.36	-47.60	912.44	0.05	0.04	-11.92
G1+G2+D2	3.37	-50.36	836.91	0.00	0.05	-11.21
G1+G2+D3	3.34	-54.92	868.33	0.02	0.06	-11.14
G1+G2+D4	3.38	-43.04	881.02	0.03	0.03	-11.99
G1+G2+Q+0.6V1+0.6D1	3.54	-42.55	865.96	0.01	0.02	-13.47
G1+G2+Q+0.6V2+0.6D2	3.55	-44.21	820.40	-0.02	0.03	-13.04
G1+G2+Q+0.6V3+0.6D3	3.54	-47.00	839.33	-0.01	0.04	-13.00
G1+G2+Q+0.6V4+0.6D4	3.56	-39.76	847.03	0.00	0.02	-13.52
G1+G2+Q+D1	3.54	-41.99	880.94	0.02	0.02	-13.62
G1+G2+Q+D2	3.55	-44.76	805.42	-0.03	0.03	-12.90
G1+G2+Q+D3	3.53	-49.32	836.84	-0.01	0.05	-12.84
G1+G2+Q+D4	3.57	-37.43	849.53	0.00	0.01	-13.68

<b>Fundação B23</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	2.20	-5.65	20.85	-0.17	0.05	2.47
Adicional (G2)	1.69	-69.44	819.44	0.23	0.25	13.33
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.19	-5.63	-31.20	-0.03	0.02	1.70
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.21	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.21	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.09	0.06	0.00	0.00	0.01
Vento Y- (V4)	0.00	0.09	-0.06	0.00	0.00	-0.01
Desaprumo X+ (D1)	-0.01	-1.18	35.07	0.03	0.00	0.32
Desaprumo X- (D2)	0.01	1.18	-35.07	-0.03	0.00	-0.32
Desaprumo Y+ (D3)	0.02	-5.75	5.56	0.01	0.02	0.33
Desaprumo Y- (D4)	-0.02	5.75	-5.56	-0.01	-0.02	-0.33
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	4.02	-80.22	853.64	0.07	0.32	17.31
G1+G2+0.7Q+0.6V2+D2	4.03	-77.85	783.25	0.02	0.31	16.66
G1+G2+0.7Q+0.6V3+D3	4.04	-84.84	824.05	0.05	0.34	17.33
G1+G2+0.7Q+0.6V4+D4	4.00	-73.23	812.84	0.04	0.30	16.65
G1+G2+0.7Q+V1+0.6D1	4.02	-79.75	839.69	0.06	0.32	17.18
G1+G2+0.7Q+V2+0.6D2	4.02	-78.32	797.20	0.03	0.32	16.79
G1+G2+0.7Q+V3+0.6D3	4.03	-82.57	821.85	0.05	0.33	17.19
G1+G2+0.7Q+V4+0.6D4	4.01	-75.50	815.04	0.04	0.31	16.78
G1+G2+D1	3.89	-76.27	875.35	0.09	0.31	16.11
G1+G2+D2	3.90	-73.91	805.22	0.04	0.30	15.47
G1+G2+D3	3.91	-80.84	845.85	0.07	0.32	16.13
G1+G2+D4	3.87	-69.34	834.72	0.06	0.29	15.46
G1+G2+Q+0.6V1+0.6D1	4.07	-81.44	830.25	0.05	0.33	17.69
G1+G2+Q+0.6V2+0.6D2	4.08	-80.01	787.92	0.02	0.32	17.30
G1+G2+Q+0.6V3+0.6D3	4.09	-84.23	812.46	0.04	0.33	17.70
G1+G2+Q+0.6V4+0.6D4	4.07	-77.22	805.71	0.03	0.31	17.29
G1+G2+Q+D1	4.07	-81.91	844.16	0.06	0.33	17.82
G1+G2+Q+D2	4.08	-79.54	774.02	0.01	0.32	17.18
G1+G2+Q+D3	4.10	-86.47	814.65	0.04	0.34	17.83
G1+G2+Q+D4	4.06	-74.98	803.52	0.03	0.31	17.16

<b>Fundação B24</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	4.91	-2.96	-21.10	-0.13	0.13	0.66
Adicional (G2)	2.55	-236.45	-67.36	-0.51	0.37	37.77
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.81	-18.36	9.20	0.05	0.01	-5.13
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.03	0.00	0.00	0.00
Vento X- (V2)	0.00	0.01	-0.03	0.00	0.00	0.00

Vento Y+ (V3)	0.00	-0.34	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.34	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	-0.01	-3.91	7.28	0.02	0.00	0.10
Desaprumo X- (D2)	0.01	3.91	-7.28	-0.02	0.00	-0.10
Desaprumo Y+ (D3)	-0.02	-22.20	0.35	0.00	0.02	0.11
Desaprumo Y- (D4)	0.02	22.20	-0.35	0.00	-0.02	-0.11
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	8.00	-256.17	-74.72	-0.58	0.51	34.94
G1+G2+0.7Q+0.6V2+D2	8.03	-248.34	-89.31	-0.62	0.50	34.74
G1+G2+0.7Q+0.6V3+D3	8.00	-274.67	-81.67	-0.60	0.53	34.95
G1+G2+0.7Q+0.6V4+D4	8.04	-229.85	-82.36	-0.60	0.48	34.73
G1+G2+0.7Q+V1+0.6D1	8.01	-254.61	-77.62	-0.59	0.51	34.90
G1+G2+0.7Q+V2+0.6D2	8.03	-249.90	-86.41	-0.61	0.51	34.78
G1+G2+0.7Q+V3+0.6D3	8.01	-265.92	-81.80	-0.60	0.52	34.91
G1+G2+0.7Q+V4+0.6D4	8.03	-238.59	-82.23	-0.60	0.49	34.77
G1+G2+D1	7.44	-243.32	-81.18	-0.61	0.50	38.53
G1+G2+D2	7.47	-235.50	-95.73	-0.65	0.50	38.33
G1+G2+D3	7.43	-261.61	-88.11	-0.63	0.52	38.54
G1+G2+D4	7.47	-217.21	-88.80	-0.63	0.48	38.32
G1+G2+Q+0.6V1+0.6D1	8.25	-260.11	-74.87	-0.57	0.51	33.36
G1+G2+Q+0.6V2+0.6D2	8.27	-255.41	-83.64	-0.59	0.51	33.24
G1+G2+Q+0.6V3+0.6D3	8.25	-271.29	-79.05	-0.58	0.52	33.36
G1+G2+Q+0.6V4+0.6D4	8.27	-244.24	-79.46	-0.58	0.50	33.23
G1+G2+Q+D1	8.24	-261.67	-71.98	-0.56	0.51	33.39
G1+G2+Q+D2	8.27	-253.86	-86.53	-0.60	0.51	33.20
G1+G2+Q+D3	8.24	-279.97	-78.91	-0.58	0.53	33.41
G1+G2+Q+D4	8.28	-235.56	-79.60	-0.58	0.49	33.19

<b>Fundação B25</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	5.09	-19.83	35.00	0.15	-0.01	-0.96
Adicional (G2)	3.00	-133.53	148.16	0.64	-0.98	8.52
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.82	0.38	-7.32	-0.05	-0.01	0.00
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.02	0.03	0.00	0.00	0.00
Vento X- (V2)	0.00	0.02	-0.03	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.41	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.41	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.01	-4.03	7.17	0.02	0.01	0.15
Desaprumo X- (D2)	-0.01	4.03	-7.17	-0.02	-0.01	-0.15
Desaprumo Y+ (D3)	-0.01	-25.60	0.31	0.00	0.03	0.00
Desaprumo Y- (D4)	0.01	25.60	-0.31	0.00	-0.03	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	8.68	-157.13	185.21	0.78	-0.99	7.71
G1+G2+0.7Q+0.6V2+D2	8.65	-149.06	170.85	0.74	-1.00	7.41
G1+G2+0.7Q+0.6V3+D3	8.65	-178.94	178.35	0.76	-0.97	7.56
G1+G2+0.7Q+0.6V4+D4	8.68	-127.25	177.72	0.76	-1.03	7.56
G1+G2+0.7Q+V1+0.6D1	8.67	-155.53	182.36	0.77	-1.00	7.65
G1+G2+0.7Q+V2+0.6D2	8.66	-150.66	173.71	0.75	-1.00	7.47
G1+G2+0.7Q+V3+0.6D3	8.66	-168.87	178.22	0.76	-0.98	7.56



G1+G2+0.7Q+V4+0.6D4	8.67	-137.32	177.84	0.76	-1.02	7.56
G1+G2+D1	8.10	-157.39	190.33	0.81	-0.98	7.71
G1+G2+D2	8.08	-149.34	175.99	0.78	-1.00	7.41
G1+G2+D3	8.08	-178.97	183.47	0.79	-0.96	7.56
G1+G2+D4	8.11	-127.76	182.85	0.79	-1.02	7.57
G1+G2+Q+0.6V1+0.6D1	8.92	-155.41	180.15	0.76	-1.00	7.65
G1+G2+Q+0.6V2+0.6D2	8.90	-150.55	171.52	0.74	-1.01	7.47
G1+G2+Q+0.6V3+0.6D3	8.90	-168.59	176.02	0.75	-0.98	7.56
G1+G2+Q+0.6V4+0.6D4	8.92	-137.37	175.65	0.75	-1.02	7.56
G1+G2+Q+D1	8.92	-157.01	183.00	0.76	-1.00	7.71
G1+G2+Q+D2	8.90	-148.95	168.67	0.73	-1.01	7.41
G1+G2+Q+D3	8.90	-178.58	176.15	0.75	-0.97	7.56
G1+G2+Q+D4	8.92	-127.38	175.53	0.75	-1.04	7.57

Fundação B26						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	1.42	19.83	-11.26	0.01	0.15	-1.65
Adicional (G2)	1.54	-686.16	5.64	0.08	2.99	-26.48
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.40	13.41	-11.31	0.05	0.04	-7.76
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.03	0.00	0.00	0.03
Vento X- (V2)	0.00	0.01	-0.03	0.00	0.00	-0.03
Vento Y+ (V3)	0.00	-0.35	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.35	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.01	-1.23	3.72	0.01	-0.01	1.02
Desaprumo X- (D2)	-0.01	1.23	-3.72	-0.01	0.01	-1.02
Desaprumo Y+ (D3)	0.05	-26.52	-0.42	0.00	0.10	-0.35
Desaprumo Y- (D4)	-0.05	26.52	0.42	0.00	-0.10	0.35
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	3.25	-658.18	-9.79	0.14	3.16	-32.53
G1+G2+0.7Q+0.6V2+D2	3.23	-655.70	-17.28	0.12	3.17	-34.59
G1+G2+0.7Q+0.6V3+D3	3.29	-683.67	-13.96	0.13	3.27	-33.91
G1+G2+0.7Q+0.6V4+D4	3.19	-630.21	-13.11	0.13	3.06	-33.21
G1+G2+0.7Q+V1+0.6D1	3.25	-657.70	-11.27	0.13	3.16	-32.92
G1+G2+0.7Q+V2+0.6D2	3.23	-656.19	-15.80	0.12	3.17	-34.20
G1+G2+0.7Q+V3+0.6D3	3.27	-673.21	-13.79	0.13	3.23	-33.77
G1+G2+0.7Q+V4+0.6D4	3.21	-640.68	-13.28	0.13	3.10	-33.35
G1+G2+D1	2.97	-667.56	-1.89	0.10	3.14	-27.11
G1+G2+D2	2.95	-665.09	-9.34	0.08	3.15	-29.15
G1+G2+D3	3.01	-692.85	-6.04	0.09	3.25	-28.48
G1+G2+D4	2.91	-639.80	-5.19	0.09	3.04	-27.78
G1+G2+Q+0.6V1+0.6D1	3.37	-653.67	-14.67	0.15	3.17	-35.26
G1+G2+Q+0.6V2+0.6D2	3.35	-652.17	-19.18	0.14	3.18	-36.51
G1+G2+Q+0.6V3+0.6D3	3.39	-669.04	-17.18	0.14	3.24	-36.10
G1+G2+Q+0.6V4+0.6D4	3.33	-636.80	-16.67	0.14	3.12	-35.68
G1+G2+Q+D1	3.37	-654.15	-13.20	0.15	3.17	-34.87
G1+G2+Q+D2	3.35	-651.69	-20.65	0.14	3.19	-36.90
G1+G2+Q+D3	3.41	-679.44	-17.35	0.14	3.28	-36.24
G1+G2+Q+D4	3.31	-626.40	-16.51	0.14	3.07	-35.54

Fundação B29						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.18	-158.81	5.77	0.00	-0.37	1.14
Adicional (G2)	5.35	-4258.06	2288.94	-0.55	0.45	-919.17
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.13	-38.75	1.36	0.00	-0.10	0.83
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.33	0.00	0.00	-0.13
Vento X- (V2)	0.00	0.01	-0.33	0.00	0.00	0.13
Vento Y+ (V3)	0.00	-1.36	0.01	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.36	-0.01	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-2.86	72.62	-0.02	0.00	-28.72
Desaprumo X- (D2)	0.00	2.86	-72.62	0.02	0.00	28.72
Desaprumo Y+ (D3)	-0.06	-118.71	0.94	0.00	-0.01	-0.45
Desaprumo Y- (D4)	0.06	118.71	-0.94	0.00	0.01	0.45
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	8.62	-4446.86	2368.48	-0.56	0.01	-946.25
G1+G2+0.7Q+0.6V2+D2	8.62	-4441.13	2222.85	-0.53	0.01	-888.65
G1+G2+0.7Q+0.6V3+D3	8.56	-4563.52	2296.61	-0.54	0.00	-917.90
G1+G2+0.7Q+0.6V4+D4	8.68	-4324.47	2294.72	-0.55	0.02	-917.00
G1+G2+0.7Q+V1+0.6D1	8.62	-4445.72	2339.57	-0.55	0.01	-934.81
G1+G2+0.7Q+V2+0.6D2	8.62	-4442.27	2251.76	-0.54	0.01	-900.09
G1+G2+0.7Q+V3+0.6D3	8.59	-4516.58	2296.24	-0.54	0.00	-917.73
G1+G2+0.7Q+V4+0.6D4	8.66	-4371.41	2295.09	-0.54	0.02	-917.18
G1+G2+D1	8.53	-4419.73	2367.33	-0.56	0.09	-946.75
G1+G2+D2	8.53	-4414.01	2222.09	-0.53	0.08	-889.31
G1+G2+D3	8.47	-4535.58	2295.65	-0.54	0.07	-918.48
G1+G2+D4	8.59	-4298.16	2293.77	-0.55	0.09	-917.58
G1+G2+Q+0.6V1+0.6D1	8.66	-4457.34	2339.84	-0.55	-0.02	-934.51
G1+G2+Q+0.6V2+0.6D2	8.66	-4453.90	2252.30	-0.53	-0.02	-899.89
G1+G2+Q+0.6V3+0.6D3	8.63	-4527.66	2296.64	-0.54	-0.03	-917.47
G1+G2+Q+0.6V4+0.6D4	8.70	-4383.58	2295.51	-0.54	-0.01	-916.93
G1+G2+Q+D1	8.66	-4458.48	2368.69	-0.56	-0.02	-945.92
G1+G2+Q+D2	8.66	-4452.76	2223.45	-0.53	-0.02	-888.48
G1+G2+Q+D3	8.60	-4574.33	2297.02	-0.54	-0.03	-917.65
G1+G2+Q+D4	8.72	-4336.91	2295.13	-0.54	-0.01	-916.75

Fundação B30						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.40	-243.23	0.43	0.00	-0.54	0.36
Adicional (G2)	5.64	-4708.11	2287.63	-0.52	0.52	-897.74
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.19	-59.29	0.38	0.00	-0.15	0.32
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.33	0.00	0.00	-0.13
Vento X- (V2)	0.00	0.00	-0.33	0.00	0.00	0.13
Vento Y+ (V3)	0.00	-1.47	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.47	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.03	74.56	-0.01	0.00	-28.55
Desaprumo X- (D2)	0.00	0.03	-74.56	0.01	0.00	28.55
Desaprumo Y+ (D3)	-0.05	-133.81	0.27	0.00	0.00	-0.04
Desaprumo Y- (D4)	0.05	133.81	-0.27	0.00	0.00	0.04
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	9.17	-4992.86	2363.09	-0.54	-0.13	-925.79
G1+G2+0.7Q+0.6V2+D2	9.17	-4992.81	2213.57	-0.51	-0.13	-868.53
G1+G2+0.7Q+0.6V3+D3	9.12	-5127.52	2288.59	-0.52	-0.13	-897.20
G1+G2+0.7Q+0.6V4+D4	9.22	-4858.15	2288.06	-0.52	-0.13	-897.12
G1+G2+0.7Q+V1+0.6D1	9.17	-4992.85	2333.40	-0.53	-0.13	-914.42
G1+G2+0.7Q+V2+0.6D2	9.17	-4992.82	2243.26	-0.52	-0.13	-879.90
G1+G2+0.7Q+V3+0.6D3	9.14	-5074.59	2288.49	-0.52	-0.13	-897.19
G1+G2+0.7Q+V4+0.6D4	9.20	-4911.09	2288.17	-0.52	-0.13	-897.13
G1+G2+D1	9.04	-4951.36	2362.62	-0.54	-0.03	-925.94
G1+G2+D2	9.04	-4951.31	2213.50	-0.51	-0.03	-868.84
G1+G2+D3	8.99	-5085.14	2288.33	-0.52	-0.03	-897.43
G1+G2+D4	9.09	-4817.53	2287.79	-0.52	-0.02	-897.35
G1+G2+Q+0.6V1+0.6D1	9.23	-5010.64	2333.38	-0.53	-0.18	-914.27
G1+G2+Q+0.6V2+0.6D2	9.23	-5010.61	2243.51	-0.52	-0.18	-879.86
G1+G2+Q+0.6V3+0.6D3	9.20	-5091.79	2288.60	-0.52	-0.18	-897.09
G1+G2+Q+0.6V4+0.6D4	9.26	-4929.46	2288.28	-0.52	-0.18	-897.04
G1+G2+Q+D1	9.23	-5010.65	2363.00	-0.54	-0.18	-925.62
G1+G2+Q+D2	9.23	-5010.60	2213.89	-0.51	-0.18	-868.51
G1+G2+Q+D3	9.18	-5144.43	2288.71	-0.52	-0.18	-897.10
G1+G2+Q+D4	9.28	-4876.82	2288.18	-0.52	-0.18	-897.02

Fundação B31						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.40	-240.09	-0.92	0.00	-0.55	-1.28
Adicional (G2)	5.65	-4743.01	2282.21	-0.53	0.58	-901.81
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.19	-58.88	-0.15	0.00	-0.15	-0.23
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.33	0.00	0.00	-0.13
Vento X- (V2)	0.00	0.00	-0.33	0.00	0.00	0.13

Vento Y+ (V3)	0.00	-1.47	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.47	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	0.37	74.59	-0.01	0.00	-28.53
Desaprumo X- (D2)	0.00	-0.37	-74.59	0.01	0.00	28.53
Desaprumo Y+ (D3)	-0.05	-135.46	0.12	0.00	0.00	-0.17
Desaprumo Y- (D4)	0.05	135.46	-0.12	0.00	0.00	0.17
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	9.18	-5023.94	2355.97	-0.55	-0.08	-931.85
G1+G2+0.7Q+0.6V2+D2	9.18	-5024.69	2206.38	-0.52	-0.08	-874.64
G1+G2+0.7Q+0.6V3+D3	9.13	-5160.65	2281.29	-0.54	-0.08	-903.42
G1+G2+0.7Q+0.6V4+D4	9.23	-4887.98	2281.06	-0.54	-0.08	-903.07
G1+G2+0.7Q+V1+0.6D1	9.18	-5024.09	2326.27	-0.54	-0.08	-920.49
G1+G2+0.7Q+V2+0.6D2	9.18	-5024.54	2236.09	-0.53	-0.08	-886.00
G1+G2+0.7Q+V3+0.6D3	9.15	-5107.05	2281.25	-0.54	-0.08	-903.35
G1+G2+0.7Q+V4+0.6D4	9.21	-4941.57	2281.11	-0.54	-0.08	-903.14
G1+G2+D1	9.05	-4982.73	2355.88	-0.55	0.03	-931.61
G1+G2+D2	9.05	-4983.47	2206.69	-0.52	0.03	-874.56
G1+G2+D3	9.00	-5118.56	2281.40	-0.54	0.03	-903.26
G1+G2+D4	9.10	-4847.64	2281.17	-0.54	0.03	-902.91
G1+G2+Q+0.6V1+0.6D1	9.23	-5041.75	2326.09	-0.54	-0.12	-920.50
G1+G2+Q+0.6V2+0.6D2	9.23	-5042.20	2236.18	-0.53	-0.12	-886.12
G1+G2+Q+0.6V3+0.6D3	9.20	-5124.13	2281.20	-0.54	-0.12	-903.42
G1+G2+Q+0.6V4+0.6D4	9.26	-4959.82	2281.06	-0.54	-0.12	-903.21
G1+G2+Q+D1	9.23	-5041.60	2355.72	-0.55	-0.12	-931.84
G1+G2+Q+D2	9.23	-5042.35	2206.54	-0.52	-0.12	-874.79
G1+G2+Q+D3	9.18	-5177.43	2281.25	-0.54	-0.12	-903.49
G1+G2+Q+D4	9.28	-4906.52	2281.01	-0.54	-0.12	-903.14

Fundação B32						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.38	-221.52	-5.17	-0.01	-0.55	-2.51
Adicional (G2)	5.64	-4513.34	2271.97	-0.55	0.26	-914.73
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.18	-57.13	-1.01	0.00	-0.15	-0.97
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.33	0.00	0.00	-0.13
Vento X- (V2)	0.00	0.00	-0.33	0.00	0.00	0.13
Vento Y+ (V3)	0.00	-1.40	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.40	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	0.04	74.49	-0.01	0.00	-28.73
Desaprumo X- (D2)	0.00	-0.04	-74.49	0.01	0.00	28.73
Desaprumo Y+ (D3)	-0.05	-128.92	-0.12	0.00	-0.01	-0.34
Desaprumo Y- (D4)	0.05	128.92	0.12	0.00	0.01	0.34
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	9.14	-4774.81	2340.78	-0.57	-0.39	-946.73
G1+G2+0.7Q+0.6V2+D2	9.14	-4774.89	2191.40	-0.55	-0.38	-889.11
G1+G2+0.7Q+0.6V3+D3	9.09	-4904.61	2265.97	-0.56	-0.39	-918.26
G1+G2+0.7Q+0.6V4+D4	9.19	-4645.09	2266.21	-0.56	-0.38	-917.58
G1+G2+0.7Q+V1+0.6D1	9.14	-4774.83	2311.12	-0.57	-0.39	-935.29
G1+G2+0.7Q+V2+0.6D2	9.14	-4774.88	2221.06	-0.55	-0.38	-900.56
G1+G2+0.7Q+V3+0.6D3	9.11	-4853.61	2266.02	-0.56	-0.39	-918.13

G1+G2+0.7Q+V4+0.6D4	9.17	-4696.10	2266.16	-0.56	-0.38	-917.71
G1+G2+D1	9.01	-4734.82	2341.29	-0.57	-0.28	-945.97
G1+G2+D2	9.01	-4734.90	2192.31	-0.55	-0.28	-888.51
G1+G2+D3	8.96	-4863.78	2266.68	-0.56	-0.29	-917.58
G1+G2+D4	9.06	-4605.95	2266.92	-0.56	-0.27	-916.90
G1+G2+Q+0.6V1+0.6D1	9.19	-4791.97	2310.68	-0.57	-0.43	-935.53
G1+G2+Q+0.6V2+0.6D2	9.19	-4792.02	2220.89	-0.55	-0.43	-900.90
G1+G2+Q+0.6V3+0.6D3	9.16	-4870.18	2265.71	-0.56	-0.44	-918.42
G1+G2+Q+0.6V4+0.6D4	9.22	-4713.80	2265.86	-0.56	-0.42	-918.01
G1+G2+Q+D1	9.19	-4791.95	2340.28	-0.57	-0.43	-946.94
G1+G2+Q+D2	9.19	-4792.03	2191.30	-0.55	-0.43	-889.48
G1+G2+Q+D3	9.14	-4920.91	2265.67	-0.56	-0.44	-918.55
G1+G2+Q+D4	9.24	-4663.08	2265.90	-0.56	-0.42	-917.87

Fundação B33						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.17	41.23	-143.10	-0.56	-0.01	-91.34
Adicional (G2)	4.39	-3523.18	1369.47	0.61	-0.88	-156.95
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.01	8.99	-0.28	0.00	-0.01	-0.65
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.02	0.22	0.00	0.00	-0.02
Vento X- (V2)	0.00	-0.02	-0.22	0.00	0.00	0.02
Vento Y+ (V3)	0.00	-1.18	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	1.18	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	-0.03	3.60	45.63	0.02	0.01	-4.79
Desaprumo X- (D2)	0.03	-3.60	-45.63	-0.02	-0.01	4.79
Desaprumo Y+ (D3)	-0.05	-102.77	-0.22	0.00	-0.06	0.24
Desaprumo Y- (D4)	0.05	102.77	0.22	0.00	0.06	-0.24
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	7.53	-3472.06	1271.94	0.07	-0.88	-253.55
G1+G2+0.7Q+0.6V2+D2	7.59	-3479.27	1180.41	0.03	-0.90	-243.94
G1+G2+0.7Q+0.6V3+D3	7.51	-3579.14	1225.95	0.05	-0.95	-248.51
G1+G2+0.7Q+0.6V4+D4	7.61	-3372.19	1226.39	0.05	-0.83	-248.98
G1+G2+0.7Q+V1+0.6D1	7.54	-3473.49	1253.77	0.06	-0.89	-251.65
G1+G2+0.7Q+V2+0.6D2	7.58	-3477.84	1198.57	0.03	-0.90	-245.85
G1+G2+0.7Q+V3+0.6D3	7.53	-3538.51	1226.04	0.05	-0.93	-248.60
G1+G2+0.7Q+V4+0.6D4	7.59	-3412.82	1226.31	0.05	-0.86	-248.89
G1+G2+D1	7.52	-3478.36	1272.01	0.07	-0.88	-253.08
G1+G2+D2	7.59	-3485.55	1180.74	0.03	-0.89	-243.50
G1+G2+D3	7.51	-3584.72	1226.15	0.05	-0.94	-248.05
G1+G2+D4	7.60	-3379.19	1226.59	0.05	-0.82	-248.53
G1+G2+Q+0.6V1+0.6D1	7.54	-3470.80	1253.60	0.06	-0.89	-251.83
G1+G2+Q+0.6V2+0.6D2	7.58	-3475.14	1198.58	0.03	-0.90	-246.05
G1+G2+Q+0.6V3+0.6D3	7.53	-3535.34	1225.96	0.05	-0.93	-248.80
G1+G2+Q+0.6V4+0.6D4	7.59	-3410.60	1226.22	0.05	-0.86	-249.09
G1+G2+Q+D1	7.53	-3469.37	1271.72	0.07	-0.89	-253.74
G1+G2+Q+D2	7.60	-3476.57	1180.45	0.03	-0.90	-244.15
G1+G2+Q+D3	7.52	-3575.74	1225.87	0.05	-0.95	-248.71
G1+G2+Q+D4	7.61	-3370.20	1226.31	0.05	-0.84	-249.18

Fundação B34						
Combinação	N	Mx	My	Vx	Vy	Mt

	(tf)	(kgf.m)	(kgf.m)	(tf)	(tf)	(kgf/m)
Peso próprio (G1)	2.95	6.55	178.66	0.02	-0.16	-12.49
Adicional (G2)	0.89	-202.68	1119.12	-0.33	1.65	20.33
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.24	3.88	-31.81	0.11	-0.04	-3.56
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.30	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.30	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.11	0.00	0.00	0.00	0.03
Vento Y- (V4)	0.00	0.11	0.00	0.00	0.00	-0.03
Desaprumo X+ (D1)	-0.02	-0.79	43.17	0.08	0.00	-0.26
Desaprumo X- (D2)	0.02	0.79	-43.17	-0.08	0.00	0.26
Desaprumo Y+ (D3)	-0.05	-8.23	3.45	0.00	0.07	1.39
Desaprumo Y- (D4)	0.05	8.23	-3.45	0.00	-0.07	-1.39
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	3.99	-194.20	1318.85	-0.15	1.46	5.10
G1+G2+0.7Q+0.6V2+D2	4.03	-192.63	1232.15	-0.31	1.46	5.61
G1+G2+0.7Q+0.6V3+D3	3.96	-201.71	1278.96	-0.23	1.53	6.76
G1+G2+0.7Q+0.6V4+D4	4.06	-185.12	1272.05	-0.23	1.38	3.95
G1+G2+0.7Q+V1+0.6D1	4.00	-193.89	1301.71	-0.18	1.46	5.20
G1+G2+0.7Q+V2+0.6D2	4.03	-192.94	1249.30	-0.28	1.46	5.51
G1+G2+0.7Q+V3+0.6D3	3.98	-198.46	1277.57	-0.23	1.50	6.22
G1+G2+0.7Q+V4+0.6D4	4.04	-188.37	1273.43	-0.23	1.41	4.49
G1+G2+D1	3.82	-196.91	1340.94	-0.23	1.49	7.59
G1+G2+D2	3.87	-195.34	1254.60	-0.39	1.49	8.10
G1+G2+D3	3.80	-204.36	1301.22	-0.31	1.57	9.23
G1+G2+D4	3.89	-187.89	1294.32	-0.31	1.42	6.46
G1+G2+Q+0.6V1+0.6D1	4.07	-192.72	1292.04	-0.15	1.45	4.14
G1+G2+Q+0.6V2+0.6D2	4.10	-191.78	1239.88	-0.25	1.44	4.44
G1+G2+Q+0.6V3+0.6D3	4.06	-197.25	1268.03	-0.20	1.49	5.14
G1+G2+Q+0.6V4+0.6D4	4.11	-187.25	1263.89	-0.20	1.40	3.44
G1+G2+Q+D1	4.06	-193.04	1309.13	-0.12	1.45	4.03
G1+G2+Q+D2	4.11	-191.46	1222.79	-0.28	1.44	4.55
G1+G2+Q+D3	4.04	-200.48	1269.41	-0.20	1.52	5.68
G1+G2+Q+D4	4.13	-184.02	1262.51	-0.20	1.37	2.90

<b>Fundação B7-9</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	7.07	-44.85	1029.18	0.67	0.38	-120.85
Adicional (G2)	7.31	-1758.66	2296.10	1.27	2.32	23.45
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.40	118.22	-14.05	-0.06	-0.01	24.50
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.09	0.16	0.00	0.00	0.11
Vento X- (V2)	0.00	-0.09	-0.16	0.00	0.00	-0.11
Vento Y+ (V3)	0.00	-1.78	-0.04	0.00	0.00	-0.02
Vento Y- (V4)	0.00	1.78	0.04	0.00	0.00	0.02
Desaprumo X+ (D1)	0.06	22.47	23.25	-0.06	-0.01	25.95
Desaprumo X- (D2)	-0.06	-22.47	-23.25	0.06	0.01	-25.95
Desaprumo Y+ (D3)	0.02	-78.15	-2.82	0.00	-0.02	3.27
Desaprumo Y- (D4)	-0.02	78.15	2.82	0.00	0.02	-3.27
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00

Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	14.72	-1698.22	3338.80	1.85	2.69	-54.22
G1+G2+0.7Q+0.6V2+D2	14.60	-1743.28	3292.09	1.96	2.70	-106.26
G1+G2+0.7Q+0.6V3+D3	14.67	-1799.96	3312.60	1.90	2.68	-76.99
G1+G2+0.7Q+0.6V4+D4	14.64	-1641.54	3318.29	1.91	2.71	-83.50
G1+G2+0.7Q+V1+0.6D1	14.70	-1707.17	3329.56	1.87	2.69	-64.56
G1+G2+0.7Q+V2+0.6D2	14.62	-1734.33	3301.33	1.94	2.70	-95.93
G1+G2+0.7Q+V3+0.6D3	14.67	-1769.42	3313.71	1.90	2.69	-78.30
G1+G2+0.7Q+V4+0.6D4	14.65	-1672.08	3317.18	1.91	2.70	-82.19
G1+G2+D1	14.44	-1781.04	3348.54	1.89	2.70	-71.44
G1+G2+D2	14.32	-1825.97	3302.03	2.00	2.71	-123.35
G1+G2+D3	14.39	-1881.65	3322.46	1.94	2.69	-94.13
G1+G2+D4	14.36	-1725.36	3328.10	1.95	2.72	-100.66
G1+G2+Q+0.6V1+0.6D1	14.82	-1671.75	3325.28	1.85	2.69	-57.25
G1+G2+Q+0.6V2+0.6D2	14.74	-1698.82	3297.18	1.92	2.70	-88.53
G1+G2+Q+0.6V3+0.6D3	14.79	-1733.24	3309.51	1.89	2.68	-70.94
G1+G2+Q+0.6V4+0.6D4	14.77	-1637.33	3312.95	1.89	2.70	-74.84
G1+G2+Q+D1	14.84	-1662.82	3334.49	1.83	2.69	-46.94
G1+G2+Q+D2	14.72	-1707.75	3287.98	1.94	2.70	-98.84
G1+G2+Q+D3	14.79	-1763.43	3308.41	1.88	2.68	-69.63
G1+G2+Q+D4	14.76	-1607.14	3314.05	1.89	2.71	-76.16

Fundação B1-10						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	5.31	-1770.04	-29.56	-0.07	0.33	-4.82
Adicional (G2)	3.40	-6555.34	732.01	-0.30	4.64	285.70
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.42	398.07	-14.36	-0.02	0.16	14.76
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.05	0.15	0.00	0.00	0.05
Vento X- (V2)	0.00	0.05	-0.15	0.00	0.00	-0.05
Vento Y+ (V3)	0.00	-2.63	-0.02	0.00	0.00	0.00
Vento Y- (V4)	0.00	2.63	0.02	0.00	0.00	0.00
Desaprumo X+ (D1)	-0.06	-15.34	14.30	-0.04	0.01	1.42
Desaprumo X- (D2)	0.06	15.34	-14.30	0.04	-0.01	-1.42
Desaprumo Y+ (D3)	0.02	-148.98	-3.27	0.00	0.05	0.29
Desaprumo Y- (D4)	-0.02	148.98	3.27	0.00	-0.05	-0.29
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	8.95	-8062.09	706.79	-0.42	5.10	292.65
G1+G2+0.7Q+0.6V2+D2	9.06	-8031.35	678.00	-0.35	5.08	289.76
G1+G2+0.7Q+0.6V3+D3	9.02	-8197.28	689.11	-0.39	5.14	291.50
G1+G2+0.7Q+0.6V4+D4	8.99	-7896.16	695.67	-0.38	5.04	290.91
G1+G2+0.7Q+V1+0.6D1	8.97	-8055.98	701.13	-0.41	5.10	292.10
G1+G2+0.7Q+V2+0.6D2	9.04	-8037.47	683.66	-0.37	5.08	290.30
G1+G2+0.7Q+V3+0.6D3	9.02	-8138.74	690.41	-0.39	5.12	291.38
G1+G2+0.7Q+V4+0.6D4	9.00	-7954.70	694.37	-0.39	5.06	291.03
G1+G2+D1	8.65	-8340.71	716.75	-0.41	4.99	282.29
G1+G2+D2	8.77	-8310.03	688.14	-0.34	4.96	279.46
G1+G2+D3	8.73	-8474.35	699.18	-0.38	5.02	281.17
G1+G2+D4	8.69	-8176.40	705.71	-0.37	4.93	280.58
G1+G2+Q+0.6V1+0.6D1	9.10	-7936.53	696.76	-0.42	5.15	296.51
G1+G2+Q+0.6V2+0.6D2	9.17	-7918.06	679.41	-0.37	5.13	294.75
G1+G2+Q+0.6V3+0.6D3	9.14	-8018.27	686.11	-0.40	5.17	295.81
G1+G2+Q+0.6V4+0.6D4	9.12	-7836.33	690.06	-0.39	5.11	295.45

G1+G2+Q+D1	9.07	-7942.64	702.39	-0.43	5.15	297.05
G1+G2+Q+D2	9.19	-7911.96	673.78	-0.36	5.13	294.21
G1+G2+Q+D3	9.15	-8076.28	684.82	-0.40	5.19	295.93
G1+G2+Q+D4	9.11	-7778.32	691.35	-0.39	5.09	295.34

Fundação B15-16						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	8.14	945.77	-836.31	-0.17	-0.37	-104.94
Adicional (G2)	7.43	1763.10	2784.86	-4.12	-1.23	-39.42
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.08	422.58	-80.63	-0.22	-0.44	-94.07
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.64	1.02	0.00	0.00	0.00
Vento X- (V2)	0.00	-0.64	-1.02	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-1.27	-1.11	0.00	0.00	0.11
Vento Y- (V4)	0.00	1.27	1.11	0.00	0.00	-0.11
Desaprumo X+ (D1)	-0.01	90.34	137.47	-0.11	-0.03	14.51
Desaprumo X- (D2)	0.01	-90.34	-137.47	0.11	0.03	-14.51
Desaprumo Y+ (D3)	0.06	-77.18	-65.18	-0.03	-0.01	27.94
Desaprumo Y- (D4)	-0.06	77.18	65.18	0.03	0.01	-27.94
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	16.32	3095.40	2030.19	-4.56	-1.94	-195.71
G1+G2+0.7Q+0.6V2+D2	16.34	2913.95	1754.03	-4.33	-1.88	-224.72
G1+G2+0.7Q+0.6V3+D3	16.39	2926.73	1826.27	-4.48	-1.91	-182.20
G1+G2+0.7Q+0.6V4+D4	16.27	3082.62	1957.96	-4.41	-1.90	-238.22
G1+G2+0.7Q+V1+0.6D1	16.33	3059.51	1975.61	-4.51	-1.92	-201.51
G1+G2+0.7Q+V2+0.6D2	16.34	2949.84	1808.61	-4.38	-1.89	-218.91
G1+G2+0.7Q+V3+0.6D3	16.37	2957.09	1851.90	-4.47	-1.91	-193.33
G1+G2+0.7Q+V4+0.6D4	16.30	3052.26	1932.33	-4.43	-1.91	-227.09
G1+G2+D1	15.56	2799.20	2086.02	-4.40	-1.63	-129.86
G1+G2+D2	15.58	2618.53	1811.08	-4.18	-1.57	-158.87
G1+G2+D3	15.63	2631.69	1883.38	-4.32	-1.61	-116.42
G1+G2+D4	15.52	2786.05	2013.73	-4.26	-1.59	-172.31
G1+G2+Q+0.6V1+0.6D1	16.65	3186.04	1951.02	-4.58	-2.06	-229.73
G1+G2+Q+0.6V2+0.6D2	16.66	3076.87	1784.83	-4.45	-2.03	-247.13
G1+G2+Q+0.6V3+0.6D3	16.69	3084.38	1828.16	-4.53	-2.04	-221.60
G1+G2+Q+0.6V4+0.6D4	16.62	3178.52	1907.70	-4.49	-2.04	-255.27
G1+G2+Q+D1	16.65	3221.79	2005.40	-4.63	-2.07	-223.93
G1+G2+Q+D2	16.67	3041.11	1730.46	-4.40	-2.02	-252.94
G1+G2+Q+D3	16.71	3054.27	1802.75	-4.55	-2.05	-210.49
G1+G2+Q+D4	16.60	3208.63	1933.10	-4.48	-2.04	-266.38

Fundação B17-18						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	7.57	760.01	1060.26	0.06	-0.29	106.02
Adicional (G2)	6.68	-5005.60	11167.46	1.96	0.72	-370.13
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.11	-8.91	87.18	0.01	0.00	-1.68
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.60	1.85	0.00	0.00	-0.05



Vento X- (V2)	0.00	0.60	-1.85	0.00	0.00	0.05
Vento Y+ (V3)	0.00	-2.23	0.54	0.00	0.00	-0.17
Vento Y- (V4)	0.00	2.23	-0.54	0.00	0.00	0.17
Desaprumo X+ (D1)	0.02	-80.10	262.08	0.00	0.01	-9.16
Desaprumo X- (D2)	-0.02	80.10	-262.08	0.00	-0.01	9.16
Desaprumo Y+ (D3)	0.05	-108.42	23.00	0.01	0.01	10.48
Desaprumo Y- (D4)	-0.05	108.42	-23.00	-0.01	-0.01	-10.48
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	14.35	-4332.28	12551.94	2.03	0.43	-274.48
G1+G2+0.7Q+0.6V2+D2	14.31	-4171.36	12025.56	2.03	0.42	-256.09
G1+G2+0.7Q+0.6V3+D3	14.38	-4361.57	12312.07	2.04	0.44	-254.91
G1+G2+0.7Q+0.6V4+D4	14.28	-4142.07	12265.43	2.02	0.42	-275.66
G1+G2+0.7Q+V1+0.6D1	14.34	-4300.48	12447.85	2.03	0.43	-270.83
G1+G2+0.7Q+V2+0.6D2	14.32	-4203.16	12129.66	2.03	0.42	-259.73
G1+G2+0.7Q+V3+0.6D3	14.36	-4319.10	12303.09	2.03	0.43	-259.17
G1+G2+0.7Q+V4+0.6D4	14.30	-4184.55	12274.42	2.02	0.42	-271.40
G1+G2+D1	14.27	-4325.69	12489.80	2.02	0.44	-273.27
G1+G2+D2	14.23	-4165.48	11965.65	2.02	0.42	-254.95
G1+G2+D3	14.30	-4354.00	12250.72	2.03	0.44	-253.63
G1+G2+D4	14.20	-4137.17	12204.73	2.01	0.42	-274.59
G1+G2+Q+0.6V1+0.6D1	14.37	-4302.91	12473.26	2.03	0.43	-271.31
G1+G2+Q+0.6V2+0.6D2	14.35	-4206.07	12156.55	2.03	0.42	-260.26
G1+G2+Q+0.6V3+0.6D3	14.39	-4320.88	12329.03	2.04	0.43	-259.60
G1+G2+Q+0.6V4+0.6D4	14.33	-4188.11	12300.79	2.02	0.42	-271.97
G1+G2+Q+D1	14.38	-4334.60	12576.99	2.03	0.43	-274.95
G1+G2+Q+D2	14.35	-4174.39	12052.83	2.03	0.42	-256.62
G1+G2+Q+D3	14.41	-4362.91	12337.90	2.04	0.44	-255.30
G1+G2+Q+D4	14.31	-4146.08	12291.91	2.02	0.42	-276.26

<b>Fundação B19-20</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	8.14	-1065.62	-821.67	-0.16	0.49	131.18
Adicional (G2)	3.64	-7929.30	6900.28	-0.80	3.76	769.11
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.08	-394.04	-81.23	-0.22	0.41	88.12
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.79	1.04	0.00	0.00	0.03
Vento X- (V2)	0.00	0.79	-1.04	0.00	0.00	-0.03
Vento Y+ (V3)	0.00	-1.18	1.00	0.00	0.00	0.08
Vento Y- (V4)	0.00	1.18	-1.00	0.00	0.00	-0.08
Desaprumo X+ (D1)	-0.01	-118.39	140.70	-0.08	0.05	-8.44
Desaprumo X- (D2)	0.01	118.39	-140.70	0.08	-0.05	8.44
Desaprumo Y+ (D3)	-0.06	-75.12	50.80	0.02	0.01	32.86
Desaprumo Y- (D4)	0.06	75.12	-50.80	-0.02	-0.01	-32.86
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	12.53	-9389.61	6163.06	-1.20	4.59	953.55
G1+G2+0.7Q+0.6V2+D2	12.54	-9151.88	5880.43	-1.03	4.48	970.39
G1+G2+0.7Q+0.6V3+D3	12.48	-9346.58	6073.14	-1.09	4.54	994.87
G1+G2+0.7Q+0.6V4+D4	12.59	-9194.92	5970.35	-1.14	4.52	929.07
G1+G2+0.7Q+V1+0.6D1	12.53	-9342.57	6107.20	-1.17	4.56	956.94
G1+G2+0.7Q+V2+0.6D2	12.54	-9198.92	5936.29	-1.07	4.50	967.00

G1+G2+0.7Q+V3+0.6D3	12.50	-9317.00	6053.22	-1.10	4.54	981.76
G1+G2+0.7Q+V4+0.6D4	12.57	-9224.50	5990.27	-1.13	4.53	942.18
G1+G2+D1	11.77	-9113.31	6219.30	-1.04	4.30	891.85
G1+G2+D2	11.78	-8876.53	5937.91	-0.88	4.19	908.72
G1+G2+D3	11.72	-9070.04	6129.40	-0.94	4.25	933.14
G1+G2+D4	11.84	-8919.80	6027.81	-0.98	4.24	867.43
G1+G2+Q+0.6V1+0.6D1	12.86	-9460.47	6082.42	-1.23	4.69	983.36
G1+G2+Q+0.6V2+0.6D2	12.86	-9317.45	5912.34	-1.13	4.62	993.45
G1+G2+Q+0.6V3+0.6D3	12.82	-9434.74	6028.46	-1.17	4.66	1008.17
G1+G2+Q+0.6V4+0.6D4	12.90	-9343.18	5966.30	-1.20	4.65	968.65
G1+G2+Q+D1	12.85	-9507.35	6138.07	-1.26	4.71	979.97
G1+G2+Q+D2	12.87	-9270.57	5856.68	-1.10	4.60	996.85
G1+G2+Q+D3	12.80	-9464.08	6048.18	-1.16	4.66	1021.26
G1+G2+Q+D4	12.92	-9313.83	5946.58	-1.20	4.65	955.55

Fundação B21-22						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	7.57	-760.73	1060.70	0.06	0.29	-106.05
Adicional (G2)	3.39	487.82	8543.66	1.16	1.38	-95.08
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.11	8.08	87.97	0.01	0.00	1.57
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.60	1.85	0.00	0.00	0.05
Vento X- (V2)	0.00	-0.60	-1.85	0.00	0.00	-0.05
Vento Y+ (V3)	0.00	-2.22	-0.55	0.00	0.00	-0.17
Vento Y- (V4)	0.00	2.22	0.55	0.00	0.00	0.17
Desaprumo X+ (D1)	0.01	73.16	241.69	0.00	0.00	8.90
Desaprumo X- (D2)	-0.01	-73.16	-241.69	0.00	0.00	-8.90
Desaprumo Y+ (D3)	-0.05	-97.89	-17.95	-0.01	0.01	6.76
Desaprumo Y- (D4)	0.05	97.89	17.95	0.01	-0.01	-6.76
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	11.05	-193.74	9908.74	1.23	1.67	-191.09
G1+G2+0.7Q+0.6V2+D2	11.03	-340.78	9423.14	1.22	1.68	-208.97
G1+G2+0.7Q+0.6V3+D3	10.99	-366.48	9647.65	1.21	1.69	-193.37
G1+G2+0.7Q+0.6V4+D4	11.09	-168.03	9684.23	1.23	1.66	-206.69
G1+G2+0.7Q+V1+0.6D1	11.04	-222.76	9812.81	1.23	1.67	-194.63
G1+G2+0.7Q+V2+0.6D2	11.03	-311.75	9519.07	1.22	1.68	-205.43
G1+G2+0.7Q+V3+0.6D3	11.01	-328.22	9654.62	1.22	1.69	-196.15
G1+G2+0.7Q+V4+0.6D4	11.07	-206.30	9677.26	1.23	1.67	-203.91
G1+G2+D1	10.97	-199.75	9846.05	1.22	1.67	-192.23
G1+G2+D2	10.95	-346.07	9362.67	1.21	1.68	-210.04
G1+G2+D3	10.91	-370.80	9586.41	1.21	1.69	-194.37
G1+G2+D4	11.01	-175.02	9622.32	1.22	1.66	-207.89
G1+G2+Q+0.6V1+0.6D1	11.08	-220.58	9838.46	1.23	1.68	-194.18
G1+G2+Q+0.6V2+0.6D2	11.06	-309.09	9546.21	1.22	1.68	-204.93
G1+G2+Q+0.6V3+0.6D3	11.04	-324.90	9681.23	1.22	1.69	-195.61
G1+G2+Q+0.6V4+0.6D4	11.10	-204.77	9703.43	1.23	1.67	-203.51
G1+G2+Q+D1	11.08	-191.68	9934.02	1.23	1.67	-190.65
G1+G2+Q+D2	11.06	-337.99	9450.64	1.22	1.68	-208.46
G1+G2+Q+D3	11.02	-362.72	9674.38	1.22	1.69	-192.80
G1+G2+Q+D4	11.12	-166.95	9710.29	1.23	1.67	-206.32

Fundação B27-28

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	5.49	1101.60	-0.02	-0.02	-0.24	-14.50
Adicional (G2)	3.33	-5694.29	2841.24	0.61	4.89	-461.57
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.38	-319.19	-23.63	-0.02	-0.20	-8.16
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.05	0.41	0.00	0.00	-0.07
Vento X- (V2)	0.00	-0.05	-0.41	0.00	0.00	0.07
Vento Y+ (V3)	0.00	-3.56	0.09	0.00	0.00	0.05
Vento Y- (V4)	0.00	3.56	-0.09	0.00	0.00	-0.05
Desaprumo X+ (D1)	-0.03	10.54	68.32	-0.02	0.01	-12.62
Desaprumo X- (D2)	0.03	-10.54	-68.32	0.02	-0.01	12.62
Desaprumo Y+ (D3)	-0.02	-197.21	9.06	0.01	0.09	4.87
Desaprumo Y- (D4)	0.02	197.21	-9.06	-0.01	-0.09	-4.87
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	9.06	-4805.56	2893.23	0.56	4.51	-494.45
G1+G2+0.7Q+0.6V2+D2	9.12	-4826.70	2756.11	0.60	4.50	-469.13
G1+G2+0.7Q+0.6V3+D3	9.07	-5015.48	2833.79	0.59	4.60	-476.89
G1+G2+0.7Q+0.6V4+D4	9.11	-4616.78	2815.55	0.57	4.42	-486.69
G1+G2+0.7Q+V1+0.6D1	9.07	-4809.75	2866.07	0.57	4.51	-489.43
G1+G2+0.7Q+V2+0.6D2	9.11	-4822.50	2783.27	0.59	4.51	-474.15
G1+G2+0.7Q+V3+0.6D3	9.08	-4938.01	2830.20	0.59	4.57	-478.82
G1+G2+0.7Q+V4+0.6D4	9.10	-4694.24	2819.14	0.57	4.45	-484.76
G1+G2+D1	8.80	-4582.16	2909.53	0.57	4.65	-488.69
G1+G2+D2	8.85	-4603.24	2772.90	0.61	4.64	-463.46
G1+G2+D3	8.80	-4789.91	2850.27	0.60	4.74	-471.21
G1+G2+D4	8.85	-4395.48	2832.15	0.58	4.56	-480.95
G1+G2+Q+0.6V1+0.6D1	9.19	-4905.53	2858.82	0.56	4.45	-491.85
G1+G2+Q+0.6V2+0.6D2	9.22	-4918.24	2776.34	0.59	4.45	-476.63
G1+G2+Q+0.6V3+0.6D3	9.19	-5032.35	2823.07	0.58	4.51	-481.29
G1+G2+Q+0.6V4+0.6D4	9.22	-4791.42	2812.09	0.57	4.39	-487.19
G1+G2+Q+D1	9.18	-4901.34	2885.90	0.55	4.46	-496.86
G1+G2+Q+D2	9.23	-4922.42	2749.26	0.60	4.44	-471.62
G1+G2+Q+D3	9.18	-5109.10	2826.64	0.59	4.54	-479.37
G1+G2+Q+D4	9.23	-4714.67	2808.52	0.56	4.36	-489.11

Fundação B35-36						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	7.06	45.75	1022.31	0.67	-0.38	119.38
Adicional (G2)	7.38	-5025.28	2863.80	1.51	2.70	-347.58
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.39	-117.56	-47.60	-0.09	0.01	-28.55
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.09	0.26	0.00	0.00	-0.11
Vento X- (V2)	0.00	0.09	-0.26	0.00	0.00	0.11
Vento Y+ (V3)	0.00	-1.77	-0.01	0.00	0.00	-0.03
Vento Y- (V4)	0.00	1.77	0.01	0.00	0.00	0.03
Desaprumo X+ (D1)	0.06	-19.45	39.22	-0.04	0.00	-25.54
Desaprumo X- (D2)	-0.06	19.45	-39.22	0.04	0.00	25.54
Desaprumo Y+ (D3)	-0.02	-75.77	-1.70	0.00	-0.02	1.91
Desaprumo Y- (D4)	0.02	75.77	1.70	0.00	0.02	-1.91
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00

Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	14.78	-5081.33	3892.18	2.07	2.33	-273.79
G1+G2+0.7Q+0.6V2+D2	14.66	-5042.33	3813.42	2.15	2.32	-222.58
G1+G2+0.7Q+0.6V3+D3	14.70	-5138.67	3851.10	2.11	2.31	-246.29
G1+G2+0.7Q+0.6V4+D4	14.73	-4984.99	3854.50	2.11	2.34	-250.07
G1+G2+0.7Q+V1+0.6D1	14.76	-5073.59	3876.59	2.08	2.33	-263.62
G1+G2+0.7Q+V2+0.6D2	14.68	-5050.07	3829.01	2.13	2.33	-232.75
G1+G2+0.7Q+V3+0.6D3	14.71	-5109.07	3851.77	2.11	2.32	-247.07
G1+G2+0.7Q+V4+0.6D4	14.73	-5014.59	3853.82	2.11	2.34	-249.30
G1+G2+D1	14.51	-4998.98	3925.34	2.13	2.33	-253.73
G1+G2+D2	14.38	-4960.09	3846.89	2.21	2.32	-202.66
G1+G2+D3	14.43	-5055.31	3884.42	2.17	2.30	-226.29
G1+G2+D4	14.46	-4903.76	3887.81	2.17	2.34	-230.11
G1+G2+Q+0.6V1+0.6D1	14.87	-5108.82	3862.21	2.06	2.33	-272.14
G1+G2+Q+0.6V2+0.6D2	14.80	-5085.38	3814.83	2.11	2.33	-241.36
G1+G2+Q+0.6V3+0.6D3	14.82	-5143.63	3837.49	2.08	2.32	-255.62
G1+G2+Q+0.6V4+0.6D4	14.84	-5050.57	3839.54	2.08	2.34	-257.88
G1+G2+Q+D1	14.90	-5116.54	3877.74	2.04	2.33	-282.28
G1+G2+Q+D2	14.77	-5077.65	3799.29	2.12	2.33	-231.21
G1+G2+Q+D3	14.82	-5172.87	3836.82	2.08	2.31	-254.84
G1+G2+Q+D4	14.85	-5021.32	3840.21	2.08	2.35	-258.66

Fundação BA1						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	1.39	37.31	94.33	0.13	-0.25	2.01
Adicional (G2)	1.64	-17.33	517.94	0.95	-1.44	41.09
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.57	-2.33	45.51	0.10	0.03	-0.59
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.05	0.16	0.00	0.00	0.01
Vento X- (V2)	0.00	-0.05	-0.16	0.00	0.00	-0.01
Vento Y+ (V3)	0.00	-0.16	-0.09	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.16	0.09	0.00	0.00	0.00
Desaprumo X+ (D1)	0.04	10.90	36.15	0.07	-0.07	1.51
Desaprumo X- (D2)	-0.04	-10.90	-36.15	-0.07	0.07	-1.51
Desaprumo Y+ (D3)	0.00	-11.51	-14.81	-0.03	0.02	-0.07
Desaprumo Y- (D4)	0.00	11.51	14.81	0.03	-0.02	0.07
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	3.47	29.28	680.38	1.21	-1.74	44.19
G1+G2+0.7Q+0.6V2+D2	3.39	7.43	607.89	1.07	-1.59	41.17
G1+G2+0.7Q+0.6V3+D3	3.43	6.75	629.27	1.11	-1.65	42.62
G1+G2+0.7Q+0.6V4+D4	3.43	29.95	659.00	1.17	-1.68	42.75
G1+G2+0.7Q+V1+0.6D1	3.46	24.93	665.98	1.19	-1.71	43.59
G1+G2+0.7Q+V2+0.6D2	3.41	11.77	622.29	1.10	-1.62	41.77
G1+G2+0.7Q+V3+0.6D3	3.43	11.29	635.15	1.13	-1.65	42.64
G1+G2+0.7Q+V4+0.6D4	3.43	25.41	653.11	1.16	-1.68	42.72
G1+G2+D1	3.07	30.88	648.42	1.15	-1.76	44.61
G1+G2+D2	2.99	9.08	576.13	1.01	-1.62	41.59
G1+G2+D3	3.04	8.47	597.47	1.05	-1.67	43.03
G1+G2+D4	3.03	31.49	627.08	1.11	-1.70	43.16
G1+G2+Q+0.6V1+0.6D1	3.63	24.22	679.57	1.22	-1.70	43.41
G1+G2+Q+0.6V2+0.6D2	3.58	11.09	636.00	1.13	-1.61	41.59
G1+G2+Q+0.6V3+0.6D3	3.60	10.65	648.84	1.16	-1.65	42.46

G1+G2+Q+0.6V4+0.6D4	3.60	24.65	666.73	1.19	-1.67	42.54
G1+G2+Q+D1	3.64	28.55	693.93	1.24	-1.73	44.01
G1+G2+Q+D2	3.56	6.75	621.64	1.10	-1.59	40.99
G1+G2+Q+D3	3.61	6.14	642.98	1.14	-1.64	42.44
G1+G2+Q+D4	3.60	29.16	672.59	1.20	-1.67	42.57

Fundação BA2						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	1.67	-9.15	26.08	-0.21	0.04	1.95
Adicional (G2)	-0.26	-405.82	737.51	1.89	0.49	-24.38
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.65	-1.47	22.79	-0.06	0.03	0.35
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.16	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.16	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.16	-0.01	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.16	0.01	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.48	35.33	0.07	-0.01	-0.42
Desaprumo X- (D2)	0.00	0.48	-35.33	-0.07	0.01	0.42
Desaprumo Y+ (D3)	-0.03	-13.35	-7.50	0.00	0.02	-0.33
Desaprumo Y- (D4)	0.03	13.35	7.50	0.00	-0.02	0.33
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	1.87	-416.47	814.98	1.70	0.54	-22.60
G1+G2+0.7Q+0.6V2+D2	1.86	-415.52	744.12	1.56	0.55	-21.76
G1+G2+0.7Q+0.6V3+D3	1.84	-429.44	772.04	1.63	0.57	-22.52
G1+G2+0.7Q+0.6V4+D4	1.90	-402.56	787.06	1.63	0.52	-21.85
G1+G2+0.7Q+V1+0.6D1	1.87	-416.29	800.91	1.67	0.54	-22.44
G1+G2+0.7Q+V2+0.6D2	1.86	-415.71	758.20	1.59	0.55	-21.93
G1+G2+0.7Q+V3+0.6D3	1.85	-424.16	775.04	1.63	0.56	-22.39
G1+G2+0.7Q+V4+0.6D4	1.88	-407.83	784.07	1.63	0.53	-21.98
G1+G2+D1	1.41	-415.45	798.93	1.75	0.52	-22.85
G1+G2+D2	1.41	-414.49	728.26	1.60	0.53	-22.01
G1+G2+D3	1.38	-428.32	756.10	1.67	0.55	-22.76
G1+G2+D4	1.44	-401.63	771.10	1.67	0.51	-22.10
G1+G2+Q+0.6V1+0.6D1	2.06	-416.72	807.68	1.65	0.55	-22.33
G1+G2+Q+0.6V2+0.6D2	2.06	-416.15	765.10	1.57	0.56	-21.82
G1+G2+Q+0.6V3+0.6D3	2.04	-424.54	781.88	1.61	0.57	-22.28
G1+G2+Q+0.6V4+0.6D4	2.08	-408.34	790.90	1.61	0.54	-21.87
G1+G2+Q+D1	2.06	-416.91	821.72	1.68	0.55	-22.50
G1+G2+Q+D2	2.06	-415.96	751.06	1.54	0.56	-21.66
G1+G2+Q+D3	2.03	-429.78	778.89	1.61	0.58	-22.41
G1+G2+Q+D4	2.09	-403.09	793.89	1.61	0.53	-21.74

Fundação BA3						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.13	-12.61	53.39	0.08	0.09	0.28
Adicional (G2)	0.01	-522.36	759.89	1.40	0.92	-21.32
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.82	-2.72	35.93	0.07	0.04	0.03
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00

Vento X+ (V1)	0.00	0.00	0.16	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.16	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.18	-0.04	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.18	0.04	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.92	36.53	0.06	0.00	-0.61
Desaprumo X- (D2)	0.00	0.92	-36.53	-0.06	0.00	0.61
Desaprumo Y+ (D3)	-0.03	-16.38	-8.89	-0.02	0.03	-0.09
Desaprumo Y- (D4)	0.03	16.38	8.89	0.02	-0.03	0.09
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	2.72	-537.80	875.05	1.59	1.03	-21.62
G1+G2+0.7Q+0.6V2+D2	2.72	-535.95	801.80	1.46	1.03	-20.40
G1+G2+0.7Q+0.6V3+D3	2.69	-553.36	829.51	1.51	1.06	-21.10
G1+G2+0.7Q+0.6V4+D4	2.75	-520.39	847.34	1.54	1.01	-20.92
G1+G2+0.7Q+V1+0.6D1	2.72	-537.43	860.51	1.56	1.03	-21.38
G1+G2+0.7Q+V2+0.6D2	2.72	-536.32	816.35	1.49	1.03	-20.65
G1+G2+0.7Q+V3+0.6D3	2.71	-546.88	833.05	1.52	1.05	-21.07
G1+G2+0.7Q+V4+0.6D4	2.74	-526.87	843.81	1.53	1.02	-20.96
G1+G2+D1	2.14	-535.89	849.80	1.54	1.01	-21.64
G1+G2+D2	2.14	-534.05	776.75	1.41	1.00	-20.43
G1+G2+D3	2.12	-551.35	804.39	1.46	1.03	-21.12
G1+G2+D4	2.17	-518.58	822.17	1.49	0.98	-20.94
G1+G2+Q+0.6V1+0.6D1	2.97	-538.24	871.22	1.59	1.05	-21.37
G1+G2+Q+0.6V2+0.6D2	2.97	-537.13	827.19	1.51	1.04	-20.64
G1+G2+Q+0.6V3+0.6D3	2.95	-547.62	843.85	1.54	1.06	-21.06
G1+G2+Q+0.6V4+0.6D4	2.98	-527.75	854.57	1.56	1.03	-20.95
G1+G2+Q+D1	2.97	-538.61	885.73	1.61	1.05	-21.61
G1+G2+Q+D2	2.97	-536.77	812.68	1.48	1.04	-20.40
G1+G2+Q+D3	2.94	-554.07	840.32	1.53	1.07	-21.10
G1+G2+Q+D4	2.99	-521.31	858.10	1.56	1.02	-20.91

<b>Fundação BA4</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	2.11	-12.40	15.35	0.03	0.09	0.04
Adicional (G2)	0.00	-558.59	888.18	1.47	0.98	-21.04
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.82	-2.56	19.32	0.04	0.04	-0.03
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.16	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.16	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.18	0.00	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.18	0.00	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.34	35.19	0.06	0.00	-0.72
Desaprumo X- (D2)	0.00	0.34	-35.19	-0.06	0.00	0.72
Desaprumo Y+ (D3)	-0.03	-18.01	-2.45	-0.01	0.03	0.00
Desaprumo Y- (D4)	0.03	18.01	2.45	0.01	-0.03	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	2.68	-573.12	952.34	1.59	1.11	-21.74
G1+G2+0.7Q+0.6V2+D2	2.68	-572.44	881.78	1.47	1.11	-20.31
G1+G2+0.7Q+0.6V3+D3	2.66	-590.90	914.61	1.53	1.14	-21.02
G1+G2+0.7Q+0.6V4+D4	2.71	-554.67	919.52	1.54	1.08	-21.03
G1+G2+0.7Q+V1+0.6D1	2.68	-572.99	938.33	1.57	1.11	-21.46

G1+G2+0.7Q+V2+0.6D2	2.68	-572.57	895.79	1.50	1.11	-20.59
G1+G2+0.7Q+V3+0.6D3	2.67	-583.77	915.59	1.53	1.12	-21.02
G1+G2+0.7Q+V4+0.6D4	2.70	-561.79	918.53	1.53	1.09	-21.03
G1+G2+D1	2.11	-571.33	938.72	1.56	1.08	-21.72
G1+G2+D2	2.11	-570.65	868.35	1.44	1.08	-20.29
G1+G2+D3	2.08	-589.00	901.08	1.50	1.11	-21.00
G1+G2+D4	2.14	-552.99	905.99	1.51	1.05	-21.01
G1+G2+Q+0.6V1+0.6D1	2.93	-573.75	944.06	1.58	1.12	-21.46
G1+G2+Q+0.6V2+0.6D2	2.93	-573.34	901.65	1.51	1.12	-20.60
G1+G2+Q+0.6V3+0.6D3	2.91	-584.46	921.38	1.54	1.14	-21.03
G1+G2+Q+0.6V4+0.6D4	2.94	-562.63	924.33	1.55	1.10	-21.03
G1+G2+Q+D1	2.93	-573.89	958.05	1.60	1.12	-21.75
G1+G2+Q+D2	2.93	-573.21	887.67	1.48	1.12	-20.32
G1+G2+Q+D3	2.90	-591.55	920.40	1.54	1.15	-21.03
G1+G2+Q+D4	2.95	-555.54	925.31	1.55	1.09	-21.03

Fundação BA5						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.12	-11.47	-20.31	-0.01	0.09	-0.13
Adicional (G2)	0.02	-534.11	987.08	1.58	0.94	-21.75
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.82	-2.45	3.08	0.01	0.04	-0.08
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.14	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.14	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.18	0.05	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.18	-0.05	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.16	32.07	0.05	0.00	-0.83
Desaprumo X- (D2)	0.00	0.16	-32.07	-0.05	0.00	0.83
Desaprumo Y+ (D3)	-0.03	-17.52	4.36	0.01	0.03	0.07
Desaprumo Y- (D4)	0.03	17.52	-4.36	-0.01	-0.03	-0.07
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	2.71	-547.45	1001.08	1.64	1.06	-22.78
G1+G2+0.7Q+0.6V2+D2	2.71	-547.13	936.78	1.53	1.06	-21.11
G1+G2+0.7Q+0.6V3+D3	2.68	-564.92	973.32	1.59	1.09	-21.87
G1+G2+0.7Q+0.6V4+D4	2.73	-529.66	964.53	1.58	1.03	-22.02
G1+G2+0.7Q+V1+0.6D1	2.71	-547.39	988.31	1.61	1.06	-22.44
G1+G2+0.7Q+V2+0.6D2	2.71	-547.19	949.55	1.55	1.06	-21.44
G1+G2+0.7Q+V3+0.6D3	2.69	-557.98	971.60	1.59	1.08	-21.90
G1+G2+0.7Q+V4+0.6D4	2.72	-536.60	966.26	1.58	1.05	-21.99
G1+G2+D1	2.13	-545.74	998.84	1.63	1.03	-22.72
G1+G2+D2	2.14	-545.42	934.70	1.52	1.03	-21.05
G1+G2+D3	2.11	-563.10	971.14	1.58	1.06	-21.81
G1+G2+D4	2.16	-528.06	962.41	1.57	1.00	-21.96
G1+G2+Q+0.6V1+0.6D1	2.95	-548.12	989.18	1.62	1.08	-22.47
G1+G2+Q+0.6V2+0.6D2	2.95	-547.93	950.53	1.55	1.08	-21.47
G1+G2+Q+0.6V3+0.6D3	2.94	-558.65	972.50	1.59	1.09	-21.92
G1+G2+Q+0.6V4+0.6D4	2.97	-537.41	967.20	1.58	1.06	-22.01
G1+G2+Q+D1	2.95	-548.19	1001.92	1.64	1.08	-22.80
G1+G2+Q+D2	2.95	-547.86	937.78	1.53	1.07	-21.13
G1+G2+Q+D3	2.93	-565.55	974.21	1.59	1.10	-21.89
G1+G2+Q+D4	2.98	-530.50	965.49	1.58	1.05	-22.04

<b>Fundação BA6</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	1.90	-8.22	-10.19	0.23	0.05	-1.05
Adicional (G2)	0.20	-472.37	917.30	1.21	0.91	-5.50
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.74	-0.89	0.04	0.09	0.02	-0.52
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.12	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.12	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.15	0.06	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.15	-0.06	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-1.00	27.31	0.05	0.00	-0.44
Desaprumo X- (D2)	0.00	1.00	-27.31	-0.05	0.00	0.44
Desaprumo Y+ (D3)	-0.02	-14.87	6.30	0.00	0.02	0.25
Desaprumo Y- (D4)	0.02	14.87	-6.30	0.00	-0.02	-0.25
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	2.62	-482.22	934.52	1.56	0.98	-7.35
G1+G2+0.7Q+0.6V2+D2	2.62	-480.22	879.76	1.46	0.97	-6.47
G1+G2+0.7Q+0.6V3+D3	2.60	-496.19	913.47	1.50	1.00	-6.66
G1+G2+0.7Q+0.6V4+D4	2.64	-466.25	900.80	1.51	0.95	-7.16
G1+G2+0.7Q+V1+0.6D1	2.62	-481.82	923.64	1.54	0.98	-7.18
G1+G2+0.7Q+V2+0.6D2	2.62	-480.61	890.63	1.48	0.97	-6.65
G1+G2+0.7Q+V3+0.6D3	2.61	-490.30	910.98	1.51	0.99	-6.76
G1+G2+0.7Q+V4+0.6D4	2.63	-472.14	903.30	1.51	0.96	-7.06
G1+G2+D1	2.10	-481.59	934.41	1.49	0.97	-6.98
G1+G2+D2	2.10	-479.59	879.80	1.40	0.96	-6.11
G1+G2+D3	2.08	-495.47	913.41	1.44	0.98	-6.30
G1+G2+D4	2.12	-465.72	900.80	1.45	0.94	-6.80
G1+G2+Q+0.6V1+0.6D1	2.84	-482.09	923.61	1.56	0.99	-7.33
G1+G2+Q+0.6V2+0.6D2	2.84	-480.88	890.69	1.51	0.98	-6.80
G1+G2+Q+0.6V3+0.6D3	2.83	-490.50	910.97	1.53	1.00	-6.92
G1+G2+Q+0.6V4+0.6D4	2.85	-472.47	903.34	1.54	0.97	-7.22
G1+G2+Q+D1	2.84	-482.49	934.46	1.58	0.99	-7.51
G1+G2+Q+D2	2.84	-480.49	879.84	1.49	0.98	-6.63
G1+G2+Q+D3	2.83	-496.36	913.45	1.53	1.01	-6.82
G1+G2+Q+D4	2.86	-466.61	900.85	1.54	0.96	-7.32

<b>Fundação BA7</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	1.59	-14.09	-60.34	-0.04	0.04	0.35
Adicional (G2)	-1.43	-285.47	1562.71	3.18	-0.35	75.71
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.78	-7.18	-32.56	-0.07	0.04	-0.93
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.13	0.00	0.00	0.00
Vento X- (V2)	0.00	0.01	-0.13	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.11	0.24	0.00	0.00	0.02
Vento Y- (V4)	0.00	0.11	-0.24	0.00	0.00	-0.02
Desaprumo X+ (D1)	-0.02	-1.80	29.44	0.05	0.00	0.39
Desaprumo X- (D2)	0.02	1.80	-29.44	-0.05	0.00	-0.39
Desaprumo Y+ (D3)	-0.04	-9.83	25.19	0.06	0.00	1.90
Desaprumo Y- (D4)	0.04	9.83	-25.19	-0.06	0.00	-1.90
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00



Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	0.69	-306.39	1509.10	3.14	-0.28	75.80
G1+G2+0.7Q+0.6V2+D2	0.73	-302.79	1450.06	3.03	-0.28	75.02
G1+G2+0.7Q+0.6V3+D3	0.67	-314.49	1504.91	3.15	-0.29	77.32
G1+G2+0.7Q+0.6V4+D4	0.75	-294.69	1454.24	3.02	-0.28	73.49
G1+G2+0.7Q+V1+0.6D1	0.69	-305.67	1497.37	3.12	-0.28	75.65
G1+G2+0.7Q+V2+0.6D2	0.72	-303.50	1461.78	3.05	-0.28	75.17
G1+G2+0.7Q+V3+0.6D3	0.68	-310.60	1494.93	3.12	-0.28	76.57
G1+G2+0.7Q+V4+0.6D4	0.73	-298.58	1464.22	3.05	-0.28	74.25
G1+G2+D1	0.14	-301.36	1531.81	3.19	-0.31	76.45
G1+G2+D2	0.19	-297.77	1472.93	3.09	-0.31	75.67
G1+G2+D3	0.12	-309.40	1527.56	3.20	-0.31	77.96
G1+G2+D4	0.21	-289.73	1477.18	3.08	-0.31	74.16
G1+G2+Q+0.6V1+0.6D1	0.93	-307.82	1487.55	3.09	-0.27	75.37
G1+G2+Q+0.6V2+0.6D2	0.95	-305.66	1452.06	3.03	-0.27	74.89
G1+G2+Q+0.6V3+0.6D3	0.92	-312.71	1485.07	3.10	-0.27	76.28
G1+G2+Q+0.6V4+0.6D4	0.97	-300.78	1454.55	3.03	-0.27	73.98
G1+G2+Q+D1	0.92	-308.54	1499.25	3.11	-0.27	75.52
G1+G2+Q+D2	0.96	-304.94	1440.37	3.01	-0.27	74.74
G1+G2+Q+D3	0.90	-316.58	1495.00	3.12	-0.27	77.03
G1+G2+Q+D4	0.98	-296.91	1444.61	3.00	-0.27	73.23

Fundação BA8						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	1.70	9.31	150.96	0.43	-0.08	1.26
Adicional (G2)	1.63	-335.19	1069.52	3.13	0.54	21.56
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.56	5.61	58.32	0.18	-0.04	1.25
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.10	0.00	0.00	0.00
Vento X- (V2)	0.00	0.01	-0.10	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.14	0.12	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.14	-0.12	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-1.35	26.22	0.08	0.00	0.65
Desaprumo X- (D2)	0.00	1.35	-26.22	-0.08	0.00	-0.65
Desaprumo Y+ (D3)	0.00	-10.98	16.19	0.05	0.02	-0.14
Desaprumo Y- (D4)	0.00	10.98	-16.19	-0.05	-0.02	0.14
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	3.72	-323.30	1287.58	3.76	0.44	24.34
G1+G2+0.7Q+0.6V2+D2	3.71	-320.60	1235.01	3.61	0.43	23.03
G1+G2+0.7Q+0.6V3+D3	3.71	-333.01	1277.56	3.73	0.45	23.54
G1+G2+0.7Q+0.6V4+D4	3.72	-310.88	1245.04	3.64	0.42	23.83
G1+G2+0.7Q+V1+0.6D1	3.72	-322.76	1277.14	3.73	0.44	24.08
G1+G2+0.7Q+V2+0.6D2	3.71	-321.13	1245.46	3.64	0.43	23.29
G1+G2+0.7Q+V3+0.6D3	3.71	-328.67	1271.13	3.72	0.45	23.60
G1+G2+0.7Q+V4+0.6D4	3.72	-315.22	1251.47	3.66	0.42	23.77
G1+G2+D1	3.33	-327.22	1246.70	3.63	0.46	23.46
G1+G2+D2	3.32	-324.53	1194.25	3.48	0.46	22.16
G1+G2+D3	3.32	-336.86	1236.66	3.60	0.48	22.67
G1+G2+D4	3.33	-314.90	1204.28	3.51	0.44	22.96
G1+G2+Q+0.6V1+0.6D1	3.88	-321.07	1294.59	3.79	0.43	24.45
G1+G2+Q+0.6V2+0.6D2	3.88	-319.45	1263.00	3.70	0.42	23.67

G1+G2+Q+0.6V3+0.6D3	3.88	-326.93	1288.58	3.77	0.44	23.97
G1+G2+Q+0.6V4+0.6D4	3.88	-313.59	1269.01	3.71	0.41	24.15
G1+G2+Q+D1	3.89	-321.61	1305.02	3.82	0.43	24.71
G1+G2+Q+D2	3.88	-318.92	1252.57	3.67	0.42	23.41
G1+G2+Q+D3	3.88	-331.24	1294.99	3.79	0.44	23.91
G1+G2+Q+D4	3.89	-309.28	1262.61	3.69	0.41	24.20

Fundação BA9						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.63	3.66	-39.39	-0.65	-0.06	-0.41
Adicional (G2)	2.79	-436.68	768.64	1.44	0.96	6.63
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.84	5.67	-5.40	-0.23	-0.03	0.18
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.01	0.11	0.00	0.00	0.00
Vento X- (V2)	0.00	0.01	-0.11	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.16	-0.01	0.00	0.00	-0.01
Vento Y- (V4)	0.00	0.16	0.01	0.00	0.00	0.01
Desaprumo X+ (D1)	0.01	-1.67	26.88	0.07	0.01	0.98
Desaprumo X- (D2)	-0.01	1.67	-26.88	-0.07	-0.01	-0.98
Desaprumo Y+ (D3)	0.04	-13.35	5.17	0.00	0.02	-0.43
Desaprumo Y- (D4)	-0.04	13.35	-5.17	0.00	-0.02	0.43
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	6.01	-430.72	752.42	0.69	0.88	7.34
G1+G2+0.7Q+0.6V2+D2	6.00	-427.37	698.53	0.55	0.87	5.37
G1+G2+0.7Q+0.6V3+D3	6.05	-442.50	730.64	0.62	0.90	5.92
G1+G2+0.7Q+0.6V4+D4	5.96	-415.60	720.32	0.63	0.85	6.78
G1+G2+0.7Q+V1+0.6D1	6.01	-430.06	741.72	0.66	0.88	6.94
G1+G2+0.7Q+V2+0.6D2	6.00	-428.04	709.24	0.58	0.87	5.76
G1+G2+0.7Q+V3+0.6D3	6.03	-437.22	728.57	0.62	0.89	6.09
G1+G2+0.7Q+V4+0.6D4	5.98	-420.88	722.39	0.62	0.86	6.61
G1+G2+D1	5.43	-434.69	756.14	0.85	0.90	7.20
G1+G2+D2	5.41	-431.35	702.37	0.71	0.89	5.24
G1+G2+D3	5.46	-446.37	734.42	0.78	0.92	5.79
G1+G2+D4	5.38	-419.66	724.09	0.79	0.88	6.65
G1+G2+Q+0.6V1+0.6D1	6.26	-428.35	740.05	0.60	0.87	7.00
G1+G2+Q+0.6V2+0.6D2	6.25	-426.34	707.67	0.51	0.86	5.81
G1+G2+Q+0.6V3+0.6D3	6.28	-435.45	726.95	0.55	0.88	6.15
G1+G2+Q+0.6V4+0.6D4	6.23	-419.24	720.76	0.56	0.85	6.67
G1+G2+Q+D1	6.26	-429.02	750.74	0.62	0.87	7.39
G1+G2+Q+D2	6.25	-425.68	696.98	0.48	0.86	5.42
G1+G2+Q+D3	6.30	-440.70	729.03	0.55	0.89	5.98
G1+G2+Q+D4	6.22	-413.99	718.69	0.56	0.84	6.83

Fundação BA10						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.49	8.61	50.76	-0.01	-0.11	0.30
Adicional (G2)	2.40	-515.14	995.30	2.16	0.99	36.15
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.13	9.40	30.44	0.03	-0.06	0.31

Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.13	0.00	0.00	0.01
Vento X- (V2)	0.00	0.00	-0.13	0.00	0.00	-0.01
Vento Y+ (V3)	0.00	-0.18	0.03	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.18	-0.03	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.56	31.68	0.07	0.00	1.45
Desaprumo X- (D2)	0.00	0.56	-31.68	-0.07	0.00	-1.45
Desaprumo Y+ (D3)	0.04	-16.85	6.98	0.01	0.03	-0.11
Desaprumo Y- (D4)	-0.04	16.85	-6.98	-0.01	-0.03	0.11
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	6.68	-500.51	1099.13	2.24	0.85	38.13
G1+G2+0.7Q+0.6V2+D2	6.68	-499.39	1035.61	2.09	0.85	35.22
G1+G2+0.7Q+0.6V3+D3	6.72	-516.91	1074.37	2.18	0.88	36.56
G1+G2+0.7Q+0.6V4+D4	6.64	-482.99	1060.37	2.15	0.82	36.79
G1+G2+0.7Q+V1+0.6D1	6.68	-500.28	1086.51	2.21	0.85	37.55
G1+G2+0.7Q+V2+0.6D2	6.68	-499.61	1048.23	2.12	0.85	35.80
G1+G2+0.7Q+V3+0.6D3	6.70	-510.24	1071.58	2.17	0.86	36.61
G1+G2+0.7Q+V4+0.6D4	6.65	-489.65	1063.15	2.16	0.83	36.74
G1+G2+D1	5.89	-507.08	1077.74	2.22	0.89	37.90
G1+G2+D2	5.89	-505.97	1014.38	2.08	0.89	35.01
G1+G2+D3	5.93	-523.38	1053.04	2.16	0.91	36.35
G1+G2+D4	5.85	-489.67	1039.07	2.13	0.86	36.57
G1+G2+Q+0.6V1+0.6D1	7.02	-497.46	1095.59	2.22	0.83	37.64
G1+G2+Q+0.6V2+0.6D2	7.02	-496.79	1057.41	2.13	0.83	35.90
G1+G2+Q+0.6V3+0.6D3	7.04	-507.35	1080.71	2.18	0.85	36.70
G1+G2+Q+0.6V4+0.6D4	6.99	-486.91	1072.30	2.17	0.81	36.84
G1+G2+Q+D1	7.02	-497.69	1108.18	2.24	0.83	38.22
G1+G2+Q+D2	7.02	-496.57	1044.82	2.10	0.83	35.32
G1+G2+Q+D3	7.06	-513.98	1083.48	2.19	0.86	36.66
G1+G2+Q+D4	6.98	-480.28	1069.52	2.16	0.80	36.88

<b>Fundação BA11</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	3.52	11.38	8.76	0.02	-0.13	1.29
Adicional (G2)	2.42	-567.34	823.51	1.83	1.08	39.66
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.15	10.93	16.55	0.04	-0.07	0.68
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.13	0.00	0.00	0.01
Vento X- (V2)	0.00	0.00	-0.13	0.00	0.00	-0.01
Vento Y+ (V3)	0.00	-0.19	-0.01	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.19	0.01	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.43	33.18	0.07	0.00	1.59
Desaprumo X- (D2)	0.00	0.43	-33.18	-0.07	0.00	-1.59
Desaprumo Y+ (D3)	0.04	-18.50	1.25	0.00	0.03	-0.04
Desaprumo Y- (D4)	-0.04	18.50	-1.25	0.00	-0.03	0.04
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	6.74	-548.74	877.12	1.95	0.90	43.02
G1+G2+0.7Q+0.6V2+D2	6.74	-547.88	810.61	1.81	0.90	39.83
G1+G2+0.7Q+0.6V3+D3	6.78	-566.93	845.11	1.88	0.93	41.38
G1+G2+0.7Q+0.6V4+D4	6.70	-529.70	842.62	1.88	0.87	41.47

G1+G2+0.7Q+V1+0.6D1	6.74	-548.57	863.90	1.92	0.90	42.38
G1+G2+0.7Q+V2+0.6D2	6.74	-548.05	823.83	1.83	0.90	40.46
G1+G2+0.7Q+V3+0.6D3	6.77	-559.60	844.60	1.88	0.92	41.39
G1+G2+0.7Q+V4+0.6D4	6.72	-537.02	843.12	1.88	0.88	41.45
G1+G2+D1	5.94	-556.39	865.45	1.92	0.95	42.54
G1+G2+D2	5.94	-555.53	799.10	1.78	0.94	39.36
G1+G2+D3	5.98	-574.46	833.53	1.85	0.98	40.90
G1+G2+D4	5.90	-537.46	831.03	1.85	0.92	40.99
G1+G2+Q+0.6V1+0.6D1	7.09	-545.29	868.81	1.93	0.88	42.59
G1+G2+Q+0.6V2+0.6D2	7.09	-544.77	828.84	1.85	0.88	40.67
G1+G2+Q+0.6V3+0.6D3	7.11	-556.25	849.57	1.89	0.90	41.60
G1+G2+Q+0.6V4+0.6D4	7.06	-533.82	848.09	1.89	0.86	41.66
G1+G2+Q+D1	7.09	-545.46	882.00	1.96	0.88	43.22
G1+G2+Q+D2	7.09	-544.60	815.65	1.82	0.88	40.04
G1+G2+Q+D3	7.13	-563.54	850.08	1.89	0.91	41.58
G1+G2+Q+D4	7.04	-526.53	847.58	1.89	0.85	41.67

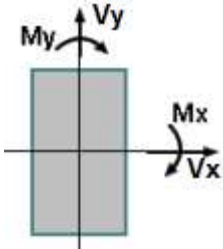
Fundação BA12						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.51	11.30	-58.25	-0.09	-0.13	1.66
Adicional (G2)	2.41	-555.66	532.10	1.23	1.05	43.83
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	1.15	10.28	-8.71	0.00	-0.06	0.78
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.12	0.00	0.00	0.01
Vento X- (V2)	0.00	0.00	-0.12	0.00	0.00	-0.01
Vento Y+ (V3)	0.00	-0.18	-0.06	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.18	0.06	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	-0.49	31.86	0.07	0.00	1.69
Desaprumo X- (D2)	0.00	0.49	-31.86	-0.07	0.00	-1.69
Desaprumo Y+ (D3)	0.04	-18.03	-5.30	-0.01	0.03	0.03
Desaprumo Y- (D4)	-0.04	18.03	5.30	0.01	-0.03	-0.03
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	6.73	-537.66	499.69	1.21	0.88	47.74
G1+G2+0.7Q+0.6V2+D2	6.73	-536.68	435.82	1.07	0.88	44.35
G1+G2+0.7Q+0.6V3+D3	6.77	-555.32	462.42	1.13	0.91	46.08
G1+G2+0.7Q+0.6V4+D4	6.69	-519.03	473.09	1.15	0.85	46.01
G1+G2+0.7Q+V1+0.6D1	6.73	-537.47	486.99	1.18	0.88	47.07
G1+G2+0.7Q+V2+0.6D2	6.73	-536.87	448.51	1.10	0.88	45.02
G1+G2+0.7Q+V3+0.6D3	6.75	-548.18	464.51	1.13	0.90	46.06
G1+G2+0.7Q+V4+0.6D4	6.70	-526.17	471.00	1.15	0.86	46.03
G1+G2+D1	5.93	-544.85	505.71	1.21	0.93	47.19
G1+G2+D2	5.93	-543.87	441.99	1.07	0.92	43.80
G1+G2+D3	5.97	-562.40	468.55	1.13	0.95	45.53
G1+G2+D4	5.88	-526.33	479.15	1.15	0.90	45.46
G1+G2+Q+0.6V1+0.6D1	7.07	-534.38	484.33	1.18	0.86	47.30
G1+G2+Q+0.6V2+0.6D2	7.07	-533.79	445.95	1.10	0.86	45.26
G1+G2+Q+0.6V3+0.6D3	7.10	-545.02	461.92	1.13	0.88	46.30
G1+G2+Q+0.6V4+0.6D4	7.05	-523.16	468.36	1.15	0.84	46.26
G1+G2+Q+D1	7.07	-534.58	497.00	1.21	0.86	47.97
G1+G2+Q+D2	7.07	-533.60	433.28	1.07	0.86	44.59
G1+G2+Q+D3	7.11	-552.12	459.84	1.13	0.89	46.31
G1+G2+Q+D4	7.03	-516.05	470.44	1.15	0.83	46.25

Fundação BA13						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.99	8.87	51.01	0.60	-0.06	0.81
Adicional (G2)	1.72	-324.51	370.49	1.38	0.45	34.55
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.95	6.47	27.15	0.25	-0.03	0.13
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.09	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.09	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.11	-0.04	0.00	0.00	0.00
Vento Y- (V4)	0.00	0.11	0.04	0.00	0.00	0.00
Desaprumo X+ (D1)	0.00	0.30	22.79	0.05	0.00	0.65
Desaprumo X- (D2)	0.00	-0.30	-22.79	-0.05	0.00	-0.65
Desaprumo Y+ (D3)	0.03	-11.05	-4.19	0.00	0.01	0.25
Desaprumo Y- (D4)	-0.03	11.05	4.19	0.00	-0.01	-0.25
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	5.37	-310.81	463.36	2.20	0.36	36.10
G1+G2+0.7Q+0.6V2+D2	5.38	-311.42	417.67	2.10	0.37	34.80
G1+G2+0.7Q+0.6V3+D3	5.40	-322.23	436.30	2.16	0.38	35.70
G1+G2+0.7Q+0.6V4+D4	5.35	-300.00	444.73	2.15	0.35	35.20
G1+G2+0.7Q+V1+0.6D1	5.37	-310.93	454.27	2.18	0.36	35.84
G1+G2+0.7Q+V2+0.6D2	5.38	-311.30	426.75	2.12	0.37	35.06
G1+G2+0.7Q+V3+0.6D3	5.39	-317.86	437.96	2.15	0.38	35.60
G1+G2+0.7Q+V4+0.6D4	5.36	-304.37	443.07	2.15	0.36	35.30
G1+G2+D1	4.71	-315.34	444.30	2.03	0.39	36.01
G1+G2+D2	4.72	-315.94	398.71	1.93	0.39	34.72
G1+G2+D3	4.74	-326.69	417.31	1.98	0.40	35.61
G1+G2+D4	4.69	-304.60	425.70	1.97	0.37	35.12
G1+G2+Q+0.6V1+0.6D1	5.66	-308.99	462.39	2.26	0.36	35.88
G1+G2+Q+0.6V2+0.6D2	5.66	-309.36	434.93	2.20	0.36	35.10
G1+G2+Q+0.6V3+0.6D3	5.68	-315.87	446.12	2.23	0.37	35.64
G1+G2+Q+0.6V4+0.6D4	5.64	-302.48	451.20	2.22	0.35	35.34
G1+G2+Q+D1	5.66	-308.87	471.45	2.28	0.35	36.14
G1+G2+Q+D2	5.66	-309.47	425.87	2.18	0.36	34.84
G1+G2+Q+D3	5.69	-320.22	444.47	2.23	0.37	35.74
G1+G2+Q+D4	5.63	-298.13	452.85	2.22	0.34	35.24

Fundação BA14						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	1.89	13.72	-112.37	-0.14	-0.06	0.58
Adicional (G2)	1.54	-398.81	-144.52	-0.45	0.93	-26.69
Solo (S)	0.00	0.00	0.00	0.00	0.00	0.00
Acidental (Q)	0.63	8.29	-39.41	-0.06	-0.03	0.19
Água (A)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.09	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	-0.09	0.00	0.00	0.00
Vento Y+ (V3)	0.00	-0.14	-0.17	0.00	0.00	-0.01
Vento Y- (V4)	0.00	0.14	0.17	0.00	0.00	0.01
Desaprumo X+ (D1)	0.00	0.23	22.52	0.05	0.00	0.56
Desaprumo X- (D2)	0.00	-0.23	-22.52	-0.05	0.00	-0.56
Desaprumo Y+ (D3)	0.03	-13.34	-18.55	-0.05	0.03	-0.85
Desaprumo Y- (D4)	-0.03	13.34	18.55	0.05	-0.03	0.85
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+0.7Q+0.6V1+D1	3.86	-379.06	-261.91	-0.58	0.84	-25.43
G1+G2+0.7Q+0.6V2+D2	3.87	-379.52	-307.05	-0.69	0.85	-26.54
G1+G2+0.7Q+0.6V3+D3	3.90	-392.71	-303.14	-0.68	0.88	-26.84
G1+G2+0.7Q+0.6V4+D4	3.83	-365.87	-265.83	-0.58	0.82	-25.13
G1+G2+0.7Q+V1+0.6D1	3.87	-379.15	-270.88	-0.60	0.84	-25.65
G1+G2+0.7Q+V2+0.6D2	3.87	-379.42	-298.08	-0.67	0.85	-26.32
G1+G2+0.7Q+V3+0.6D3	3.89	-387.43	-295.79	-0.66	0.86	-26.51
G1+G2+0.7Q+V4+0.6D4	3.85	-371.15	-273.18	-0.60	0.83	-25.47
G1+G2+D1	3.42	-384.86	-234.38	-0.54	0.87	-25.56
G1+G2+D2	3.43	-385.32	-279.41	-0.65	0.87	-26.67
G1+G2+D3	3.46	-398.43	-275.45	-0.64	0.90	-26.97
G1+G2+D4	3.39	-371.75	-238.35	-0.54	0.84	-25.27
G1+G2+Q+0.6V1+0.6D1	4.05	-376.66	-282.74	-0.62	0.83	-25.59
G1+G2+Q+0.6V2+0.6D2	4.06	-376.94	-309.87	-0.68	0.84	-26.26
G1+G2+Q+0.6V3+0.6D3	4.08	-384.89	-307.54	-0.68	0.85	-26.44
G1+G2+Q+0.6V4+0.6D4	4.04	-368.72	-285.07	-0.62	0.82	-25.41
G1+G2+Q+D1	4.05	-376.57	-273.79	-0.59	0.83	-25.37
G1+G2+Q+D2	4.06	-377.03	-318.82	-0.70	0.84	-26.49
G1+G2+Q+D3	4.09	-390.14	-314.86	-0.70	0.86	-26.78
G1+G2+Q+D4	4.02	-363.46	-277.76	-0.60	0.80	-25.08

Legenda	
	- Caso: indica o caso de carregamento no qual serão apresentados os esforços atuantes;
	- Elemento: nome da fundação;
	- N: esforço axial na fundação (inclui o peso próprio do bloco caso sua seção tenha sido definida no lançamento);
	- Mx: momento fletor na fundação, atuante em torno do eixo X global;
	- My: momento fletor na fundação, atuante em torno do eixo Y global;
	- Vx: esforço cortante na fundação, atuante no plano paralelo à direção X global;

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

	- $V_y$ : esforço cortante na fundação, atuante no plano paralelo à direção Y global;
	- $M_t$ : momento de torção atuante.

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

#### 4. Pavimento FUNDAÇÕES NV—60

##### a) Resultado dos Blocos

<b>FUNDAÇÕES NV--60</b>	fck = 400.00 kgf/cm <sup>2</sup>	E = 318758 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 4.50 cm	

Blocos	ne Estaca	LB LH (cm)	hb (cm)	Principal (cm <sup>2</sup> )		Estribo (cm <sup>2</sup> )		Superior (cm <sup>2</sup> )		As dist. (cm <sup>2</sup> )
				X	Y	Hor.	Vert.	X	Y	
B2	2 C40-18m	190.00 70.00	55.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B3	2 C40-18m	190.00 70.00	55.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B4	2 C40-18m	190.00 70.00	55.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B5	2 C40-18m	190.00 70.00	55.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B6	2 C40-18m	190.00 70.00	65.00	4.91 (4 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B8	1 C40-14M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B11	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B12	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B13	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B14	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B23	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B24	1 C40-17m	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B25	2 C40-14M	190.00 70.00	65.00	3.14 (4 ø 10.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B26	2 C40- PROF:11M	190.00 70.00	65.00	2.01 (4 ø 8.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B29	2 C40-18m	190.00 70.00	55.00	4.91 (4 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

B30	2 C40-18m	190.00 70.00	55.00	4.91 (4 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B31	2 C40-18m	190.00 70.00	55.00	4.91 (4 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B32	2 C40-18m	190.00 70.00	55.00	4.91 (4 ø 12.5)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B33	2 C40-18m	190.00 70.00	65.00	3.14 (4 ø 10.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B34	1 C40-14M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
B7-9	2 C40-18m	190.00 70.00	70.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
B1-10	3 C40-18m	275.83 238.87	110.00	8.04 (4 ø 16.0)	-	1.87 (6 ø 6.3)	-	6.03 (12 ø 8.0)	7.04 (14 ø 8.0)	1.77 (ø 8.0 c/20)
B15-16	2 C40-18m	190.00 70.00	70.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	2.01 (4 ø 8.0)	-	1.01 (ø 8.0 c/10)
B17-18	3 C40-18m	310.00 70.00	120.00	8.04 (4 ø 16.0)	-	2.18 (7 ø 6.3)	13.07 2x(13 ø 8.0)	10.05 (5 ø 16.0)	-	1.01 (ø 8.0 c/10)
B19-20	2 C40-18m	190.00 70.00		Erro D54	-	-	-	-	-	-
B21-22	3 C40-18m	310.00 70.00	120.00	4.91 (4 ø 12.5)	-	2.18 (7 ø 6.3)	13.07 2x(13 ø 8.0)	8.04 (4 ø 16.0)	-	1.01 (ø 8.0 c/10)
B27-28	2 C40-18m	190.00 70.00	70.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	4.91 (4 ø 12.5)	-	1.01 (ø 8.0 c/10)
B35-36	2 C40-18m	190.00 70.00	70.00	8.04 (4 ø 16.0)	-	1.56 (5 ø 6.3)	8.04 2x(8 ø 8.0)	3.14 (4 ø 10.0)	-	1.01 (ø 8.0 c/10)
BA1	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA2	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA3	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA4	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA5	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA6	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA7	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA8	2	190.00	65.00	3.14	-	1.56	8.04	2.01	-	1.01

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

	C40- PROF:11M	70.00		(4 ø 10.0)		(5 ø 6.3)	2x(8 ø 8.0)	(4 ø 8.0)		(ø 8.0 c/10)
BA9	1 C40-14M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA10	1 C40-14M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA11	1 C40-14M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA12	1 C40-14M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA13	1 C40-14M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-
BA14	1 C40- PROF:11M	70.00 70.00		-	-	1.56 (5 ø 6.3)	1.25 2x(2 ø 6.3)	-	-	-

b) Cálculo dos Pilares

<b>FUNDAÇÕES NV--60</b>	fck = 400.00 kgf/cm <sup>2</sup>	E = 318758 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 60.00	RR 20.07 RR 3.92	10.05 6.85	1539 1812	6163 7258	(*) 4.00	4.02 (2 ø 16.0) 12.06 (6 ø 16.0)
P2	20.00 X 60.00	EL 40.14 EL 13.38	17.27 12.04	3964 5883	4060 6024	1.02	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)
P3	20.00 X 60.00	RR 20.07 RR 6.69	17.29 12.03	3682 6027	3671 6007	1.00	1.57 (2 ø 10.0) 6.28 (8 ø 10.0)
P4	20.00 X 60.00	RR 20.07 RR 6.69	17.31 12.05	3685 6022	3675 6005	1.00	1.57 (2 ø 10.0) 6.28 (8 ø 10.0)
P5	20.00 X 60.00	RR 20.07 RR 6.69	17.11 11.91	3691 4860	3801 5004	1.03	1.57 (2 ø 10.0) 6.28 (8 ø 10.0)
P6	20.00 X 60.00	RR 20.07 RR 6.69	16.31 11.42	1481 4412	2558 7624	1.73	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P7	20.00 X 60.00	RR 20.07 RR 6.69	12.33 8.76	1755 1634	2492 2321	1.42	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P8	15.00 X 40.00	RR 5.07 RR 1.90	8.70 5.99	378 1648	952 4152	2.52	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P9	15.00 X 40.00	RR 15.69 RR 5.88	9.29 6.27	519 889	1284 2198	2.47	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P10	15.00 X 40.00	RR 15.69 RR 5.88	3.15 1.37	42 2560	65 3984	1.56	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P11	15.00 X 40.00	EL 42.44 RR 7.96	3.72 2.06	58 1177	199 4058	3.45	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P12	15.00 X 40.00	RR 14.30 RR 5.36	14.10 9.36	545 664	1515 1848	2.78	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P13	15.00 X 40.00	RR 14.30 RR 5.36	16.55 11.12	569 276	1785 868	3.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P14	15.00 X 40.00	RR 14.30 RR 5.36	5.73 3.89	81 1547	226 4330	2.80	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P15	20.00 X 60.00	EL 24.22 RR 4.04	0.00 -6.70	1154 5158	1182 5283	1.02	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P16	20.00 X 50.00	EL 24.22 EL 9.69	28.56 18.71	670 3672	1668 9137	2.49	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P17	20.00 X 50.00	EL 24.22 EL 9.69	0.00 -18.60	286 2868	295 2962	1.03	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P18	20.00 X 60.00	EL 24.22 RR 1.61	37.75 25.77	870 1975	3616 8206	4.16	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P19	20.00 X 60.00	EL 24.22 RR 4.04	0.00 -15.19	72 3690	89 4578	1.24	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P20	20.00 X 50.00	EL 24.22 EL 9.69	31.73 21.05	741 1682	2881 6538	3.89	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P21	20.00 X 50.00	EL 24.22 EL 9.69	0.00 -14.30	214 2745	304 3908	1.42	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P22	20.00 X 60.00	EL 24.22 RR 4.04	28.84 19.50	591 1730	3044 8919	5.16	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P23	15.00 X 40.00	RR 14.30 RR 5.36	6.62 4.53	147 1468	442 4414	3.01	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P24	15.00 X 40.00	RR 14.30 RR 5.36	13.32 8.80	546 113	1735 358	3.18	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P25	15.00 X 40.00	RR 14.30 RR 5.36	14.38 9.58	558 1286	1321 3046	2.37	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P26	15.00 X 40.00	EL 42.44 RR 7.96	5.56 3.41	95 1166	345 4228	3.62	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P27	20.00 X 60.00	RR 11.76 RR 3.92	6.91 4.09	790 1136	2355 3386	2.98	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

P28	20.00 X 60.00	RR 11.25 RR 3.92	5.96 3.79	3770 1836	3796 1848	1.01	2.45 (2 ø 12.5) 7.36 (6 ø 12.5)
P29	20.00 X 60.00	RR 126.46 RR 3.34	11.89 8.28	5709 6223	5679 6190	0.99	1.57 (2 ø 10.0) 11.00 (14 ø 10.0)
P30	20.00 X 60.00	RR 126.46 RR 3.34	12.65 8.80	5819 7059	5946 7212	1.02	1.57 (2 ø 10.0) 11.78 (15 ø 10.0)
P31	20.00 X 60.00	RR 126.46 RR 3.34	12.66 8.80	5816 7076	6697 8148	(*) 1.15	4.02 (2 ø 16.0) 14.07 (7 ø 16.0)
P32	20.00 X 60.00	RR 126.46 RR 3.34	12.60 8.77	5796 6877	5953 7064	1.03	1.57 (2 ø 10.0) 11.78 (15 ø 10.0)
P33	20.00 X 60.00	RR 18.34 RR 3.34	10.34 7.32	1805 5300	2290 6723	1.27	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P34	15.00 X 40.00	RR 5.07 RR 1.90	6.59 4.49	338 2231	632 4167	1.87	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P35	15.00 X 40.00	RR 15.69 RR 5.88	9.91 6.72	1481 292	1617 319	1.09	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P36	20.00 X 60.00	RR 20.07 RR 42.73	11.89 8.46	2323 3290	2729 3863	1.17	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA1	20.00 X 60.00	RR 10.03 RR 3.34	4.96 2.80	1385 25	2563 45	1.85	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA2	20.00 X 60.00	RR 10.03 RR 3.34	2.76 1.20	604 1056	2041 3569	3.38	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA3	20.00 X 60.00	RR 10.03 RR 3.34	3.98 1.93	779 1121	2156 3103	2.77	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA4	20.00 X 60.00	RR 10.03 RR 3.34	3.92 1.90	831 1260	2139 3242	2.57	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA5	20.00 X 60.00	RR 10.03 RR 3.34	3.96 1.93	795 1362	2106 3606	2.65	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA6	20.00 X 60.00	RR 10.03 RR 3.34	3.81 1.90	701 1280	2086 3809	2.98	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

PA7	20.00 X 60.00	RR 10.03 RR 3.34	1.31 -0.21	690 455	2114 1393	3.06	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA8	20.00 X 60.00	RR 10.03 RR 3.34	5.27 3.15	486 1716	1911 6757	3.94	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA9	20.00 X 60.00	RR 10.03 RR 3.34	8.56 5.19	647 1032	2410 3846	3.73	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA10	20.00 X 60.00	RR 10.03 RR 3.34	9.53 5.66	757 1469	2369 4599	3.13	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA11	20.00 X 60.00	RR 10.03 RR 3.34	9.63 5.71	829 1166	2491 3506	3.01	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA12	20.00 X 60.00	RR 10.03 RR 3.34	9.61 5.69	812 662	2636 2149	3.25	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA13	20.00 X 60.00	RR 11.76 RR 3.92	7.66 4.47	480 579	2431 2934	5.07	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA14	20.00 X 60.00	RR 11.76 RR 3.92	5.54 3.17	575 374	2445 1592	4.25	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

(\*) Quantidade de barras alterada pelo usuário (para mais)

c) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares

FUNDAÇÕES NV--60						
Pilares	Seção (cm)	N <sub>máx</sub> (tf)	N <sub>min</sub> (tf)	N <sub>perm</sub> (tf)	Taxa de compressão (bruta)	Taxa de compressão (homogeneizada)
P1	20x60	7.47	0.00	10.37	0.03	0.03
P2	20x60	12.57	0.00	17.19	0.05	0.05
P3	20x60	12.59	0.00	17.17	0.05	0.05
P4	20x60	12.61	0.00	17.19	0.05	0.05
P5	20x60	12.46	0.00	17.00	0.05	0.05
P6	20x60	11.90	0.00	16.33	0.05	0.05
P7	20x60	9.09	0.00	12.64	0.04	0.03
P8	15x40	5.38	0.00	7.11	0.04	0.04
P9	15x40	5.76	0.00	7.49	0.04	0.04
P10	15x40	1.96	0.00	1.82	0.01	0.01
P11	15x40	2.31	0.00	2.52	0.01	0.01
P12	15x40	8.74	0.00	11.08	0.06	0.06
P13	15x40	10.21	0.00	13.14	0.08	0.07
P14	15x40	3.57	0.00	4.71	0.03	0.03
P15	20x60	0.00	-4.49	0.00	0.00	0.00
P16	20x50	20.67	0.00	27.22	0.10	0.09
P17	20x50	0.00	-13.09	0.00	0.00	0.00
P18	20x60	27.30	0.00	37.30	0.11	0.10
P19	20x60	0.00	-10.55	0.00	0.00	0.00
P20	20x50	22.94	0.00	30.44	0.11	0.10
P21	20x50	0.00	-10.03	0.00	0.00	0.00
P22	20x60	20.94	0.00	28.44	0.08	0.08
P23	15x40	4.10	0.00	5.45	0.03	0.03
P24	15x40	8.28	0.00	10.43	0.06	0.06
P25	15x40	8.92	0.00	11.33	0.07	0.06
P26	15x40	3.41	0.00	4.14	0.02	0.02
P27	20x60	5.06	0.00	6.15	0.02	0.02
P28	20x60	4.52	0.00	6.20	0.02	0.02
P29	20x60	8.72	0.00	11.94	0.03	0.03
P30	20x60	9.28	0.00	12.66	0.04	0.03
P31	20x60	9.28	0.00	12.67	0.04	0.03
P32	20x60	9.24	0.00	12.62	0.04	0.03
P33	20x60	7.61	0.00	10.58	0.03	0.03
P34	15x40	4.13	0.00	5.38	0.03	0.03
P35	15x40	6.13	0.00	8.01	0.05	0.04
P36	20x60	8.77	0.00	12.21	0.04	0.03
PA1	20x60	3.64	0.00	4.24	0.01	0.01
PA2	20x60	2.09	0.00	1.98	0.01	0.01
PA3	20x60	2.99	0.00	3.00	0.01	0.01
PA4	20x60	2.95	0.00	2.95	0.01	0.01
PA5	20x60	2.98	0.00	2.99	0.01	0.01
PA6	20x60	2.86	0.00	2.94	0.01	0.01
PA7	20x60	0.98	-0.05	0.23	0.00	0.00
PA8	20x60	3.89	0.00	4.66	0.01	0.01
PA9	20x60	6.30	0.00	7.59	0.02	0.02
PA10	20x60	7.06	0.00	8.24	0.02	0.02
PA11	20x60	7.13	0.00	8.31	0.02	0.02
PA12	20x60	7.11	0.00	8.30	0.02	0.02
PA13	20x60	5.69	0.00	6.60	0.02	0.02
PA14	20x60	4.09	0.00	4.79	0.01	0.01

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

d) Vigas do pavimento FUNDAÇÕES NV--60

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	943.57	2 ø 10.0		-2044.26 -1654.95	2 ø 10.0 2 ø 10.0		Aviso 26
VB2	124.95	2 ø 10.0		-368.96	2 ø 10.0		
	115.50	2 ø 10.0		-349.09	2 ø 10.0		
	108.18	2 ø 10.0		-335.20	2 ø 10.0		
	232.50	2 ø 10.0		-699.57	2 ø 10.0		
	211.39	2 ø 10.0		-436.21	2 ø 10.0		
	212.90	2 ø 10.0		-690.25	2 ø 10.0		
	213.26	2 ø 10.0		-435.70	2 ø 10.0		
	211.80	2 ø 10.0		-698.64	2 ø 10.0		
	214.16	2 ø 10.0		-390.49	2 ø 10.0		
	194.50	2 ø 10.0		-655.01	2 ø 10.0		
	192.52	2 ø 10.0		-592.02	2 ø 10.0		
	234.69	2 ø 10.0		-39.34	2 ø 10.0		
VB3	761.96	2 ø 10.0		-564.68 -923.05	2 ø 10.0 2 ø 10.0		Aviso 26
VB4	906.62	2 ø 10.0		-903.00 -56.79	2 ø 10.0 2 ø 10.0		Aviso 26
VB5	340.67	2 ø 10.0	2 ø 10.0	-0.04	2 ø 10.0	2 ø 10.0	Aviso 02
VB6	506.72	2 ø 10.0	2 ø 10.0	-696.21	2 ø 10.0	2 ø 10.0	Avisos 26, 02
VB7	461.79	2 ø 10.0		-128.63	2 ø 10.0		Aviso 02
VB8	331.21	2 ø 10.0	2 ø 10.0	-545.53	2 ø 10.0	2 ø 10.0	Avisos 26, 02
VB9	905.46	2 ø 10.0		-894.50 -62.76	2 ø 10.0 2 ø 10.0		Aviso 26
VB10	761.01	2 ø 10.0		-536.43 -953.15	2 ø 10.0 2 ø 10.0		Aviso 26
VB11	1003.99	2 ø 12.5		-1698.58	2 ø 12.5		Avisos 26, 02, 48
	434.37	2 ø 12.5		-2247.22	2 ø 12.5		
	1663.10	2 ø 12.5		-3265.29	2 ø 12.5		
	1743.06	2 ø 12.5		-3503.58	2 ø 12.5		
	1748.08	2 ø 12.5		-3341.48	2 ø 12.5		
	1720.39	2 ø 12.5		-2823.87	2 ø 12.5		
	336.57	2 ø 12.5		-1028.26	2 ø 16.0	2 ø 10.0	
359.96	2 ø 12.5	2 ø 10.0	-47.46	2 ø 16.0	2 ø 10.0		
VB12	953.63	2 ø 10.0		-1797.55 -1879.82	2 ø 10.0 2 ø 10.0		Aviso 26
VB13	932.13 635.34	2 ø 10.0 2 ø 10.0	2 ø 10.0	-2194.74 -2552.75	2 ø 12.5 2 ø 10.0	2 ø 10.0	Aviso 26
VB14	0.00	Erro D1			Erro D1		
VB15	335.79	2 ø 10.0		-0.04 -1066.25	2 ø 10.0 2 ø 10.0		
VB16	854.36	2 ø 10.0		-81.62	2 ø 10.0		Avisos 26, 02
VB17	0.00	Erro D1			Erro D1		
VB18	717.25	2 ø 10.0		-46.34	2 ø 10.0		Avisos 26, 02
VB19	114.75	2 ø 10.0	2 ø 10.0	-1864.31	2 ø 10.0	2 ø 10.0	Aviso 26
VB20	718.66	2 ø 10.0		-50.03	2 ø 10.0		Avisos 26, 02
VB21	114.96	2 ø 10.0	2 ø 10.0	-1866.25	2 ø 10.0	2 ø 10.0	Aviso 26
VB22	693.06	2 ø 10.0		-41.53	2 ø 10.0		Avisos 26, 02
VB23	112.91	2 ø 10.0	2 ø 10.0	-1754.68	2 ø 10.0	2 ø 10.0	Aviso 26
VB24	1515.32	2 ø 10.0		-511.81	2 ø 10.0		Aviso 26
VB25	420.77	2 ø 12.5	2 ø 10.0	-0.04 -1329.95	2 ø 12.5 2 ø 12.5	2 ø 10.0	Avisos 26, 02, 48
VB26	359.45	2 ø 10.0		-286.03	2 ø 10.0		



	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

				-337.83	2 ø 10.0		
VB27	823.37	2 ø 10.0		-56.19	2 ø 10.0		Aviso 26
	298.74	2 ø 10.0		-1831.44	2 ø 10.0		
VB28	270.75	2 ø 10.0		-49.04	2 ø 10.0		Aviso 26
	923.75	2 ø 10.0		-1584.37	2 ø 10.0		
VB29	283.27	2 ø 10.0		-500.25	2 ø 10.0		Aviso 26
VB30	160.49	2 ø 10.0	2 ø 10.0	-2215.65	2 ø 10.0	2 ø 10.0	Aviso 26
	783.29	2 ø 10.0		-832.59	2 ø 10.0		
VB31	894.71	2 ø 10.0		-1271.54	2 ø 10.0		Aviso 26
	681.64	2 ø 10.0		-1733.53	2 ø 10.0		
				-748.31	2 ø 10.0		

## 5. Dados do Radier

<b>FUNDAÇÕES</b>	fck = 400.00	E = 318758	Peso Espec = 2500.00
<b>NV--60</b>	kgf/cm <sup>2</sup>	kgf/cm <sup>2</sup>	kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 4.50 cm	

Seção (cm)				Cargas (kgf/m <sup>2</sup> )				Temperatura Caso T1 Caso T2 (°C)	Retração Deform. X Deform. Y (%)
Radier	H	Elevação	Nível	Peso Próprio	Acidental Revestimento	Paredes Outras	Total		
R1	15	0.00	0.00	375.00	500.00 183.00	0.00 0.00	1058.00		

a) Cálculos do Radier

<b>FUNDAÇÕES NV--60</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 1</b>		$\text{cobr} = 4.50 \text{ cm}$	

ARMADURAS POSITIVAS (RADIER)												
Radier	Direção	Momento positivo				Momento negativo				Armadura inferior	Armadura superior	Cisalhamento
		Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)	Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)			
R1	X	$b_w = 100.0 \text{ cm}$ $h = 15.0 \text{ m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$M_d = 917 \text{ kgf. m/m}$ $A_s = 2.13 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$		$F_d = 11.79 \text{ tf}$ Situação: PE $A_s = 2.38 \text{ cm}^2/\text{m}$ $A's = 0.70 \text{ cm}^2/\text{m}$	$b_w = 100.0 \text{ cm}$ $h = 15.0 \text{ m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$M_d = 608 \text{ kgf. m/m}$ $A_s = 1.42 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$		$F_d = 11.79 \text{ tf}$ Situação: GE $A_s = 3.44 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$A_s = 2.38 \text{ cm}^2/\text{m}$ $\phi 8.0 \text{ c}/20$ (2.51 $\text{cm}^2/\text{m}$ ) $M = 138.99 \text{ kgf.m/m}$ $F = 7.02 \text{ tf}$ fiss = 0.05 mm		$v_{sd} = 1.18 \text{ tf/m}$ $v_{rd1} = 8.63 \text{ tf/m}$ Modelo I $v_{rd2} = 62.21 \text{ tf/m}$ $v_{sw} = 0.00 \text{ tf/m}$ $a_{sw} = 0.00 \text{ cm}^2/\text{m}$
	Y	$b_w = 100.0 \text{ cm}$ $h = 15.0 \text{ m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$M_d = 917 \text{ kgf. m/m}$ $A_s = 2.32 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$		$F_d = 2.72 \text{ tf}$ Situação: GE $A_s = 1.36 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$b_w = 100.0 \text{ cm}$ $h = 15.0 \text{ m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$M_d = 325 \text{ kgf. m/m}$ $A_s = 0.80 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$		$F_d = 2.72 \text{ tf}$ Situação: GE $A_s = 1.30 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$A_s = 2.32 \text{ cm}^2/\text{m}$ $\phi 8.0 \text{ c}/20$ (2.51 $\text{cm}^2/\text{m}$ ) $M = 205.25 \text{ kgf.m/m}$ $F = 1.62 \text{ tf}$ fiss = 0.02 mm		$v_{sd} = 5.50 \text{ tf/m}$ $v_{rd1} = 8.04 \text{ tf/m}$ $v_{rd2} = 57.02 \text{ tf/m}$ $v_{sw} = 0.00 \text{ tf/m}$ $a_{sw} = 0.00 \text{ cm}^2/\text{m}$

MALHA BASE SUPERIOR		
Laje	$A_{s,cal}$	$A_{s,ef}$
R1	$2.32 \text{ cm}^2/\text{m}$	$\phi 8.0 \text{ c}/10 \text{ cm} (5.03 \text{ cm}^2/\text{m})$

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## 6. Pavimento QUADRA-NV 00

### a) Cálculo dos Pilares

<b>QUADRA-NV 000</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 2</b>		$cobr = 3.00 \text{ cm}$	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 60.00	RR 20.07 RR 20.36	8.77 6.28	1811 5272	2215 6445	1.22	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P2	20.00 X 60.00	EL 112.45 EL 37.48	15.19 10.80	6138 7588	6147 7601	1.00	1.57 (2 ø 10.0) 11.78 (15 ø 10.0)
P3	20.00 X 60.00	RR 126.46 RR 42.15	14.96 10.66	6553 7438	6551 7436	1.00	1.57 (2 ø 10.0) 12.57 (16 ø 10.0)
P4	20.00 X 60.00	RR 108.13 RR 36.04	14.97 10.68	5813 7435	5799 7417	1.00	1.57 (2 ø 10.0) 11.00 (14 ø 10.0)
P5	20.00 X 60.00	RR 126.46 RR 36.04	14.89 10.62	6552 7543	6527 7515	1.00	1.57 (2 ø 10.0) 12.57 (16 ø 10.0)
P6	20.00 X 60.00	RR 108.13 RR 36.04	16.09 11.28	3385 7055	3416 7118	1.01	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P7	20.00 X 60.00	RR 108.13 RR 36.04	12.07 8.62	1867 3260	2288 3995	1.23	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P15	20.00 X 60.00	EL 124.56 RR 20.76	0.00 -9.38	660 3721	780 4394	1.18	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P17	20.00 X 50.00	EL 124.56 EL 49.82	0.00 -15.24	265 2328	308 2698	1.16	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P18	20.00 X 60.00	EL 124.56 RR 20.76	31.01 21.12	4723 1146	4796 1164	1.02	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P19	20.00 X 60.00	EL 114.18 RR 18.45	0.00 -16.13	341 3286	445 4290	1.31	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)

P20	20.00 X 50.00	EL 124.56 EL 49.82	27.35 18.68	4183 1653	4296 1697	1.03	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P21	20.00 X 50.00	EL 124.56 EL 49.82	0.00 -11.37	269 2368	514 4518	1.91	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P22	20.00 X 60.00	EL 124.56 RR 20.76	22.78 15.31	3490 2110	3672 2220	1.05	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P27	20.00 X 60.00	RR 8.30 EL 5.54	0.42 0.16	129 38	2212 649	17.20	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P29	20.00 X 60.00	RR 126.46 RR 2.77	12.27 8.73	6254 8064	6562 8462	1.05	2.45 (2 ø 12.5) 13.50 (11 ø 12.5)
P30	20.00 X 60.00	RR 126.46 RR 2.77	12.77 9.12	6302 8731	6508 9016	1.03	2.45 (2 ø 12.5) 13.50 (11 ø 12.5)
P31	20.00 X 60.00	RR 126.46 RR 2.77	12.79 9.13	6306 8733	6507 9012	1.03	2.45 (2 ø 12.5) 13.50 (11 ø 12.5)
P32	20.00 X 60.00	RR 126.46 RR 2.77	12.71 9.07	6297 8615	6512 8909	1.03	2.45 (2 ø 12.5) 13.50 (11 ø 12.5)
P33	20.00 X 60.00	RR 18.34 RR 38.81	12.01 8.56	1627 9253	1657 9424	1.02	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P35	15.00 X 40.00	RR 81.43 RR 30.53	4.84 3.07	572 1700	1005 2988	1.76	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
PA1	20.00 X 60.00	RR 8.30 RR 2.77	2.79 1.78	1787 322	1995 359	1.12	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA2	20.00 X 60.00	EL 16.61 RR 2.77	0.42 0.13	32 885	265 7390	8.35	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA3	20.00 X 60.00	EL 16.61 RR 2.77	0.96 0.54	19 372	392 7503	20.17	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA4	20.00 X 60.00	EL 16.61 RR 2.77	0.93 0.52	19 347	407 7493	21.60	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA5	20.00 X 60.00	EL 16.61 RR 2.77	0.95 0.53	11 331	251 7534	22.74	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

PA6	20.00 X 60.00	EL 16.61 RR 2.77	1.08 0.64	85 545	1123 7225	13.26	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA7	20.00 X 60.00	RR 8.30 RR 2.77	0.00 -2.51	2440 1113	2451 1118	1.00	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
PA8	20.00 X 60.00	EL 16.61 RR 2.77	0.84 0.48	34 684	370 7487	10.94	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA9	20.00 X 60.00	EL 16.61 RR 2.77	2.45 1.59	51 1017	397 7875	7.75	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA10	20.00 X 60.00	EL 16.61 RR 2.77	3.11 2.08	65 343	1406 7469	21.80	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA11	20.00 X 60.00	EL 16.61 RR 2.77	3.07 2.06	64 344	1384 7479	21.72	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA12	20.00 X 60.00	EL 16.61 RR 2.77	3.07 2.06	64 245	1802 6931	28.27	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA13	20.00 X 60.00	EL 16.61 RR 2.77	2.40 1.59	50 1167	340 7879	6.75	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
PA14	20.00 X 60.00	EL 16.61 RR 2.77	0.65 0.33	14 462	220 7474	16.18	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

b) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares

QUADRA-NV 000						
Pilares	Seção (cm)	Nmáx (tf)	Nmin (tf)	Nperm (tf)	Taxa de compressão (bruta)	Taxa de compressão (homogeneizada)
P1	20x60	6.56	0.00	9.11	0.03	0.03
P2	20x60	11.04	0.00	15.41	0.04	0.04
P3	20x60	10.88	0.00	15.20	0.04	0.04
P4	20x60	10.89	0.00	15.22	0.04	0.04
P5	20x60	10.83	0.00	15.13	0.04	0.04
P6	20x60	11.73	0.00	16.09	0.05	0.04
P7	20x60	8.88	0.00	12.35	0.04	0.03
P15	20x60	0.00	-6.46	0.00	0.00	0.00
P17	20x50	0.00	-10.72	0.00	0.00	0.00
P18	20x60	22.43	0.00	30.57	0.09	0.08
P19	20x60	0.00	-11.28	0.00	0.00	0.00
P20	20x50	19.74	0.00	27.05	0.09	0.09
P21	20x50	0.00	-7.95	0.00	0.00	0.00
P22	20x60	16.55	0.00	22.38	0.07	0.06
P27	20x60	0.32	0.00	0.44	0.00	0.00
P29	20x60	8.95	0.00	12.49	0.04	0.03
P30	20x60	9.32	0.00	13.02	0.04	0.03
P31	20x60	9.33	0.00	13.03	0.04	0.03
P32	20x60	9.27	0.00	12.95	0.04	0.03
P33	20x60	8.79	0.00	12.25	0.04	0.03
P35	15x40	3.04	0.00	3.71	0.02	0.02
PA1	20x60	2.03	0.00	2.78	0.01	0.01
PA2	20x60	0.35	0.00	0.43	0.00	0.00
PA3	20x60	0.75	0.00	1.00	0.00	0.00
PA4	20x60	0.73	0.00	0.97	0.00	0.00
PA5	20x60	0.74	0.00	0.99	0.00	0.00
PA6	20x60	0.83	0.00	1.12	0.00	0.00
PA7	20x60	0.00	-1.78	0.00	0.00	0.00
PA8	20x60	0.64	0.00	0.88	0.00	0.00
PA9	20x60	1.80	0.00	2.48	0.01	0.01
PA10	20x60	2.28	0.00	3.16	0.01	0.01
PA11	20x60	2.26	0.00	3.12	0.01	0.01
PA12	20x60	2.26	0.00	3.12	0.01	0.01
PA13	20x60	1.77	0.00	2.45	0.01	0.01
PA14	20x60	0.49	0.00	0.68	0.00	0.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

c) Vigas do pavimento QUADRA-NV 000

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V1	0.00	Erro D1			Erro D1		
V2	0.11 3220.48	2 ø 12.5 2 ø 10.0	2 ø 10.0	-135.01 -824.86 -4990.87	2 ø 12.5 2 ø 16.0 2 ø 12.5	2 ø 10.0 2 ø 10.0	Avisos 02, 19
V3	652.07 220.54 378.37 245.73 395.20 238.37 379.84 211.02 179.36	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0  2 ø 10.0  2 ø 10.0	-103.86 -144.77 -1021.72 -81.61 -1029.71 -51.26 -1032.90 -55.41 -993.18 -63.58 -414.27	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	Aviso 26
V4	659.18	2 ø 10.0	2 ø 10.0	-456.62	2 ø 10.0	2 ø 10.0	Avisos 26, 02
V5	986.17	2 ø 10.0		-538.73	2 ø 10.0		Avisos 26, 02
V6	934.55	2 ø 10.0	2 ø 10.0	-1300.07	2 ø 10.0	2 ø 10.0	Avisos 26, 02
V7	258.65	2 ø 10.0	2 ø 10.0	-82.73	2 ø 10.0	2 ø 10.0	Avisos 26, 02
V8	71.22 140.67 1139.60 985.26 983.67 998.10 127.20	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0  2 ø 10.0	-0.04 -279.60 -1400.46 -1630.86 -1652.03 -1618.99 -1492.92 -118.39	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	Aviso 26
V9	0.00	Erro D1			Erro D1		
V10	563.41	2 ø 10.0		-0.04 -1174.30	2 ø 10.0 2 ø 10.0		Aviso 26
V11	62.93	2 ø 10.0		-1830.31	2 ø 10.0		Aviso 26
V12	679.63	2 ø 10.0	2 ø 10.0				Avisos 26, 02
V13	0.00	Erro D1			Erro D1		
V14	95.73	2 ø 10.0	2 ø 10.0	-26.15	2 ø 10.0	2 ø 10.0	Aviso 26
V15	2.02	2 ø 10.0	2 ø 10.0	-2151.79	2 ø 10.0	2 ø 10.0	Aviso 26
V16	92.34	2 ø 10.0	2 ø 10.0	-29.34	2 ø 10.0	2 ø 10.0	Aviso 26
V17	2.06	2 ø 10.0	2 ø 10.0	-2157.37	2 ø 10.0	2 ø 10.0	Aviso 26
V18	138.41	2 ø 10.0	2 ø 10.0	-0.04	2 ø 10.0	2 ø 10.0	Aviso 26
V19	1.81	2 ø 10.0	2 ø 10.0	-2109.37	2 ø 10.0	2 ø 10.0	Aviso 26
V20	2380.22	2 ø 12.5	2 ø 12.5	-635.88	2 ø 12.5	2 ø 12.5	Aviso 26
V21	567.19	2 ø 10.0		-747.02	2 ø 10.0		Aviso 26

## 7. Pavimento TÉRREO NV 300

### a) Cálculo dos Pilares

<b>TÉRREO NV 300</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 3</b>		$\text{cobr} = 3.00 \text{ cm}$	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 60.00	RR 61.07 RR 20.36	9.37 6.01	4934 4167	5060 4274	1.03	1.57 (2 ø 10.0) 8.64 (11 ø 10.0)
P2	20.00 X 60.00	EL 105.53 EL 35.18	11.21 7.24	5829 9154	5860 9201	1.01	2.45 (2 ø 12.5) 11.04 (9 ø 12.5)
P3	20.00 X 60.00	RR 126.46 RR 42.15	11.10 7.16	4845 6483	4872 6518	1.01	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
P4	20.00 X 60.00	RR 108.13 RR 36.04	11.11 7.17	4408 9248	4455 9348	1.01	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
P5	20.00 X 60.00	RR 126.46 RR 36.04	11.08 7.15	4840 6520	4865 6554	1.01	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
P6	20.00 X 60.00	RR 108.13 RR 36.04	10.97 7.06	5876 9280	5844 9229	0.99	2.45 (2 ø 12.5) 11.04 (9 ø 12.5)
P7	20.00 X 60.00	RR 108.13 RR 36.04	8.92 5.63	5385 3433	5531 3526	1.03	1.57 (2 ø 10.0) 9.42 (12 ø 10.0)
P8	15.00 X 40.00	RR 81.43 RR 30.53	3.67 1.82	47 1695	113 4083	2.41	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P9	15.00 X 40.00	RR 81.43 RR 30.53	4.86 2.53	559 1725	994 3066	1.78	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P11	15.00 X 40.00	EL 136.09 RR 25.52	1.11 0.16	188 86	1193 548	6.34	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P12	15.00 X 40.00	RR 81.43 RR 30.53	8.18 4.52	628 772	1353 1664	2.16	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)



P13	15.00 X 40.00	RR 81.43 RR 30.53	10.01 5.22	1057 1063	1464 1472	1.39	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P14	15.00 X 40.00	RR 81.43 RR 30.53	2.69 1.18	140 395	960 2704	6.84	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P15	20.00 X 60.00	EL 124.56 RR 20.76	0.00 -7.76	911 2682	1001 2948	1.10	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P16	20.00 X 50.00	EL 124.56 EL 49.82	25.47 12.94	4534 3156	4686 3262	1.03	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P17	20.00 X 50.00	EL 124.56 EL 49.82	0.00 -12.26	496 3189	546 3508	1.10	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P18	20.00 X 60.00	EL 124.56 RR 20.76	25.23 16.53	4295 1228	4404 1259	1.03	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P19	20.00 X 60.00	EL 114.18 RR 18.45	0.00 -10.94	809 3879	935 4480	1.16	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P20	20.00 X 50.00	EL 124.56 EL 49.82	19.80 12.89	3403 3208	3559 3355	1.05	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P21	20.00 X 50.00	EL 124.56 EL 49.82	0.00 -10.97	518 2322	1036 4649	2.00	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P22	20.00 X 60.00	EL 124.56 RR 20.76	20.77 13.39	3351 1632	3601 1754	1.07	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P23	15.00 X 40.00	RR 81.43 RR 30.53	3.12 1.49	409 304	1238 920	3.03	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P24	15.00 X 40.00	RR 81.43 RR 30.53	7.81 4.26	581 2211	997 3792	1.72	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P25	15.00 X 40.00	RR 81.43 RR 30.53	8.89 4.42	1077 1549	1341 1929	1.25	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P26	15.00 X 40.00	EL 136.09 RR 25.52	1.65 0.55	258 714	936 2584	3.62	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P28	20.00 X 60.00	RR 61.07 RR 20.36	8.64 4.85	4217 3337	4225 3343	1.00	1.57 (2 ø 10.0) 7.07 (9 ø 10.0)

P29	20.00 X 60.00	RR 126.46 RR 36.04	11.13 7.18	4951 5830	4922 5795	0.99	1.57 (2 ø 10.0) 7.85 (10 ø 10.0)
P30	20.00 X 60.00	RR 126.46 RR 36.04	11.05 7.13	4927 5847	4912 5829	1.00	1.57 (2 ø 10.0) 7.85 (10 ø 10.0)
P31	20.00 X 60.00	RR 126.46 RR 36.04	11.06 7.13	4929 5844	4914 5825	1.00	1.57 (2 ø 10.0) 7.85 (10 ø 10.0)
P32	20.00 X 60.00	RR 126.46 RR 36.04	11.04 7.12	4928 5809	4917 5796	1.00	1.57 (2 ø 10.0) 7.85 (10 ø 10.0)
P33	20.00 X 60.00	RR 108.13 RR 38.81	10.93 7.03	5853 8028	6035 8278	1.03	1.57 (2 ø 10.0) 11.00 (14 ø 10.0)
P34	15.00 X 40.00	RR 81.43 RR 30.53	2.73 1.15	169 983	634 3676	3.74	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P35	15.00 X 40.00	RR 81.43 RR 30.53	4.73 2.53	120 2518	201 4234	1.68	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

b) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares

TÉRREO NV 300						
Pilares	Seção (cm)	N <sub>máx</sub> (tf)	N <sub>min</sub> (tf)	N <sub>perm</sub> (tf)	Taxa de compressão (bruta)	Taxa de compressão (homogeneizada)
P1	20x60	6.96	0.00	9.72	0.03	0.03
P2	20x60	8.16	0.00	11.42	0.03	0.03
P3	20x60	8.07	0.00	11.30	0.03	0.03
P4	20x60	8.08	0.00	11.32	0.03	0.03
P5	20x60	8.06	0.00	11.29	0.03	0.03
P6	20x60	7.99	0.00	11.18	0.03	0.03
P7	20x60	6.57	0.00	9.19	0.03	0.02
P8	15x40	2.32	0.00	2.90	0.02	0.02
P9	15x40	3.05	0.00	3.72	0.02	0.02
P11	15x40	0.71	0.00	0.97	0.01	0.01
P12	15x40	5.13	0.00	6.03	0.04	0.03
P13	15x40	6.23	0.00	7.56	0.04	0.04
P14	15x40	1.71	0.00	2.14	0.01	0.01
P15	20x60	0.00	-5.35	0.00	0.00	0.00
P16	20x50	18.40	0.00	25.13	0.09	0.08
P17	20x50	0.00	-8.65	0.00	0.00	0.00
P18	20x60	18.29	0.00	24.99	0.07	0.07
P19	20x60	0.00	-7.62	0.00	0.00	0.00
P20	20x50	14.30	0.00	19.63	0.07	0.06
P21	20x50	0.00	-7.73	0.00	0.00	0.00
P22	20x60	15.10	0.00	20.55	0.06	0.06
P23	15x40	1.96	0.00	2.49	0.01	0.01
P24	15x40	4.91	0.00	5.73	0.03	0.03
P25	15x40	5.56	0.00	6.62	0.04	0.04
P26	15x40	1.03	0.00	1.42	0.01	0.01
P28	20x60	6.45	0.00	9.01	0.03	0.02
P29	20x60	8.10	0.00	11.33	0.03	0.03
P30	20x60	8.04	0.00	11.26	0.03	0.03
P31	20x60	8.05	0.00	11.27	0.03	0.03
P32	20x60	8.03	0.00	11.25	0.03	0.03
P33	20x60	7.95	0.00	11.13	0.03	0.03
P34	15x40	1.76	0.00	2.12	0.01	0.01
P35	15x40	2.97	0.00	3.61	0.02	0.02

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

c) Vigas do pavimento TÉRREO NV 300

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V101	1373.37	2 ø 10.0		-1299.34 -1502.01	2 ø 10.0 2 ø 10.0		Avisos 26, 48
V102	2930.54	2 ø 10.0		-456.27 -810.37	2 ø 10.0 2 ø 10.0		
V103	1191.31	2 ø 10.0		-235.09 -68.09	2 ø 10.0 2 ø 10.0		Aviso 48
V104	964.43	2 ø 10.0		-1818.83	2 ø 10.0		Avisos 26, 02, 48
V105	2507.40	2 ø 10.0		-918.62	2 ø 10.0		Avisos 26, 02, 48
V106	1337.02	2 ø 10.0		-2937.80	2 ø 10.0		Avisos 26, 02, 48
V107	1151.08	2 ø 10.0		-374.05	2 ø 10.0		Avisos 26, 02, 48
V108	1218.57	2 ø 10.0		-147.19 -128.51	2 ø 10.0 2 ø 10.0		Aviso 48
V109	2929.65	2 ø 10.0		-430.42 -838.84	2 ø 10.0 2 ø 10.0		
V110	1411.94	2 ø 10.0		-687.92 -2010.38	2 ø 10.0 2 ø 10.0		Avisos 26, 48
V111	1162.30	2 ø 10.0	2 ø 10.0	-147.79 -3098.77	2 ø 10.0 2 ø 10.0	2 ø 10.0 2 ø 10.0	Avisos 26, 48
V112	0.00	Erro D1			Erro D1		
V113	1655.89	2 ø 10.0		-1732.42	2 ø 10.0		Avisos 26, 48
V114	180.85	2 ø 10.0		-630.79	2 ø 10.0		Avisos 26, 48
V115	103.00	2 ø 10.0		-36.44 -5.99	2 ø 10.0 2 ø 10.0		Avisos 26, 48
V116	987.19 219.78	2 ø 10.0 2 ø 10.0		-22.38 -1848.61 -287.69	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 48
V117	113.11 1136.02	2 ø 10.0 2 ø 10.0		-6.83 -1414.25 -44.17	2 ø 10.0 2 ø 10.0 2 ø 10.0		Aviso 48
V118	1545.31	2 ø 10.0		-1740.28	2 ø 10.0		Avisos 26, 48
V119	1079.26 276.39	2 ø 10.0 2 ø 10.0	2 ø 10.0	-0.04 -1592.93 -346.73 -2719.23	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 12.5	2 ø 10.0 2 ø 10.0	Aviso 48
V120	1218.59 965.49	2 ø 10.0 2 ø 10.0		-0.04 -2069.88 -396.18	2 ø 10.0 2 ø 10.0 2 ø 10.0		Avisos 26, 48

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

d) Dados das Lajes

<b>TÉRREO NV 300</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 3</b>		$cobr = 2.50 \text{ cm}$	

Laje	Tipo	Seção (cm)				Cargas (kgf/m <sup>2</sup> )				Temperatura Caso T1 Caso T2 (°C)	Retração Deform. X Deform. Y (%)
		H	ee ec	enx eny	eex eey	Peso Próprio	Acidental Revestimento	Paredes Outras	Total		
L101	Maciça	10				250.00	100.00 80.00	0.00 0.00	430.00		
L102	Maciça	10				250.00	100.00 80.00	0.00 0.00	430.00		
L103	Maciça	10				250.00	100.00 80.00	0.00 0.00	430.00		
L104	Maciça	10				250.00	100.00 80.00	0.00 0.00	430.00		

e) Cálculos das Lajes

<b>TÉRREO NV 300</b>	$f_{ck} = 400.00 \text{ kgf/cm}^2$	$E = 318758 \text{ kgf/cm}^2$	Peso Espec = $2500.00 \text{ kgf/m}^3$
<b>Lance 3</b>		$cobr = 2.50 \text{ cm}$	

ARMADURAS POSITIVAS (LAJE)							
Laje	Direção	Momento positivo	Flexão	Momento negativo	Flexão	Armadura inferior	Cisalhamento
		Seção		Seção			
L101	X	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 407 \text{ kgf.m/m}$ $As = 1.33 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$		$As = 1.33 \text{ cm}^2/\text{m}$ $\phi 6.3 \text{ c}/20$ ( $1.56 \text{ cm}^2/\text{m}$ ) $M = 261.94 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $fiss = 0.06 \text{ mm}$	$v_{sd} = 0.79 \text{ tf/m}$ $v_{rd1} = 6.20 \text{ tf/m}$ Modelo I $v_{rd2} = 43.32 \text{ tf/m}$ $v_{sw} = 0.00 \text{ tf/m}$ $asw = 0.00 \text{ cm}^2/\text{m}$
	Y	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 407 \text{ kgf.m/m}$ $As = 1.46 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 588 \text{ kgf.m/m}$ $As = 2.16 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$As = 1.46 \text{ cm}^2/\text{m}$ $\phi 6.3 \text{ c}/20$ ( $1.56 \text{ cm}^2/\text{m}$ ) $M = 256.79 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $fiss = 0.06 \text{ mm}$	$v_{sd} = 1.00 \text{ tf/m}$ $v_{rd1} = 5.71 \text{ tf/m}$ $v_{rd2} = 39.24 \text{ tf/m}$ $v_{sw} = 0.00 \text{ tf/m}$ $asw = 0.00 \text{ cm}^2/\text{m}$
L102	X	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 407 \text{ kgf.m/m}$ $As = 1.33 \text{ cm}^2/\text{m}$ $A's = 0.00 \text{ cm}^2/\text{m}$	$bw = 100.0 \text{ cm}$ $h = 10.0 \text{ cm}$	$Md = 517 \text{ kgf.m/m}$ $As = 1.71 \text{ cm}^2/\text{m}$	$As = 1.33 \text{ cm}^2/\text{m}$ $\phi 6.3 \text{ c}/20$ ( $1.56 \text{ cm}^2/\text{m}$ ) $M = 160.25 \text{ kgf.m/m}$ $F = 0.00 \text{ tf}$ $fiss = 0.02 \text{ mm}$	$v_{sd} = 0.88 \text{ tf/m}$ $v_{rd1} = 6.20 \text{ tf/m}$ Modelo I $v_{rd2} = 43.32 \text{ tf/m}$ $v_{sw} = 0.00 \text{ tf/m}$ $asw = 0.00 \text{ cm}^2/\text{m}$

					A's = 0.00 cm <sup>2</sup> /m		
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 110.79 kgf.m/m F = 0.00 tf fiss = 0.01 mm	vsd = 0.53 tf/m vrd1 = 5.71 tf/m vrd2 = 39.24 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L103	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 517 kgf.m/m As = 1.71 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 160.25 kgf.m/m F = 0.00 tf fiss = 0.02 mm	vsd = 0.88 tf/m vrd1 = 6.20 tf/m Modelo I vrd2 = 43.32 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 110.79 kgf.m/m F = 0.00 tf fiss = 0.01 mm	vsd = 0.53 tf/m vrd1 = 5.71 tf/m vrd2 = 39.24 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
L104	X	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.33 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm		As = 1.33 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 261.94 kgf.m/m F = 0.00 tf fiss = 0.06 mm	vsd = 0.79 tf/m vrd1 = 6.20 tf/m Modelo I vrd2 = 43.32 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 407 kgf.m/m As = 1.46 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	bw = 100.0 cm h = 10.0 cm	Md = 588 kgf.m/m As = 2.16 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m	As = 1.46 cm <sup>2</sup> /m ø6.3 c/20 (1.56 cm <sup>2</sup> /m) M = 256.79 kgf.m/m F = 0.00 tf fiss = 0.06 mm	vsd = 1.00 tf/m vrd1 = 5.71 tf/m vrd2 = 39.24 tf/m vsw = 0.00 tf/m asw = 0.00 cm <sup>2</sup> /m

ARMADURAS NEGATIVAS (NA CONTINUIDADE)										
Viga	Laje 1	Momento negativo				Momento positivo				Armaduras finais
		Seção	Flexão	Flexo Compr e-ssão	Flexo tração	Seção	Flexão	Flexo Compre-ssão	Flexo tração	
Trecho	Laje 2									
V102 1	L101 L102	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m As = 2.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			bw = 100.0 cm h = 10.0 cm				As = 2.02 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm
V109 1	L103 L104	bw = 100.0 cm h = 10.0 cm	Md = 608 kgf.m/m As = 2.02 cm <sup>2</sup> /m A's = 0.00 cm <sup>2</sup> /m			bw = 100.0 cm h = 10.0 cm				As = 2.02 cm <sup>2</sup> /m (ø8.0 c/20 - 2.51 cm <sup>2</sup> /m) fiss = 0.07 mm

## 8. Pavimento COBERTURA NV 620

### a) Cálculo dos Pilares

<b>COBERTURA NV 620</b>	fck = 400.00 kgf/cm <sup>2</sup>	E = 318758 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 4</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	20.00 X 60.00	RR 55.36 RR 18.45	6.39 3.71	2066 4807	2203 5127	1.07	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P2	20.00 X 60.00	EL 34.60 EL 11.53	10.02 6.28	3238 4896	3347 5060	1.03	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P3	20.00 X 60.00	RR 126.46 RR 42.15	9.91 6.20	3025 4905	3303 5356	1.09	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P4	20.00 X 60.00	RR 108.13 RR 36.04	9.92 6.21	3036 4905	3306 5341	1.09	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P5	20.00 X 60.00	RR 126.46 RR 36.04	9.89 6.19	3070 4903	3310 5287	1.08	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P6	20.00 X 60.00	RR 108.13 RR 36.04	9.79 6.10	3536 4890	3726 5154	1.05	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P7	20.00 X 60.00	RR 108.13 RR 36.04	7.73 4.67	2310 3879	2404 4036	1.04	1.57 (2 ø 10.0) 3.93 (5 ø 10.0)
P15	20.00 X 60.00	EL 114.18 RR 19.03	0.00 -1.75	614 460	1532 1148	2.49	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P16	20.00 X 50.00	EL 114.18 EL 45.67	9.08 5.54	2134 1937	2284 2073	1.07	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P17	20.00 X 50.00	EL 110.72 EL 44.29	0.00 -5.38	1004 2636	1149 3015	1.14	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P18	20.00 X 60.00	EL 114.18 RR 18.45	13.24 8.41	2352 880	3137 1174	1.33	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)

P19	20.00 X 60.00	EL 114.18 RR 18.45	0.09 -1.61	501 5057	704 7104	1.40	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P20	20.00 X 50.00	EL 110.72 EL 44.29	7.78 4.62	1692 2637	1973 3075	1.17	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P21	20.00 X 50.00	EL 110.72 EL 44.29	0.00 -6.54	1098 2374	1098 2372	1.00	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P22	20.00 X 60.00	EL 114.18 RR 18.45	12.98 8.23	2304 1403	2460 1498	1.07	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P28	20.00 X 60.00	RR 55.36 RR 18.45	5.72 3.23	1933 840	2132 927	1.10	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P29	20.00 X 60.00	RR 126.46 RR 36.04	9.94 6.22	3231 3921	3450 4187	1.07	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P30	20.00 X 60.00	RR 126.46 RR 36.04	9.86 6.17	3128 3930	3430 4310	1.10	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P31	20.00 X 60.00	RR 126.46 RR 36.04	9.87 6.17	3133 3930	3432 4305	1.10	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P32	20.00 X 60.00	RR 126.46 RR 36.04	9.85 6.16	3162 3927	3435 4266	1.09	1.57 (2 ø 10.0) 4.71 (6 ø 10.0)
P33	20.00 X 60.00	RR 108.13 RR 38.81	9.74 6.07	3600 3914	3851 4187	1.07	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P36	20.00 X 60.00	RR 108.13 RR 42.73	11.63 4.21	7147 2632	7102 2616	0.99	1.57 (2 ø 10.0) 11.78 (15 ø 10.0)



b) Quadro de Cargas e Taxa de Compressão Permanente nos Pilares

COBERTURA NV 620						
Pilares	Seção (cm)	Nmáx (tf)	Nmin (tf)	Nperm (tf)	Taxa de compressão (bruta)	Taxa de compressão (homogeneizada)
P1	20x60	4.70	0.00	6.57	0.02	0.02
P2	20x60	7.24	0.00	10.14	0.03	0.03
P3	20x60	7.16	0.00	10.02	0.03	0.03
P4	20x60	7.17	0.00	10.03	0.03	0.03
P5	20x60	7.15	0.00	10.00	0.03	0.03
P6	20x60	7.07	0.00	9.90	0.03	0.03
P7	20x60	5.66	0.00	7.91	0.02	0.02
P15	20x60	0.00	-1.18	0.00	0.00	0.00
P16	20x50	6.56	0.00	9.06	0.03	0.03
P17	20x50	0.00	-3.83	0.00	0.00	0.00
P18	20x60	9.61	0.00	13.32	0.04	0.04
P19	20x60	0.05	-1.09	0.00	0.00	0.00
P20	20x50	5.64	0.00	7.77	0.03	0.03
P21	20x50	0.00	-4.66	0.00	0.00	0.00
P22	20x60	9.42	0.00	13.07	0.04	0.04
P28	20x60	4.22	0.00	5.89	0.02	0.02
P29	20x60	7.18	0.00	10.05	0.03	0.03
P30	20x60	7.13	0.00	9.98	0.03	0.03
P31	20x60	7.14	0.00	9.99	0.03	0.03
P32	20x60	7.12	0.00	9.96	0.03	0.03
P33	20x60	7.04	0.00	9.85	0.03	0.03
P36	20x60	8.57	0.00	11.93	0.03	0.03

c) Vigas do pavimento COBERTURA NV 620

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V201	1274.67	2 ø 10.0		-1086.25	2 ø 10.0		Avisos 26, 02
V202	1061.98	2 ø 10.0	2 ø 10.0	-1312.91	2 ø 10.0	2 ø 10.0	Avisos 26, 02
V203	1322.51	2 ø 10.0		-1234.94	2 ø 10.0		Avisos 26, 02
V204	809.11	2 ø 10.0	2 ø 10.0	-1243.90	2 ø 10.0	2 ø 10.0	Avisos 26, 02
V205	0.00	Erro D1			Erro D1		
V206	0.00	Erro D1			Erro D1		
V207	971.40	2 ø 10.0		-1055.78	2 ø 10.0		Aviso 26
V208	1043.76	2 ø 10.0		-1229.89	2 ø 10.0		Aviso 26
V209	0.00	Erro D1			Erro D1		
V210	0.00	Erro D1			Erro D1		

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	<b>SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF</b>	<b>29/12/2022</b>

# MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO E FUNDAÇÕES CED QUADRA 04 AE 02 - ESTRUTURAL (RESERVATÓRIO ADASA)

**Autor do Projeto: Eng. Civil Dalmo Blanco Cinnanti**

**CREA: 7962/D-DF**

R01	29/12/2022	Versão inicial	DALMO CINNANTI
REVISÃO	DATA	DESCRIÇÃO	RESPONSÁVEL
<i>Nome do projeto</i>		<i>MEMÓRIA DE CÁLCULO – ESTRUTURA DE CONCRETO ARMADO – CED ESTRUTURAL QD. 04</i>	
<i>Número do projeto</i>		<i>314-SEEDF-CED-ESTRUTURAL QD. 04 - MEM-RESERVATÓRIO ADASA-EST-R00</i>	
<i>Local</i>		<i>Quadra 04 AE 02 - RA XXV - SCIA / ESTRUTURAL - Vila Estrutural - DF</i>	

## Sumário

1. Cargas verticais: .....	3
2. Deslocamento horizontal: .....	3
3. Verificação de estabilidade (Gama-Z):.....	3
4. Análise de 2ª ordem:.....	3
5. Deslocamentos Horizontais Devido à Ação do Vento.....	4
6. Análise da Não Linearidade Geométrica pelo Processo P-Delta.....	5
7. Relatório de Esforços nas Fundações por Elementos .....	7
8. Pavimento FUNDO .....	62
9. Resultado dos Blocos .....	62
10. Cálculo dos Pilares.....	100
11. Quadro de Cargas e Taxa de Compressão Permanente nos Pilares.....	101
12. Vigas do pavimento FUNDO .....	102
13. Pavimento TAMPA.....	102
14. Cálculo dos Pilares.....	102
15. Quadro de Cargas e Taxa de Compressão Permanente nos Pilares.....	104
16. Vigas do pavimento TAMPA.....	104

	CINNANTI ARQUITETURA E ENGENHARIA LTDA	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

## Memorial de cálculo

### Resumo de resultados

#### 1. Cargas verticais:

Peso próprio = 417.84 tf

Adicional = 15.16 tf

Solo = 241.50 tf

Acidental = 45.47 tf

Água = 563.19 tf

Total = 1283.16 tf

Área aproximada = 303.15 m<sup>2</sup>

Relação = 4232.82 kgf/m<sup>2</sup>

#### 2. Deslocamento horizontal:

X+ = 0.16 cm (limite 0.28)

X- = 0.16 cm (limite 0.28)

Y+ = 0.56 cm (limite 0.28)

Y- = 0.56 cm (limite 0.28)

#### 3. Verificação de estabilidade (Gama-Z):

Gama-Z tende ao infinito (estrutura instável)

#### 4. Análise de 2ª ordem:

Processo P-Delta

Deslocamentos no topo da edificação:

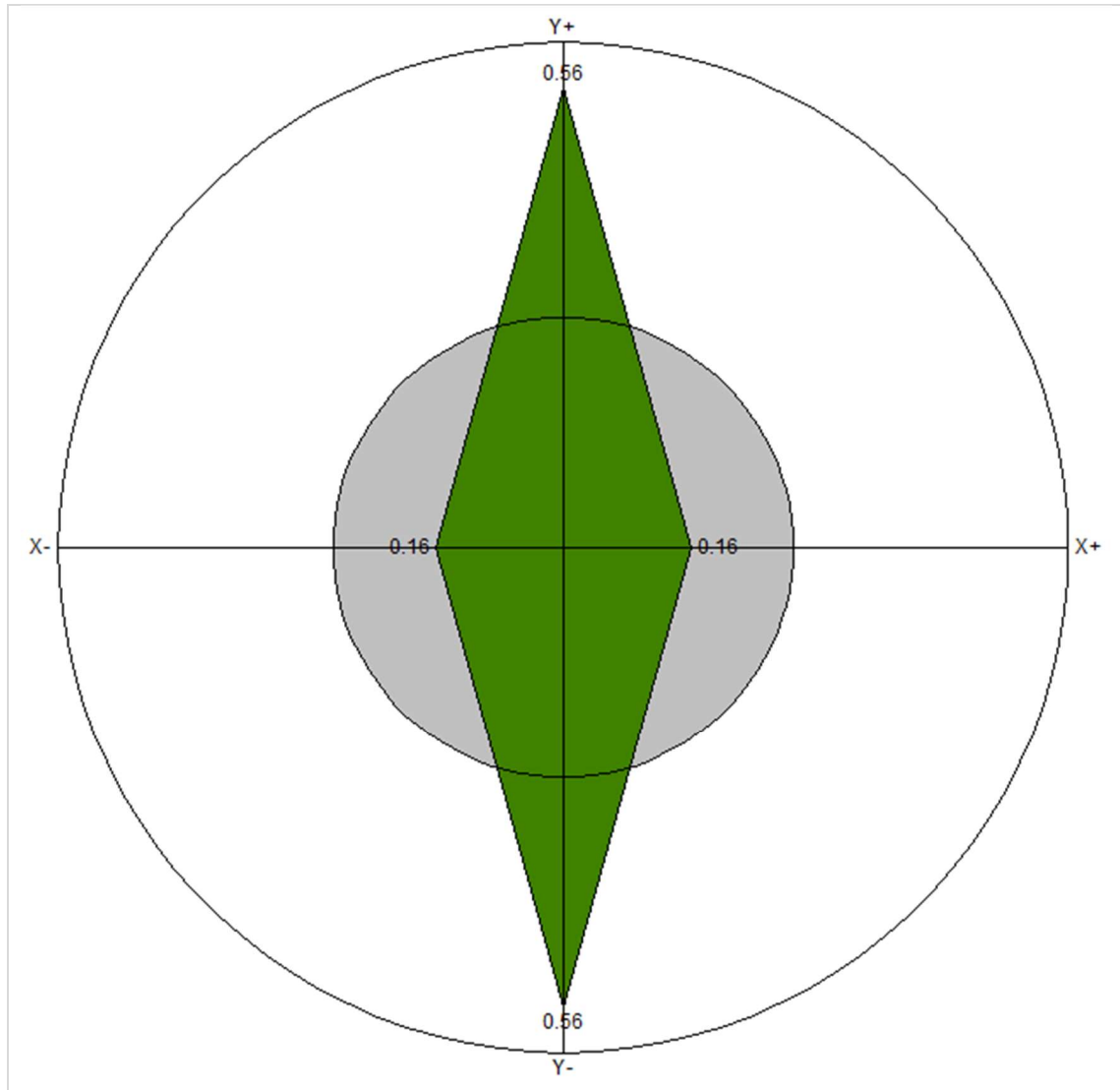
Vento X+: 0.52 »» 0.52 (+0.00%)

Vento X-: 0.52 »» 0.52 (+0.00%)

Vento Y+: 1.88 »» 1.88 (+0.00%)

Vento Y-: 1.88 »» 1.88 (+0.00%)

## 5. Deslocamentos Horizontais Devido à Ação do Vento



Verificações	X+	X-	Y+	Y-
Altura total da edificação (cm)	480.00			
Deslocamento limite (cm)	0.28			
Deslocamento característico (cm)	0.52	-0.52	1.88	-1.88
gf2	0.30	0.30	0.30	0.30
Deslocamento combinações frequentes (cm)	0.16	-0.16	0.56	-0.56

Pavimento	Altura (cm)	Deslocamento combinações frequentes (cm)				Diferença (cm)				Limite (cm)
		X+	X-	Y+	Y-	X+	X-	Y+	Y-	
TAMPA	420.00	0.16	-0.16	0.56	-0.56	0.00	0.00	0.00	0.00	0.49
FUNDO	60.00	0.16	-0.16	0.56	-0.56	0.16	-0.16	0.56	-0.56	0.07

## 6. Análise da Não Linearidade Geométrica pelo Processo P-Delta

Acidental								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FUNDO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Varição no deslocamento do topo da edificação: 0.03%

Água								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FUNDO	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00

Varição no deslocamento do topo da edificação: 0.02%

Vento X+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.52	0.00	0.52	0.00	0.75	0.00	0.77	0.00
FUNDO	0.52	0.00	0.52	0.00	0.18	0.00	2.89	0.00

Varição no deslocamento do topo da edificação: 0.00%

Vento X-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	-0.52	0.00	-0.52	0.00	-0.75	0.00	-0.77	0.00
FUNDO	-0.52	0.00	-0.52	0.00	-0.18	0.00	-2.89	0.00

Varição no deslocamento do topo da edificação: 0.00%

Vento Y+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	1.88	0.00	1.88	0.00	2.71	0.00	2.76
FUNDO	0.00	1.88	0.00	1.88	0.00	0.64	0.00	10.35

Varição no deslocamento do topo da edificação: 0.00%

Vento Y-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	-1.88	0.00	-1.88	0.00	-2.71	0.00	-2.76
FUNDO	0.00	-1.88	0.00	-1.88	0.00	-0.64	0.00	-10.35

Varição no deslocamento do topo da edificação: 0.00%

Desaprumo X+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	0.00	0.00	0.00	0.33	0.00	0.33	0.00
FUNDO	0.00	0.00	0.00	0.00	3.09	0.00	3.09	0.00

Varição no deslocamento do topo da edificação: 0.01%

Desaprumo X-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	0.00	0.00	0.00	-0.33	0.00	-0.33	0.00
FUNDO	0.00	0.00	0.00	0.00	-3.09	0.00	-3.09	0.00

Varição no deslocamento do topo da edificação: 0.01%

Desaprumo Y+								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.33
FUNDO	0.00	0.00	0.00	0.00	0.00	3.09	0.00	3.09

Varição no deslocamento do topo da edificação: 0.02%

Desaprumo Y-								
Pavimento	Deslocamentos horizontais médios (cm)				Esforço aplicado (tf)			
	1a. ordem		1a. + 2a. ordem		1a. ordem		1a. + 2a. ordem	
	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y	Eixo X	Eixo Y
TAMPA	0.00	0.00	0.00	0.00	0.00	-0.33	0.00	-0.33
FUNDO	0.00	0.00	0.00	0.00	0.00	-3.09	0.00	-3.09

Varição no deslocamento do topo da edificação: 0.02%

## 7. Relatório de Esforços nas Fundações por Elementos

Fundação B1						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	14.49	-243.91	177.62	0.00	0.00	-4.78
Adicional (G2)	0.29	-1.80	4.60	0.00	0.00	-0.02
Solo (S)	13.39	21.12	-1034.50	-5.26	0.00	152.34
Acidental (Q)	0.87	-5.40	13.80	0.00	0.00	-0.07
Água (A)	7.54	-111.72	50.72	0.00	0.00	27.37
Vento X+ (V1)	-0.02	-4.87	-10.05	0.03	0.00	-0.71
Vento X- (V2)	0.02	4.87	10.05	-0.03	0.00	0.71
Vento Y+ (V3)	0.39	109.90	5.73	0.00	0.09	-51.08
Vento Y- (V4)	-0.39	-109.90	-5.73	0.00	-0.09	51.08
Desaprumo X+ (D1)	-0.08	6.44	15.98	0.11	0.00	0.52
Desaprumo X- (D2)	0.08	-6.44	-15.98	-0.11	0.00	-0.52
Desaprumo Y+ (D3)	0.12	-33.41	0.94	0.00	0.11	-0.21
Desaprumo Y- (D4)	-0.12	33.41	-0.94	0.00	-0.11	0.21
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	28.68	-224.86	-832.66	-5.14	0.00	147.58
G1+G2+S+0.7Q+0.6V2+D2	28.86	-231.88	-852.57	-5.38	0.00	147.38
G1+G2+S+0.7Q+0.6V3+D3	29.13	-195.84	-838.25	-5.26	0.16	116.62
G1+G2+S+0.7Q+0.6V4+D4	28.42	-260.90	-846.99	-5.26	-0.16	178.34
G1+G2+S+0.7Q+A+0.6V1+0.6D1	36.25	-339.15	-788.34	-5.18	0.00	174.73
G1+G2+S+0.7Q+A+0.6V1+D1	36.22	-336.58	-781.94	-5.14	0.00	174.94
G1+G2+S+0.7Q+A+0.6V2+0.6D2	36.37	-341.03	-795.46	-5.34	0.00	174.96
G1+G2+S+0.7Q+A+0.6V2+D2	36.40	-343.60	-801.85	-5.38	0.00	174.75
G1+G2+S+0.7Q+A+0.6V3+0.6D3	36.62	-294.20	-787.90	-5.26	0.12	144.07
G1+G2+S+0.7Q+A+0.6V3+D3	36.67	-307.56	-787.52	-5.26	0.16	143.99
G1+G2+S+0.7Q+A+0.6V4+0.6D4	36.00	-385.99	-795.89	-5.26	-0.12	205.62
G1+G2+S+0.7Q+A+0.6V4+D4	35.96	-372.62	-796.27	-5.26	-0.16	205.70
G1+G2+S+0.7Q+A+D1	36.23	-333.65	-775.91	-5.15	0.00	175.37
G1+G2+S+0.7Q+A+D2	36.39	-346.53	-807.88	-5.37	0.00	174.32
G1+G2+S+0.7Q+A+D3	36.43	-373.50	-790.96	-5.26	0.11	174.64
G1+G2+S+0.7Q+A+D4	36.19	-306.68	-792.83	-5.26	-0.10	175.05
G1+G2+S+0.7Q+A+V1+0.6D1	36.24	-341.10	-792.35	-5.17	0.00	174.45
G1+G2+S+0.7Q+A+V2+0.6D2	36.38	-339.08	-791.44	-5.35	0.00	175.24
G1+G2+S+0.7Q+A+V3+0.6D3	36.77	-250.24	-785.61	-5.26	0.16	123.64
G1+G2+S+0.7Q+A+V4+0.6D4	35.85	-429.94	-798.19	-5.26	-0.15	226.05
G1+G2+S+0.7Q+V1+0.6D1	28.70	-229.38	-843.08	-5.17	0.00	147.08
G1+G2+S+0.7Q+V2+0.6D2	28.84	-227.36	-842.16	-5.35	0.00	147.87
G1+G2+S+0.7Q+V3+0.6D3	29.24	-138.51	-836.33	-5.26	0.16	96.27
G1+G2+S+0.7Q+V4+0.6D4	28.31	-318.22	-848.91	-5.26	-0.15	198.69
G1+G2+S+A+0.6V1+0.6D1	35.64	-335.37	-797.99	-5.18	0.00	174.79
G1+G2+S+A+0.6V1+D1	35.61	-332.80	-791.60	-5.14	0.00	175.00
G1+G2+S+A+0.6V2+0.6D2	35.76	-337.25	-805.12	-5.34	0.00	175.01
G1+G2+S+A+0.6V2+D2	35.79	-339.82	-811.51	-5.38	0.00	174.80
G1+G2+S+A+0.6V3+0.6D3	36.01	-290.42	-797.56	-5.26	0.12	144.12
G1+G2+S+A+0.6V3+D3	36.06	-303.78	-797.18	-5.26	0.16	144.04
G1+G2+S+A+0.6V4+0.6D4	35.40	-382.21	-805.55	-5.26	-0.12	205.67
G1+G2+S+A+0.6V4+D4	35.35	-368.84	-805.93	-5.26	-0.16	205.75
G1+G2+S+A+D1	35.63	-329.87	-785.57	-5.15	0.00	175.42
G1+G2+S+A+D2	35.78	-342.75	-817.54	-5.37	0.00	174.37



G1+G2+S+A+D3	35.82	-369.72	-800.62	-5.26	0.11	174.69
G1+G2+S+A+D4	35.58	-302.90	-802.49	-5.26	-0.10	175.11
G1+G2+S+A+V1+0.6D1	35.63	-337.32	-802.01	-5.17	0.00	174.50
G1+G2+S+A+V2+0.6D2	35.77	-335.30	-801.10	-5.35	0.00	175.29
G1+G2+S+A+V3+0.6D3	36.17	-246.46	-795.27	-5.26	0.16	123.69
G1+G2+S+A+V4+0.6D4	35.24	-426.17	-807.84	-5.26	-0.15	226.10
G1+G2+S+D1	28.09	-218.15	-836.30	-5.15	0.00	148.05
G1+G2+S+D2	28.24	-231.03	-868.26	-5.37	0.00	147.01
G1+G2+S+D3	28.28	-258.00	-851.34	-5.26	0.11	147.32
G1+G2+S+D4	28.05	-191.18	-853.22	-5.26	-0.10	147.74
G1+G2+S+Q+0.6V1+0.6D1	28.97	-229.05	-834.92	-5.18	0.00	147.35
G1+G2+S+Q+0.6V2+0.6D2	29.09	-230.92	-842.04	-5.34	0.00	147.57
G1+G2+S+Q+0.6V3+0.6D3	29.34	-184.09	-834.48	-5.26	0.12	116.68
G1+G2+S+Q+0.6V4+0.6D4	28.73	-275.88	-842.48	-5.26	-0.12	178.23
G1+G2+S+Q+A+0.6V1+0.6D1	36.51	-340.77	-784.20	-5.18	0.00	174.71
G1+G2+S+Q+A+0.6V2+0.6D2	36.63	-342.65	-791.32	-5.34	0.00	174.93
G1+G2+S+Q+A+0.6V3+0.6D3	36.88	-295.82	-783.76	-5.26	0.12	144.05
G1+G2+S+Q+A+0.6V4+0.6D4	36.26	-387.60	-791.75	-5.26	-0.12	205.60
G1+G2+S+Q+A+D1	36.49	-335.27	-771.77	-5.15	0.00	175.35
G1+G2+S+Q+A+D2	36.65	-348.15	-803.74	-5.37	0.00	174.30
G1+G2+S+Q+A+D3	36.69	-375.12	-786.82	-5.26	0.11	174.61
G1+G2+S+Q+A+D4	36.45	-308.30	-788.69	-5.26	-0.10	175.03
G1+G2+S+Q+D1	28.96	-223.55	-822.50	-5.15	0.00	147.98
G1+G2+S+Q+D2	29.11	-236.42	-854.46	-5.37	0.00	146.93
G1+G2+S+Q+D3	29.15	-263.40	-837.54	-5.26	0.11	147.25
G1+G2+S+Q+D4	28.92	-196.58	-839.42	-5.26	-0.10	147.66

Fundação B2						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	23.34	-850.21	15.29	0.00	0.00	-0.78
Adicional (G2)	0.68	-19.09	0.84	0.00	0.00	-0.08
Solo (S)	14.65	418.49	-852.26	-5.26	0.00	48.47
Acidental (Q)	2.04	-57.28	2.51	0.00	0.00	-0.24
Água (A)	19.63	-1075.66	54.54	0.00	0.00	-12.42
Vento X+ (V1)	-0.04	2.90	-10.13	0.03	0.00	-1.28
Vento X- (V2)	0.04	-2.90	10.13	-0.03	0.00	1.28
Vento Y+ (V3)	0.53	140.67	-1.83	0.00	0.09	-53.17
Vento Y- (V4)	-0.53	-140.67	1.83	0.00	-0.09	53.17
Desaprumo X+ (D1)	-0.01	0.58	28.16	0.21	0.00	0.56
Desaprumo X- (D2)	0.01	-0.58	-28.16	-0.21	0.00	-0.56
Desaprumo Y+ (D3)	0.13	-58.16	-0.49	0.00	0.21	0.13
Desaprumo Y- (D4)	-0.13	58.16	0.49	0.00	-0.21	-0.13
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	40.05	-488.59	-812.30	-5.04	0.00	47.24
G1+G2+S+0.7Q+0.6V2+D2	40.12	-493.23	-856.46	-5.48	0.00	47.66
G1+G2+S+0.7Q+0.6V3+D3	40.54	-464.67	-835.97	-5.26	0.26	15.67
G1+G2+S+0.7Q+0.6V4+D4	39.63	-517.15	-832.80	-5.26	-0.26	79.22
G1+G2+S+0.7Q+A+0.6V1+0.6D1	59.68	-1564.48	-769.03	-5.12	0.00	34.59
G1+G2+S+0.7Q+A+0.6V1+D1	59.68	-1564.25	-757.76	-5.04	0.00	34.81
G1+G2+S+0.7Q+A+0.6V2+0.6D2	59.75	-1568.65	-790.66	-5.40	0.00	35.46
G1+G2+S+0.7Q+A+0.6V2+D2	59.75	-1568.88	-801.92	-5.48	0.00	35.24
G1+G2+S+0.7Q+A+0.6V3+0.6D3	60.11	-1517.07	-781.23	-5.26	0.18	3.20
G1+G2+S+0.7Q+A+0.6V3+D3	60.17	-1540.33	-781.43	-5.26	0.27	3.25
G1+G2+S+0.7Q+A+0.6V4+0.6D4	59.31	-1616.07	-778.45	-5.26	-0.18	66.85

G1+G2+S+0.7Q+A+0.6V4+D4	59.26	-1592.81	-778.26	-5.26	-0.26	66.80
G1+G2+S+0.7Q+A+D1	59.70	-1565.99	-751.68	-5.05	0.00	35.58
G1+G2+S+0.7Q+A+D2	59.73	-1567.14	-808.00	-5.47	0.00	34.47
G1+G2+S+0.7Q+A+D3	59.85	-1624.73	-780.33	-5.26	0.21	35.15
G1+G2+S+0.7Q+A+D4	59.58	-1508.40	-779.35	-5.26	-0.21	34.90
G1+G2+S+0.7Q+A+V1+0.6D1	59.66	-1563.32	-773.08	-5.11	0.00	34.08
G1+G2+S+0.7Q+A+V2+0.6D2	59.77	-1569.81	-786.61	-5.41	0.00	35.98
G1+G2+S+0.7Q+A+V3+0.6D3	60.33	-1460.80	-781.96	-5.26	0.22	-18.06
G1+G2+S+0.7Q+A+V4+0.6D4	59.10	-1672.34	-777.72	-5.26	-0.22	88.12
G1+G2+S+0.7Q+V1+0.6D1	40.03	-487.66	-827.62	-5.11	0.00	46.50
G1+G2+S+0.7Q+V2+0.6D2	40.14	-494.16	-841.15	-5.41	0.00	48.40
G1+G2+S+0.7Q+V3+0.6D3	40.70	-385.14	-836.50	-5.26	0.22	-5.64
G1+G2+S+0.7Q+V4+0.6D4	39.47	-596.68	-832.26	-5.26	-0.22	100.54
G1+G2+S+A+0.6V1+0.6D1	58.25	-1524.38	-770.78	-5.12	0.00	34.76
G1+G2+S+A+0.6V1+D1	58.25	-1524.15	-759.52	-5.04	0.00	34.98
G1+G2+S+A+0.6V2+0.6D2	58.32	-1528.56	-792.41	-5.40	0.00	35.63
G1+G2+S+A+0.6V2+D2	58.33	-1528.79	-803.68	-5.48	0.00	35.41
G1+G2+S+A+0.6V3+0.6D3	58.69	-1476.97	-782.99	-5.26	0.18	3.37
G1+G2+S+A+0.6V3+D3	58.74	-1500.23	-783.18	-5.26	0.27	3.42
G1+G2+S+A+0.6V4+0.6D4	57.89	-1575.97	-780.21	-5.26	-0.18	67.02
G1+G2+S+A+0.6V4+D4	57.83	-1552.71	-780.02	-5.26	-0.26	66.97
G1+G2+S+A+D1	58.28	-1525.89	-753.44	-5.05	0.00	35.75
G1+G2+S+A+D2	58.30	-1527.05	-809.76	-5.47	0.00	34.64
G1+G2+S+A+D3	58.42	-1584.63	-782.09	-5.26	0.21	35.32
G1+G2+S+A+D4	58.15	-1468.31	-781.11	-5.26	-0.21	35.07
G1+G2+S+A+V1+0.6D1	58.24	-1523.22	-774.84	-5.11	0.00	34.25
G1+G2+S+A+V2+0.6D2	58.34	-1529.72	-788.36	-5.41	0.00	36.15
G1+G2+S+A+V3+0.6D3	58.90	-1420.70	-783.72	-5.26	0.22	-17.90
G1+G2+S+A+V4+0.6D4	57.67	-1632.24	-779.48	-5.26	-0.22	88.29
G1+G2+S+D1	38.65	-450.23	-807.98	-5.05	0.00	48.17
G1+G2+S+D2	38.67	-451.39	-864.30	-5.47	0.00	47.06
G1+G2+S+D3	38.79	-508.97	-836.63	-5.26	0.21	47.74
G1+G2+S+D4	38.53	-392.65	-835.65	-5.26	-0.21	47.49
G1+G2+S+Q+0.6V1+0.6D1	40.66	-506.01	-822.81	-5.12	0.00	46.94
G1+G2+S+Q+0.6V2+0.6D2	40.73	-510.18	-844.45	-5.40	0.00	47.81
G1+G2+S+Q+0.6V3+0.6D3	41.10	-458.59	-835.02	-5.26	0.18	15.55
G1+G2+S+Q+0.6V4+0.6D4	40.30	-557.60	-832.24	-5.26	-0.18	79.20
G1+G2+S+Q+A+0.6V1+0.6D1	60.29	-1581.67	-768.27	-5.12	0.00	34.52
G1+G2+S+Q+A+0.6V2+0.6D2	60.36	-1585.84	-789.91	-5.40	0.00	35.39
G1+G2+S+Q+A+0.6V3+0.6D3	60.73	-1534.25	-780.48	-5.26	0.18	3.13
G1+G2+S+Q+A+0.6V4+0.6D4	59.92	-1633.26	-777.70	-5.26	-0.18	66.78
G1+G2+S+Q+A+D1	60.31	-1583.18	-750.93	-5.05	0.00	35.51
G1+G2+S+Q+A+D2	60.34	-1584.33	-807.25	-5.47	0.00	34.40
G1+G2+S+Q+A+D3	60.46	-1641.92	-779.58	-5.26	0.21	35.08
G1+G2+S+Q+A+D4	60.19	-1525.59	-778.60	-5.26	-0.21	34.83
G1+G2+S+Q+D1	40.69	-507.52	-805.47	-5.05	0.00	47.93
G1+G2+S+Q+D2	40.71	-508.67	-861.79	-5.47	0.00	46.82
G1+G2+S+Q+D3	40.83	-566.26	-834.12	-5.26	0.21	47.50
G1+G2+S+Q+D4	40.56	-449.93	-833.14	-5.26	-0.21	47.25

Fundação B3						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	20.03	33.08	10.28	0.00	0.00	0.30
Adicional (G2)	0.57	-1.51	0.39	0.00	0.00	0.01
Solo (S)	10.18	2223.67	-1398.76	-5.26	0.00	50.29
Acidental (Q)	1.70	-4.55	1.18	0.00	0.00	0.04
Água (A)	17.60	-1494.51	5.55	0.00	0.00	0.51

Vento X+ (V1)	-0.03	0.08	8.30	0.03	0.00	-0.16
Vento X- (V2)	0.03	-0.08	-8.30	-0.03	0.00	0.16
Vento Y+ (V3)	-0.09	-16.73	-19.14	0.00	0.09	-54.94
Vento Y- (V4)	0.09	16.73	19.14	0.00	-0.09	54.94
Desaprumo X+ (D1)	0.00	-0.07	39.43	0.18	0.00	-0.13
Desaprumo X- (D2)	0.00	0.07	-39.43	-0.18	0.00	0.13
Desaprumo Y+ (D3)	0.01	-35.60	-3.33	0.00	0.18	0.10
Desaprumo Y- (D4)	-0.01	35.60	3.33	0.00	-0.18	-0.10
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	31.94	2252.04	-1342.86	-5.06	0.00	50.41
G1+G2+S+0.7Q+0.6V2+D2	31.98	2252.08	-1431.68	-5.46	0.00	50.86
G1+G2+S+0.7Q+0.6V3+D3	31.92	2206.42	-1402.08	-5.26	0.24	17.78
G1+G2+S+0.7Q+0.6V4+D4	32.00	2297.70	-1372.46	-5.26	-0.24	83.49
G1+G2+S+0.7Q+A+0.6V1+0.6D1	49.54	757.56	-1353.08	-5.13	0.00	50.97
G1+G2+S+0.7Q+A+0.6V1+D1	49.54	757.53	-1337.30	-5.06	0.00	50.92
G1+G2+S+0.7Q+A+0.6V2+0.6D2	49.58	757.55	-1410.35	-5.38	0.00	51.31
G1+G2+S+0.7Q+A+0.6V2+D2	49.58	757.57	-1426.13	-5.46	0.00	51.36
G1+G2+S+0.7Q+A+0.6V3+0.6D3	49.51	726.16	-1395.20	-5.26	0.17	18.24
G1+G2+S+0.7Q+A+0.6V3+D3	49.52	711.92	-1396.53	-5.26	0.24	18.28
G1+G2+S+0.7Q+A+0.6V4+0.6D4	49.61	788.95	-1368.23	-5.26	-0.16	84.04
G1+G2+S+0.7Q+A+0.6V4+D4	49.61	803.19	-1366.90	-5.26	-0.24	84.00
G1+G2+S+0.7Q+A+D1	49.56	757.49	-1342.28	-5.08	0.00	51.01
G1+G2+S+0.7Q+A+D2	49.57	757.62	-1421.15	-5.44	0.00	51.27
G1+G2+S+0.7Q+A+D3	49.57	721.95	-1385.05	-5.26	0.18	51.24
G1+G2+S+0.7Q+A+D4	49.55	793.16	-1378.38	-5.26	-0.18	51.04
G1+G2+S+0.7Q+A+V1+0.6D1	49.53	757.59	-1349.76	-5.12	0.00	50.91
G1+G2+S+0.7Q+A+V2+0.6D2	49.59	757.52	-1413.68	-5.39	0.00	51.37
G1+G2+S+0.7Q+A+V3+0.6D3	49.48	719.46	-1402.85	-5.26	0.20	-3.73
G1+G2+S+0.7Q+A+V4+0.6D4	49.65	795.65	-1360.58	-5.26	-0.20	106.01
G1+G2+S+0.7Q+V1+0.6D1	31.93	2252.10	-1355.31	-5.12	0.00	50.40
G1+G2+S+0.7Q+V2+0.6D2	31.99	2252.03	-1419.23	-5.39	0.00	50.87
G1+G2+S+0.7Q+V3+0.6D3	31.88	2213.97	-1408.40	-5.26	0.20	-4.24
G1+G2+S+0.7Q+V4+0.6D4	32.04	2290.15	-1366.13	-5.26	-0.20	105.51
G1+G2+S+A+0.6V1+0.6D1	48.35	760.75	-1353.90	-5.13	0.00	50.94
G1+G2+S+A+0.6V1+D1	48.35	760.72	-1338.13	-5.06	0.00	50.89
G1+G2+S+A+0.6V2+0.6D2	48.39	760.73	-1411.18	-5.38	0.00	51.28
G1+G2+S+A+0.6V2+D2	48.39	760.76	-1426.95	-5.46	0.00	51.33
G1+G2+S+A+0.6V3+0.6D3	48.33	729.34	-1396.02	-5.26	0.17	18.21
G1+G2+S+A+0.6V3+D3	48.33	715.10	-1397.35	-5.26	0.24	18.25
G1+G2+S+A+0.6V4+0.6D4	48.42	792.14	-1369.06	-5.26	-0.16	84.01
G1+G2+S+A+0.6V4+D4	48.42	806.38	-1367.72	-5.26	-0.24	83.97
G1+G2+S+A+D1	48.37	760.67	-1343.11	-5.08	0.00	50.98
G1+G2+S+A+D2	48.38	760.81	-1421.97	-5.44	0.00	51.24
G1+G2+S+A+D3	48.38	725.14	-1385.87	-5.26	0.18	51.21
G1+G2+S+A+D4	48.36	796.34	-1379.21	-5.26	-0.18	51.01
G1+G2+S+A+V1+0.6D1	48.34	760.78	-1350.58	-5.12	0.00	50.88
G1+G2+S+A+V2+0.6D2	48.40	760.70	-1414.50	-5.39	0.00	51.34
G1+G2+S+A+V3+0.6D3	48.29	722.65	-1403.67	-5.26	0.20	-3.76
G1+G2+S+A+V4+0.6D4	48.46	798.83	-1361.40	-5.26	-0.20	105.98
G1+G2+S+D1	30.77	2255.18	-1348.66	-5.08	0.00	50.48
G1+G2+S+D2	30.78	2255.32	-1427.52	-5.44	0.00	50.73
G1+G2+S+D3	30.78	2219.65	-1391.42	-5.26	0.18	50.71
G1+G2+S+D4	30.76	2290.85	-1384.76	-5.26	-0.18	50.50
G1+G2+S+Q+0.6V1+0.6D1	32.45	2250.70	-1358.28	-5.13	0.00	50.47
G1+G2+S+Q+0.6V2+0.6D2	32.49	2250.69	-1415.56	-5.38	0.00	50.82

G1+G2+S+Q+0.6V3+0.6D3	32.42	2219.30	-1400.40	-5.26	0.17	17.75
G1+G2+S+Q+0.6V4+0.6D4	32.52	2282.10	-1373.44	-5.26	-0.17	83.54
G1+G2+S+Q+A+0.6V1+0.6D1	50.05	756.20	-1352.72	-5.13	0.00	50.98
G1+G2+S+Q+A+0.6V2+0.6D2	50.09	756.18	-1410.00	-5.38	0.00	51.32
G1+G2+S+Q+A+0.6V3+0.6D3	50.02	724.79	-1394.84	-5.26	0.17	18.25
G1+G2+S+Q+A+0.6V4+0.6D4	50.12	787.59	-1367.88	-5.26	-0.16	84.05
G1+G2+S+Q+A+D1	50.07	756.12	-1341.93	-5.08	0.00	51.03
G1+G2+S+Q+A+D2	50.07	756.26	-1420.79	-5.44	0.00	51.28
G1+G2+S+Q+A+D3	50.08	720.59	-1384.69	-5.26	0.18	51.26
G1+G2+S+Q+A+D4	50.06	791.79	-1378.03	-5.26	-0.18	51.05
G1+G2+S+Q+D1	32.47	2250.63	-1347.49	-5.08	0.00	50.52
G1+G2+S+Q+D2	32.47	2250.77	-1426.35	-5.44	0.00	50.77
G1+G2+S+Q+D3	32.48	2215.10	-1390.25	-5.26	0.18	50.75
G1+G2+S+Q+D4	32.46	2286.30	-1383.59	-5.26	-0.18	50.54

Fundação B4						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	20.18	1.01	-5.12	0.00	0.00	-0.16
Adicional (G2)	0.57	-3.89	-0.33	0.00	0.00	-0.01
Solo (S)	9.13	2312.76	-1464.13	-5.26	0.00	46.93
Acidental (Q)	1.72	-11.72	-0.98	0.00	0.00	-0.02
Água (A)	17.57	-1646.19	-16.83	0.00	0.00	-0.79
Vento X+ (V1)	0.00	-0.01	8.37	0.03	0.00	-0.14
Vento X- (V2)	0.00	0.01	-8.37	-0.03	0.00	0.14
Vento Y+ (V3)	-0.25	-18.28	-6.42	0.00	0.09	-55.24
Vento Y- (V4)	0.25	18.28	6.42	0.00	-0.09	55.24
Desaprumo X+ (D1)	0.00	-0.01	39.73	0.18	0.00	-0.13
Desaprumo X- (D2)	0.00	0.01	-39.73	-0.18	0.00	0.13
Desaprumo Y+ (D3)	-0.03	-36.61	-0.03	0.00	0.18	0.00
Desaprumo Y- (D4)	0.03	36.61	0.03	0.00	-0.18	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	31.09	2301.66	-1425.50	-5.06	0.00	46.53
G1+G2+S+0.7Q+0.6V2+D2	31.09	2301.69	-1515.02	-5.46	0.00	46.95
G1+G2+S+0.7Q+0.6V3+D3	30.90	2254.10	-1474.14	-5.26	0.24	13.60
G1+G2+S+0.7Q+0.6V4+D4	31.27	2349.25	-1466.37	-5.26	-0.24	79.88
G1+G2+S+0.7Q+A+0.6V1+0.6D1	48.66	655.47	-1458.22	-5.13	0.00	45.80
G1+G2+S+0.7Q+A+0.6V1+D1	48.66	655.47	-1442.33	-5.06	0.00	45.75
G1+G2+S+0.7Q+A+0.6V2+0.6D2	48.66	655.50	-1515.95	-5.38	0.00	46.11
G1+G2+S+0.7Q+A+0.6V2+D2	48.66	655.50	-1531.84	-5.46	0.00	46.16
G1+G2+S+0.7Q+A+0.6V3+0.6D3	48.49	622.55	-1490.96	-5.26	0.17	12.81
G1+G2+S+0.7Q+A+0.6V3+D3	48.48	607.91	-1490.97	-5.26	0.24	12.81
G1+G2+S+0.7Q+A+0.6V4+0.6D4	48.83	688.41	-1483.22	-5.26	-0.17	79.10
G1+G2+S+0.7Q+A+0.6V4+D4	48.84	703.05	-1483.20	-5.26	-0.24	79.10
G1+G2+S+0.7Q+A+D1	48.66	655.47	-1447.35	-5.08	0.00	45.83
G1+G2+S+0.7Q+A+D2	48.66	655.49	-1526.82	-5.44	0.00	46.08
G1+G2+S+0.7Q+A+D3	48.63	618.88	-1487.12	-5.26	0.18	45.95
G1+G2+S+0.7Q+A+D4	48.69	692.09	-1487.05	-5.26	-0.18	45.95
G1+G2+S+0.7Q+A+V1+0.6D1	48.66	655.46	-1454.88	-5.12	0.00	45.74
G1+G2+S+0.7Q+A+V2+0.6D2	48.66	655.50	-1519.30	-5.39	0.00	46.17
G1+G2+S+0.7Q+A+V3+0.6D3	48.39	615.24	-1493.53	-5.26	0.20	-9.28
G1+G2+S+0.7Q+A+V4+0.6D4	48.93	695.72	-1480.65	-5.26	-0.20	101.19
G1+G2+S+0.7Q+V1+0.6D1	31.09	2301.66	-1438.05	-5.12	0.00	46.53
G1+G2+S+0.7Q+V2+0.6D2	31.09	2301.69	-1502.47	-5.39	0.00	46.95
G1+G2+S+0.7Q+V3+0.6D3	30.81	2261.43	-1476.70	-5.26	0.20	-8.50

G1+G2+S+0.7Q+V4+0.6D4	31.36	2341.91	-1463.82	-5.26	-0.20	101.98
G1+G2+S+A+0.6V1+0.6D1	47.45	663.67	-1457.54	-5.13	0.00	45.81
G1+G2+S+A+0.6V1+D1	47.45	663.67	-1441.65	-5.06	0.00	45.76
G1+G2+S+A+0.6V2+0.6D2	47.45	663.70	-1515.27	-5.38	0.00	46.13
G1+G2+S+A+0.6V2+D2	47.45	663.70	-1531.16	-5.46	0.00	46.18
G1+G2+S+A+0.6V3+0.6D3	47.28	630.76	-1490.28	-5.26	0.17	12.83
G1+G2+S+A+0.6V3+D3	47.27	616.11	-1490.29	-5.26	0.24	12.83
G1+G2+S+A+0.6V4+0.6D4	47.62	696.61	-1482.53	-5.26	-0.17	79.11
G1+G2+S+A+0.6V4+D4	47.64	711.26	-1482.52	-5.26	-0.24	79.11
G1+G2+S+A+D1	47.45	663.68	-1446.67	-5.08	0.00	45.85
G1+G2+S+A+D2	47.45	663.69	-1526.14	-5.44	0.00	46.10
G1+G2+S+A+D3	47.42	627.08	-1486.44	-5.26	0.18	45.97
G1+G2+S+A+D4	47.49	700.29	-1486.37	-5.26	-0.18	45.97
G1+G2+S+A+V1+0.6D1	47.45	663.67	-1454.19	-5.12	0.00	45.76
G1+G2+S+A+V2+0.6D2	47.45	663.70	-1518.62	-5.39	0.00	46.18
G1+G2+S+A+V3+0.6D3	47.18	623.45	-1492.84	-5.26	0.20	-9.27
G1+G2+S+A+V4+0.6D4	47.73	703.92	-1479.96	-5.26	-0.20	101.21
G1+G2+S+D1	29.88	2309.87	-1429.84	-5.08	0.00	46.63
G1+G2+S+D2	29.88	2309.88	-1509.31	-5.44	0.00	46.88
G1+G2+S+D3	29.85	2273.27	-1469.61	-5.26	0.18	46.76
G1+G2+S+D4	29.91	2346.48	-1469.54	-5.26	-0.18	46.76
G1+G2+S+Q+0.6V1+0.6D1	31.60	2298.15	-1441.69	-5.13	0.00	46.57
G1+G2+S+Q+0.6V2+0.6D2	31.60	2298.17	-1499.42	-5.38	0.00	46.89
G1+G2+S+Q+0.6V3+0.6D3	31.43	2265.23	-1474.42	-5.26	0.17	13.59
G1+G2+S+Q+0.6V4+0.6D4	31.77	2331.09	-1466.68	-5.26	-0.17	79.88
G1+G2+S+Q+A+0.6V1+0.6D1	49.18	651.95	-1458.52	-5.13	0.00	45.79
G1+G2+S+Q+A+0.6V2+0.6D2	49.18	651.98	-1516.24	-5.38	0.00	46.11
G1+G2+S+Q+A+0.6V3+0.6D3	49.01	619.04	-1491.25	-5.26	0.17	12.81
G1+G2+S+Q+A+0.6V4+0.6D4	49.35	684.90	-1483.51	-5.26	-0.17	79.09
G1+G2+S+Q+A+D1	49.18	651.96	-1447.65	-5.08	0.00	45.82
G1+G2+S+Q+A+D2	49.18	651.98	-1527.11	-5.44	0.00	46.07
G1+G2+S+Q+A+D3	49.14	615.36	-1487.42	-5.26	0.18	45.95
G1+G2+S+Q+A+D4	49.21	688.57	-1487.35	-5.26	-0.18	45.95
G1+G2+S+Q+D1	31.60	2298.15	-1430.82	-5.08	0.00	46.61
G1+G2+S+Q+D2	31.60	2298.17	-1510.29	-5.44	0.00	46.86
G1+G2+S+Q+D3	31.57	2261.55	-1470.59	-5.26	0.18	46.73
G1+G2+S+Q+D4	31.63	2334.76	-1470.52	-5.26	-0.18	46.73

Fundação B5						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	19.68	34.43	-24.74	0.00	0.00	-0.62
Adicional (G2)	0.54	-1.45	-1.31	0.00	0.00	-0.01
Solo (S)	6.94	2196.41	-1509.14	-5.26	0.00	45.15
Acidental (Q)	1.61	-4.38	-3.94	0.00	0.00	-0.03
Água (A)	16.88	-1470.80	-44.91	0.00	0.00	-1.71
Vento X+ (V1)	0.04	-0.11	8.97	0.03	0.00	-0.15
Vento X- (V2)	-0.04	0.11	-8.97	-0.03	0.00	0.15
Vento Y+ (V3)	-0.06	-17.39	9.47	0.00	0.09	-55.64
Vento Y- (V4)	0.06	17.39	-9.47	0.00	-0.09	55.64
Desaprumo X+ (D1)	0.01	0.07	38.80	0.18	0.00	-0.11
Desaprumo X- (D2)	-0.01	-0.07	-38.80	-0.18	0.00	0.11
Desaprumo Y+ (D3)	0.01	-34.52	3.85	0.00	0.18	-0.12
Desaprumo Y- (D4)	-0.01	34.52	-3.85	0.00	-0.18	0.12
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00

G1+G2+S+0.7Q+0.6V1+D1	28.33	2226.32	-1493.77	-5.07	0.00	44.30
G1+G2+S+0.7Q+0.6V2+D2	28.25	2226.32	-1582.13	-5.45	0.00	44.70
G1+G2+S+0.7Q+0.6V3+D3	28.26	2181.37	-1528.42	-5.26	0.23	11.00
G1+G2+S+0.7Q+0.6V4+D4	28.32	2271.27	-1547.48	-5.26	-0.23	78.00
G1+G2+S+0.7Q+A+0.6V1+0.6D1	45.20	755.50	-1554.20	-5.14	0.00	42.63
G1+G2+S+0.7Q+A+0.6V1+D1	45.21	755.53	-1538.68	-5.07	0.00	42.58
G1+G2+S+0.7Q+A+0.6V2+0.6D2	45.14	755.55	-1611.53	-5.38	0.00	42.94
G1+G2+S+0.7Q+A+0.6V2+D2	45.13	755.52	-1627.05	-5.45	0.00	42.99
G1+G2+S+0.7Q+A+0.6V3+0.6D3	45.14	724.38	-1574.87	-5.26	0.16	9.33
G1+G2+S+0.7Q+A+0.6V3+D3	45.14	710.57	-1573.33	-5.26	0.23	9.28
G1+G2+S+0.7Q+A+0.6V4+0.6D4	45.20	786.67	-1590.86	-5.26	-0.16	76.24
G1+G2+S+0.7Q+A+0.6V4+D4	45.20	800.48	-1592.40	-5.26	-0.23	76.29
G1+G2+S+0.7Q+A+D1	45.18	755.59	-1544.07	-5.08	0.00	42.67
G1+G2+S+0.7Q+A+D2	45.16	755.46	-1621.66	-5.44	0.00	42.90
G1+G2+S+0.7Q+A+D3	45.18	721.01	-1579.01	-5.26	0.18	42.67
G1+G2+S+0.7Q+A+D4	45.16	790.04	-1586.71	-5.26	-0.18	42.90
G1+G2+S+0.7Q+A+V1+0.6D1	45.22	755.46	-1550.61	-5.13	0.00	42.57
G1+G2+S+0.7Q+A+V2+0.6D2	45.12	755.59	-1615.12	-5.39	0.00	43.00
G1+G2+S+0.7Q+A+V3+0.6D3	45.11	717.42	-1571.08	-5.26	0.20	-12.93
G1+G2+S+0.7Q+A+V4+0.6D4	45.22	793.63	-1594.64	-5.26	-0.20	98.50
G1+G2+S+0.7Q+V1+0.6D1	28.34	2226.25	-1505.70	-5.13	0.00	44.28
G1+G2+S+0.7Q+V2+0.6D2	28.24	2226.39	-1570.20	-5.39	0.00	44.72
G1+G2+S+0.7Q+V3+0.6D3	28.23	2188.22	-1526.17	-5.26	0.20	-11.21
G1+G2+S+0.7Q+V4+0.6D4	28.34	2264.42	-1549.73	-5.26	-0.20	100.21
G1+G2+S+A+0.6V1+0.6D1	44.07	758.57	-1551.44	-5.14	0.00	42.65
G1+G2+S+A+0.6V1+D1	44.08	758.60	-1535.93	-5.07	0.00	42.61
G1+G2+S+A+0.6V2+0.6D2	44.01	758.62	-1608.77	-5.38	0.00	42.96
G1+G2+S+A+0.6V2+D2	44.00	758.59	-1624.29	-5.45	0.00	43.01
G1+G2+S+A+0.6V3+0.6D3	44.01	727.45	-1572.12	-5.26	0.16	9.35
G1+G2+S+A+0.6V3+D3	44.01	713.64	-1570.57	-5.26	0.23	9.30
G1+G2+S+A+0.6V4+0.6D4	44.07	789.74	-1588.10	-5.26	-0.16	76.26
G1+G2+S+A+0.6V4+D4	44.07	803.55	-1589.64	-5.26	-0.23	76.31
G1+G2+S+A+D1	44.05	758.66	-1541.31	-5.08	0.00	42.70
G1+G2+S+A+D2	44.03	758.53	-1618.90	-5.44	0.00	42.92
G1+G2+S+A+D3	44.05	724.08	-1576.26	-5.26	0.18	42.69
G1+G2+S+A+D4	44.03	793.11	-1583.96	-5.26	-0.18	42.93
G1+G2+S+A+V1+0.6D1	44.09	758.53	-1547.85	-5.13	0.00	42.59
G1+G2+S+A+V2+0.6D2	43.99	758.66	-1612.36	-5.39	0.00	43.02
G1+G2+S+A+V3+0.6D3	43.98	720.49	-1568.33	-5.26	0.20	-12.90
G1+G2+S+A+V4+0.6D4	44.09	796.70	-1591.89	-5.26	-0.20	98.52
G1+G2+S+D1	27.17	2229.46	-1496.40	-5.08	0.00	44.41
G1+G2+S+D2	27.15	2229.32	-1573.99	-5.44	0.00	44.63
G1+G2+S+D3	27.17	2194.87	-1531.34	-5.26	0.18	44.40
G1+G2+S+D4	27.15	2263.91	-1539.04	-5.26	-0.18	44.64
G1+G2+S+Q+0.6V1+0.6D1	28.81	2224.98	-1510.47	-5.14	0.00	44.33
G1+G2+S+Q+0.6V2+0.6D2	28.74	2225.03	-1567.79	-5.38	0.00	44.65
G1+G2+S+Q+0.6V3+0.6D3	28.74	2193.86	-1531.14	-5.26	0.16	11.04
G1+G2+S+Q+0.6V4+0.6D4	28.80	2256.15	-1547.12	-5.26	-0.16	77.95
G1+G2+S+Q+A+0.6V1+0.6D1	45.69	754.19	-1555.38	-5.14	0.00	42.62
G1+G2+S+Q+A+0.6V2+0.6D2	45.62	754.24	-1612.71	-5.38	0.00	42.93
G1+G2+S+Q+A+0.6V3+0.6D3	45.62	723.07	-1576.05	-5.26	0.16	9.32
G1+G2+S+Q+A+0.6V4+0.6D4	45.68	785.36	-1592.04	-5.26	-0.16	76.23
G1+G2+S+Q+A+D1	45.67	754.28	-1545.25	-5.08	0.00	42.67
G1+G2+S+Q+A+D2	45.64	754.14	-1622.84	-5.44	0.00	42.89
G1+G2+S+Q+A+D3	45.67	719.69	-1580.19	-5.26	0.18	42.66
G1+G2+S+Q+A+D4	45.64	788.73	-1587.90	-5.26	-0.18	42.90
G1+G2+S+Q+D1	28.79	2225.07	-1500.33	-5.08	0.00	44.38
G1+G2+S+Q+D2	28.76	2224.94	-1577.93	-5.44	0.00	44.60

G1+G2+S+Q+D3	28.79	2190.49	-1535.28	-5.26	0.18	44.37
G1+G2+S+Q+D4	28.76	2259.52	-1542.98	-5.26	-0.18	44.61

Fundação B6						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	15.89	-296.06	-200.92	0.00	0.00	7.35
Adicional (G2)	0.35	-4.24	-5.37	0.00	0.00	0.12
Solo (S)	-0.93	921.97	-1013.47	-5.26	0.00	-35.53
Acidental (Q)	1.06	-12.72	-16.12	0.00	0.00	0.37
Água (A)	8.53	-300.74	-92.91	0.00	0.00	-3.58
Vento X+ (V1)	0.05	4.01	-12.40	0.03	0.00	-0.70
Vento X- (V2)	-0.05	-4.01	12.40	-0.03	0.00	0.70
Vento Y+ (V3)	0.78	90.84	-7.15	0.00	0.10	-53.06
Vento Y- (V4)	-0.78	-90.84	7.15	0.00	-0.10	53.06
Desaprumo X+ (D1)	0.08	-6.78	18.04	0.12	0.00	0.57
Desaprumo X- (D2)	-0.08	6.78	-18.04	-0.12	0.00	-0.57
Desaprumo Y+ (D3)	0.19	-41.75	-0.86	0.00	0.12	0.10
Desaprumo Y- (D4)	-0.19	41.75	0.86	0.00	-0.12	-0.10
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	16.17	608.39	-1220.44	-5.13	0.00	-27.65
G1+G2+S+0.7Q+0.6V2+D2	15.94	617.14	-1241.64	-5.39	0.00	-27.95
G1+G2+S+0.7Q+0.6V3+D3	16.71	625.52	-1236.20	-5.26	0.17	-59.54
G1+G2+S+0.7Q+0.6V4+D4	15.39	600.01	-1225.89	-5.26	-0.18	3.94
G1+G2+S+0.7Q+A+0.6V1+0.6D1	24.67	310.36	-1320.57	-5.17	0.00	-31.46
G1+G2+S+0.7Q+A+0.6V1+D1	24.70	307.65	-1313.35	-5.13	0.00	-31.23
G1+G2+S+0.7Q+A+0.6V2+0.6D2	24.50	313.69	-1327.34	-5.35	0.00	-31.30
G1+G2+S+0.7Q+A+0.6V2+D2	24.47	316.40	-1334.55	-5.39	0.00	-31.52
G1+G2+S+0.7Q+A+0.6V3+0.6D3	25.17	341.48	-1328.76	-5.26	0.13	-63.15
G1+G2+S+0.7Q+A+0.6V3+D3	25.24	324.78	-1329.10	-5.26	0.17	-63.11
G1+G2+S+0.7Q+A+0.6V4+0.6D4	24.00	282.57	-1319.14	-5.26	-0.13	0.40
G1+G2+S+0.7Q+A+0.6V4+D4	23.93	299.27	-1318.80	-5.26	-0.18	0.36
G1+G2+S+0.7Q+A+D1	24.67	305.24	-1305.91	-5.14	0.00	-30.81
G1+G2+S+0.7Q+A+D2	24.50	318.81	-1341.99	-5.38	0.00	-31.94
G1+G2+S+0.7Q+A+D3	24.78	270.27	-1324.81	-5.26	0.12	-31.28
G1+G2+S+0.7Q+A+D4	24.39	353.77	-1323.09	-5.26	-0.12	-31.48
G1+G2+S+0.7Q+A+V1+0.6D1	24.69	311.96	-1325.52	-5.16	0.00	-31.74
G1+G2+S+0.7Q+A+V2+0.6D2	24.48	312.08	-1322.38	-5.36	0.00	-31.02
G1+G2+S+0.7Q+A+V3+0.6D3	25.48	377.82	-1331.62	-5.26	0.17	-84.38
G1+G2+S+0.7Q+A+V4+0.6D4	23.69	246.23	-1316.28	-5.26	-0.17	21.62
G1+G2+S+0.7Q+V1+0.6D1	16.16	612.70	-1232.62	-5.16	0.00	-28.16
G1+G2+S+0.7Q+V2+0.6D2	15.95	612.82	-1229.47	-5.36	0.00	-27.44
G1+G2+S+0.7Q+V3+0.6D3	16.95	678.56	-1238.71	-5.26	0.16	-80.80
G1+G2+S+0.7Q+V4+0.6D4	15.16	546.97	-1223.37	-5.26	-0.17	25.20
G1+G2+S+A+0.6V1+0.6D1	23.93	319.26	-1309.28	-5.17	0.00	-31.72
G1+G2+S+A+0.6V1+D1	23.96	316.55	-1302.07	-5.13	0.00	-31.49
G1+G2+S+A+0.6V2+0.6D2	23.76	322.59	-1316.05	-5.35	0.00	-31.56
G1+G2+S+A+0.6V2+D2	23.73	325.30	-1323.27	-5.39	0.00	-31.78
G1+G2+S+A+0.6V3+0.6D3	24.43	350.38	-1317.48	-5.26	0.13	-63.41
G1+G2+S+A+0.6V3+D3	24.50	333.68	-1317.82	-5.26	0.17	-63.37
G1+G2+S+A+0.6V4+0.6D4	23.26	291.47	-1307.86	-5.26	-0.13	0.14
G1+G2+S+A+0.6V4+D4	23.18	308.17	-1307.51	-5.26	-0.18	0.10
G1+G2+S+A+D1	23.93	314.15	-1294.63	-5.14	0.00	-31.07
G1+G2+S+A+D2	23.76	327.71	-1330.70	-5.38	0.00	-32.20
G1+G2+S+A+D3	24.04	279.18	-1313.53	-5.26	0.12	-31.54

G1+G2+S+A+D4	23.65	362.68	-1311.81	-5.26	-0.12	-31.74
G1+G2+S+A+V1+0.6D1	23.95	320.87	-1314.24	-5.16	0.00	-32.00
G1+G2+S+A+V2+0.6D2	23.74	320.99	-1311.09	-5.36	0.00	-31.28
G1+G2+S+A+V3+0.6D3	24.74	386.72	-1320.34	-5.26	0.17	-84.64
G1+G2+S+A+V4+0.6D4	22.95	255.13	-1305.00	-5.26	-0.17	21.36
G1+G2+S+D1	15.39	614.89	-1201.72	-5.14	0.00	-27.49
G1+G2+S+D2	15.23	628.45	-1237.80	-5.38	0.00	-28.62
G1+G2+S+D3	15.50	579.92	-1220.62	-5.26	0.12	-27.96
G1+G2+S+D4	15.12	663.42	-1218.90	-5.26	-0.12	-28.16
G1+G2+S+Q+0.6V1+0.6D1	16.45	607.28	-1232.49	-5.17	0.00	-27.77
G1+G2+S+Q+0.6V2+0.6D2	16.29	610.61	-1239.26	-5.35	0.00	-27.61
G1+G2+S+Q+0.6V3+0.6D3	16.95	638.40	-1240.69	-5.26	0.13	-59.46
G1+G2+S+Q+0.6V4+0.6D4	15.79	579.49	-1231.07	-5.26	-0.13	4.09
G1+G2+S+Q+A+0.6V1+0.6D1	24.98	306.54	-1325.40	-5.17	0.00	-31.35
G1+G2+S+Q+A+0.6V2+0.6D2	24.82	309.87	-1332.17	-5.35	0.00	-31.19
G1+G2+S+Q+A+0.6V3+0.6D3	25.49	337.66	-1333.59	-5.26	0.13	-63.04
G1+G2+S+Q+A+0.6V4+0.6D4	24.32	278.75	-1323.98	-5.26	-0.13	0.51
G1+G2+S+Q+A+D1	24.99	301.42	-1310.75	-5.14	0.00	-30.70
G1+G2+S+Q+A+D2	24.82	314.99	-1346.82	-5.38	0.00	-31.83
G1+G2+S+Q+A+D3	25.09	266.46	-1329.65	-5.26	0.12	-31.17
G1+G2+S+Q+A+D4	24.71	349.96	-1327.92	-5.26	-0.12	-31.37
G1+G2+S+Q+D1	16.45	602.17	-1217.84	-5.14	0.00	-27.12
G1+G2+S+Q+D2	16.29	615.73	-1253.91	-5.38	0.00	-28.25
G1+G2+S+Q+D3	16.56	567.20	-1236.74	-5.26	0.12	-27.59
G1+G2+S+Q+D4	16.18	650.70	-1235.01	-5.26	-0.12	-27.79

**Fundação B7**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	16.99	7.68	-8.80	0.00	0.00	0.04
Adicional (G2)	0.41	0.33	-2.07	0.00	0.00	0.00
Solo (S)	12.72	-32.93	-3290.33	-5.26	0.00	44.63
Acidental (Q)	1.22	0.98	-6.21	0.00	0.00	0.00
Água (A)	16.51	6.46	-1657.22	0.00	0.00	0.13
Vento X+ (V1)	0.00	0.11	3.31	0.03	0.00	-0.22
Vento X- (V2)	0.00	-0.11	-3.31	-0.03	0.00	0.22
Vento Y+ (V3)	0.00	-23.10	0.13	0.00	0.09	-55.33
Vento Y- (V4)	0.00	23.10	-0.13	0.00	-0.09	55.33
Desaprumo X+ (D1)	-0.02	0.09	29.70	0.16	0.00	0.00
Desaprumo X- (D2)	0.02	-0.09	-29.70	-0.16	0.00	0.00
Desaprumo Y+ (D3)	0.00	-36.23	0.02	0.00	0.16	-0.09
Desaprumo Y- (D4)	0.00	36.23	-0.02	0.00	-0.16	0.09
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	30.96	-24.08	-3273.86	-5.08	0.00	44.54
G1+G2+S+0.7Q+0.6V2+D2	30.99	-24.40	-3337.23	-5.44	0.00	44.81
G1+G2+S+0.7Q+0.6V3+D3	30.97	-74.33	-3305.44	-5.26	0.22	11.38
G1+G2+S+0.7Q+0.6V4+D4	30.97	25.85	-3305.64	-5.26	-0.21	77.96
G1+G2+S+0.7Q+A+0.6V1+0.6D1	47.47	-17.66	-4942.96	-5.15	0.00	44.67
G1+G2+S+0.7Q+A+0.6V1+D1	47.47	-17.62	-4931.08	-5.08	0.00	44.67
G1+G2+S+0.7Q+A+0.6V2+0.6D2	47.49	-17.91	-4982.57	-5.37	0.00	44.94
G1+G2+S+0.7Q+A+0.6V2+D2	47.50	-17.94	-4994.45	-5.44	0.00	44.94
G1+G2+S+0.7Q+A+0.6V3+0.6D3	47.48	-53.38	-4962.68	-5.26	0.15	11.55
G1+G2+S+0.7Q+A+0.6V3+D3	47.49	-67.87	-4962.67	-5.26	0.22	11.52
G1+G2+S+0.7Q+A+0.6V4+0.6D4	47.48	17.81	-4962.85	-5.26	-0.15	78.06
G1+G2+S+0.7Q+A+0.6V4+D4	47.48	32.31	-4962.86	-5.26	-0.21	78.09



G1+G2+S+0.7Q+A+D1	47.47	-17.69	-4933.07	-5.10	0.00	44.80
G1+G2+S+0.7Q+A+D2	47.50	-17.88	-4992.46	-5.42	0.00	44.81
G1+G2+S+0.7Q+A+D3	47.48	-54.02	-4962.74	-5.26	0.16	44.71
G1+G2+S+0.7Q+A+D4	47.48	18.45	-4962.79	-5.26	-0.16	44.90
G1+G2+S+0.7Q+A+V1+0.6D1	47.47	-17.62	-4941.63	-5.14	0.00	44.58
G1+G2+S+0.7Q+A+V2+0.6D2	47.49	-17.95	-4983.90	-5.38	0.00	45.03
G1+G2+S+0.7Q+A+V3+0.6D3	47.49	-62.62	-4962.62	-5.26	0.19	-10.58
G1+G2+S+0.7Q+A+V4+0.6D4	47.48	27.05	-4962.90	-5.26	-0.19	100.19
G1+G2+S+0.7Q+V1+0.6D1	30.96	-24.07	-3284.41	-5.14	0.00	44.45
G1+G2+S+0.7Q+V2+0.6D2	30.98	-24.41	-3326.67	-5.38	0.00	44.89
G1+G2+S+0.7Q+V3+0.6D3	30.98	-69.08	-3305.40	-5.26	0.19	-10.71
G1+G2+S+0.7Q+V4+0.6D4	30.97	20.59	-3305.68	-5.26	-0.19	100.05
G1+G2+S+A+0.6V1+0.6D1	46.62	-18.35	-4938.61	-5.15	0.00	44.67
G1+G2+S+A+0.6V1+D1	46.61	-18.31	-4926.73	-5.08	0.00	44.67
G1+G2+S+A+0.6V2+0.6D2	46.64	-18.59	-4978.22	-5.37	0.00	44.94
G1+G2+S+A+0.6V2+D2	46.64	-18.63	-4990.10	-5.44	0.00	44.94
G1+G2+S+A+0.6V3+0.6D3	46.63	-54.07	-4958.33	-5.26	0.15	11.55
G1+G2+S+A+0.6V3+D3	46.63	-68.56	-4958.32	-5.26	0.22	11.51
G1+G2+S+A+0.6V4+0.6D4	46.62	17.13	-4958.51	-5.26	-0.15	78.06
G1+G2+S+A+0.6V4+D4	46.62	31.62	-4958.51	-5.26	-0.21	78.09
G1+G2+S+A+D1	46.61	-18.38	-4928.72	-5.10	0.00	44.80
G1+G2+S+A+D2	46.64	-18.56	-4988.11	-5.42	0.00	44.80
G1+G2+S+A+D3	46.63	-54.70	-4958.40	-5.26	0.16	44.71
G1+G2+S+A+D4	46.63	17.76	-4958.44	-5.26	-0.16	44.89
G1+G2+S+A+V1+0.6D1	46.62	-18.30	-4937.29	-5.14	0.00	44.58
G1+G2+S+A+V2+0.6D2	46.63	-18.64	-4979.55	-5.38	0.00	45.03
G1+G2+S+A+V3+0.6D3	46.63	-63.31	-4958.28	-5.26	0.19	-10.58
G1+G2+S+A+V4+0.6D4	46.62	26.37	-4958.56	-5.26	-0.19	100.19
G1+G2+S+D1	30.10	-24.83	-3271.50	-5.10	0.00	44.67
G1+G2+S+D2	30.13	-25.02	-3330.89	-5.42	0.00	44.67
G1+G2+S+D3	30.12	-61.16	-3301.17	-5.26	0.16	44.58
G1+G2+S+D4	30.12	11.30	-3301.22	-5.26	-0.16	44.76
G1+G2+S+Q+0.6V1+0.6D1	31.33	-23.82	-3287.60	-5.15	0.00	44.54
G1+G2+S+Q+0.6V2+0.6D2	31.35	-24.07	-3327.21	-5.37	0.00	44.81
G1+G2+S+Q+0.6V3+0.6D3	31.34	-59.55	-3307.32	-5.26	0.15	11.42
G1+G2+S+Q+0.6V4+0.6D4	31.33	11.65	-3307.49	-5.26	-0.15	77.92
G1+G2+S+Q+A+0.6V1+0.6D1	47.84	-17.37	-4944.82	-5.15	0.00	44.67
G1+G2+S+Q+A+0.6V2+0.6D2	47.86	-17.61	-4984.43	-5.37	0.00	44.94
G1+G2+S+Q+A+0.6V3+0.6D3	47.85	-53.09	-4964.54	-5.26	0.15	11.55
G1+G2+S+Q+A+0.6V4+0.6D4	47.84	18.11	-4964.72	-5.26	-0.15	78.06
G1+G2+S+Q+A+D1	47.83	-17.39	-4934.93	-5.10	0.00	44.81
G1+G2+S+Q+A+D2	47.86	-17.58	-4994.32	-5.42	0.00	44.81
G1+G2+S+Q+A+D3	47.85	-53.72	-4964.61	-5.26	0.16	44.71
G1+G2+S+Q+A+D4	47.85	18.74	-4964.65	-5.26	-0.16	44.90
G1+G2+S+Q+D1	31.32	-23.85	-3277.71	-5.10	0.00	44.67
G1+G2+S+Q+D2	31.35	-24.04	-3337.10	-5.42	0.00	44.67
G1+G2+S+Q+D3	31.34	-60.18	-3307.38	-5.26	0.16	44.58
G1+G2+S+Q+D4	31.34	12.28	-3307.43	-5.26	-0.16	44.76

Fundação B8						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	23.99	0.00	0.00	0.00	0.00	0.00
Adicional (G2)	0.93	0.00	0.00	0.00	0.00	0.00
Solo (S)	17.87	0.00	0.00	-0.95	0.00	0.00
Acidental (Q)	2.78	0.00	0.00	0.00	0.00	0.00
Água (A)	29.97	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	-0.01	0.00	0.00	0.00	0.00	0.00

Vento X- (V2)	0.01	0.00	0.00	0.00	0.00	0.00
Vento Y+ (V3)	-0.02	0.00	0.00	0.00	0.00	0.02
Vento Y- (V4)	0.02	0.00	0.00	0.00	0.00	-0.02
Desaprumo X+ (D1)	0.00	0.00	0.00	0.26	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	0.00	-0.26	0.00	0.00
Desaprumo Y+ (D3)	0.00	0.00	0.00	0.00	0.26	0.00
Desaprumo Y- (D4)	0.00	0.00	0.00	0.00	-0.26	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	44.73	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+0.7Q+0.6V2+D2	44.74	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+0.7Q+0.6V3+D3	44.72	0.00	0.00	-0.95	0.27	0.00
G1+G2+S+0.7Q+0.6V4+D4	44.74	0.00	0.00	-0.95	-0.27	0.00
G1+G2+S+0.7Q+A+0.6V1+0.6D1	74.70	0.00	0.00	-0.79	0.00	0.00
G1+G2+S+0.7Q+A+0.6V1+D1	74.70	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+0.6D2	74.71	0.00	0.00	-1.11	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+D2	74.71	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+0.7Q+A+0.6V3+0.6D3	74.69	0.00	0.00	-0.95	0.17	0.00
G1+G2+S+0.7Q+A+0.6V3+D3	74.69	0.00	0.00	-0.95	0.27	0.00
G1+G2+S+0.7Q+A+0.6V4+0.6D4	74.71	0.00	0.00	-0.95	-0.17	0.00
G1+G2+S+0.7Q+A+0.6V4+D4	74.71	0.00	0.00	-0.95	-0.27	0.00
G1+G2+S+0.7Q+A+D1	74.70	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+0.7Q+A+D2	74.70	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+0.7Q+A+D3	74.70	0.00	0.00	-0.95	0.26	0.00
G1+G2+S+0.7Q+A+D4	74.70	0.00	0.00	-0.95	-0.26	0.00
G1+G2+S+0.7Q+A+V1+0.6D1	74.69	0.00	0.00	-0.78	0.00	0.00
G1+G2+S+0.7Q+A+V2+0.6D2	74.71	0.00	0.00	-1.11	0.00	0.00
G1+G2+S+0.7Q+A+V3+0.6D3	74.68	0.00	0.00	-0.95	0.17	0.00
G1+G2+S+0.7Q+A+V4+0.6D4	74.72	0.00	0.00	-0.95	-0.17	0.00
G1+G2+S+0.7Q+V1+0.6D1	44.72	0.00	0.00	-0.78	0.00	0.00
G1+G2+S+0.7Q+V2+0.6D2	44.74	0.00	0.00	-1.11	0.00	0.00
G1+G2+S+0.7Q+V3+0.6D3	44.71	0.00	0.00	-0.95	0.17	0.00
G1+G2+S+0.7Q+V4+0.6D4	44.75	0.00	0.00	-0.95	-0.17	0.00
G1+G2+S+A+0.6V1+0.6D1	72.75	0.00	0.00	-0.79	0.00	0.00
G1+G2+S+A+0.6V1+D1	72.75	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+A+0.6V2+0.6D2	72.76	0.00	0.00	-1.11	0.00	0.00
G1+G2+S+A+0.6V2+D2	72.76	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+A+0.6V3+0.6D3	72.75	0.00	0.00	-0.95	0.17	0.00
G1+G2+S+A+0.6V3+D3	72.74	0.00	0.00	-0.95	0.27	0.00
G1+G2+S+A+0.6V4+0.6D4	72.77	0.00	0.00	-0.95	-0.17	0.00
G1+G2+S+A+0.6V4+D4	72.77	0.00	0.00	-0.95	-0.27	0.00
G1+G2+S+A+D1	72.76	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+A+D2	72.76	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+A+D3	72.75	0.00	0.00	-0.95	0.26	0.00
G1+G2+S+A+D4	72.76	0.00	0.00	-0.95	-0.26	0.00
G1+G2+S+A+V1+0.6D1	72.75	0.00	0.00	-0.78	0.00	0.00
G1+G2+S+A+V2+0.6D2	72.77	0.00	0.00	-1.11	0.00	0.00
G1+G2+S+A+V3+0.6D3	72.74	0.00	0.00	-0.95	0.17	0.00
G1+G2+S+A+V4+0.6D4	72.78	0.00	0.00	-0.95	-0.17	0.00
G1+G2+S+D1	42.79	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+D2	42.79	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+D3	42.78	0.00	0.00	-0.95	0.26	0.00
G1+G2+S+D4	42.79	0.00	0.00	-0.95	-0.26	0.00
G1+G2+S+Q+0.6V1+0.6D1	45.56	0.00	0.00	-0.79	0.00	0.00
G1+G2+S+Q+0.6V2+0.6D2	45.57	0.00	0.00	-1.11	0.00	0.00
G1+G2+S+Q+0.6V3+0.6D3	45.55	0.00	0.00	-0.95	0.17	0.00

G1+G2+S+Q+0.6V4+0.6D4	45.58	0.00	0.00	-0.95	-0.17	0.00
G1+G2+S+Q+A+0.6V1+0.6D1	75.53	0.00	0.00	-0.79	0.00	0.00
G1+G2+S+Q+A+0.6V2+0.6D2	75.54	0.00	0.00	-1.11	0.00	0.00
G1+G2+S+Q+A+0.6V3+0.6D3	75.52	0.00	0.00	-0.95	0.17	0.00
G1+G2+S+Q+A+0.6V4+0.6D4	75.55	0.00	0.00	-0.95	-0.17	0.00
G1+G2+S+Q+A+D1	75.53	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+Q+A+D2	75.54	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+Q+A+D3	75.53	0.00	0.00	-0.95	0.26	0.00
G1+G2+S+Q+A+D4	75.54	0.00	0.00	-0.95	-0.26	0.00
G1+G2+S+Q+D1	45.56	0.00	0.00	-0.68	0.00	0.00
G1+G2+S+Q+D2	45.57	0.00	0.00	-1.21	0.00	0.00
G1+G2+S+Q+D3	45.56	0.00	0.00	-0.95	0.26	0.00
G1+G2+S+Q+D4	45.57	0.00	0.00	-0.95	-0.26	0.00

Fundação B9						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	18.05	0.00	0.00	0.00	0.00	0.00
Adicional (G2)	1.02	0.00	0.00	0.00	0.00	0.00
Solo (S)	23.30	0.00	0.00	-0.63	0.00	0.00
Acidental (Q)	3.07	0.00	0.00	0.00	0.00	0.00
Água (A)	18.45	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	0.00	0.00	0.00	0.00
Vento Y+ (V3)	0.00	0.00	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	0.00	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	0.00	0.19	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	0.00	-0.19	0.00	0.00
Desaprumo Y+ (D3)	0.00	0.00	0.00	0.00	0.19	0.00
Desaprumo Y- (D4)	0.00	0.00	0.00	0.00	-0.19	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	44.52	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+0.7Q+0.6V2+D2	44.53	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+0.7Q+0.6V3+D3	44.53	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+0.7Q+0.6V4+D4	44.53	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+0.7Q+A+0.6V1+0.6D1	62.98	0.00	0.00	-0.52	0.00	0.00
G1+G2+S+0.7Q+A+0.6V1+D1	62.97	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+0.6D2	62.98	0.00	0.00	-0.74	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+D2	62.98	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+0.7Q+A+0.6V3+0.6D3	62.98	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+0.7Q+A+0.6V3+D3	62.98	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+0.7Q+A+0.6V4+0.6D4	62.98	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+0.7Q+A+0.6V4+D4	62.98	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+0.7Q+A+D1	62.97	0.00	0.00	-0.45	0.00	0.00
G1+G2+S+0.7Q+A+D2	62.98	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+0.7Q+A+D3	62.98	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+0.7Q+A+D4	62.98	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+0.7Q+A+V1+0.6D1	62.98	0.00	0.00	-0.52	0.00	0.00
G1+G2+S+0.7Q+A+V2+0.6D2	62.98	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+A+V3+0.6D3	62.98	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+0.7Q+A+V4+0.6D4	62.98	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+0.7Q+V1+0.6D1	44.53	0.00	0.00	-0.52	0.00	0.00
G1+G2+S+0.7Q+V2+0.6D2	44.53	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+V3+0.6D3	44.53	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+0.7Q+V4+0.6D4	44.53	0.00	0.00	-0.63	-0.12	0.00

G1+G2+S+A+0.6V1+0.6D1	60.83	0.00	0.00	-0.52	0.00	0.00
G1+G2+S+A+0.6V1+D1	60.82	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+A+0.6V2+0.6D2	60.83	0.00	0.00	-0.74	0.00	0.00
G1+G2+S+A+0.6V2+D2	60.83	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+A+0.6V3+0.6D3	60.83	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+A+0.6V3+D3	60.83	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+A+0.6V4+0.6D4	60.83	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+A+0.6V4+D4	60.83	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+A+D1	60.82	0.00	0.00	-0.45	0.00	0.00
G1+G2+S+A+D2	60.83	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+A+D3	60.83	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+A+D4	60.83	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+A+V1+0.6D1	60.83	0.00	0.00	-0.52	0.00	0.00
G1+G2+S+A+V2+0.6D2	60.83	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+A+V3+0.6D3	60.83	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+A+V4+0.6D4	60.83	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+D1	42.37	0.00	0.00	-0.45	0.00	0.00
G1+G2+S+D2	42.38	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+D3	42.38	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+D4	42.38	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+Q+0.6V1+0.6D1	45.45	0.00	0.00	-0.52	0.00	0.00
G1+G2+S+Q+0.6V2+0.6D2	45.45	0.00	0.00	-0.74	0.00	0.00
G1+G2+S+Q+0.6V3+0.6D3	45.45	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+Q+0.6V4+0.6D4	45.45	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+Q+A+0.6V1+0.6D1	63.90	0.00	0.00	-0.52	0.00	0.00
G1+G2+S+Q+A+0.6V2+0.6D2	63.90	0.00	0.00	-0.74	0.00	0.00
G1+G2+S+Q+A+0.6V3+0.6D3	63.90	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+Q+A+0.6V4+0.6D4	63.90	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+Q+A+D1	63.90	0.00	0.00	-0.45	0.00	0.00
G1+G2+S+Q+A+D2	63.91	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+Q+A+D3	63.90	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+Q+A+D4	63.90	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+Q+D1	45.45	0.00	0.00	-0.45	0.00	0.00
G1+G2+S+Q+D2	45.45	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+Q+D3	45.45	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+Q+D4	45.45	0.00	0.00	-0.63	-0.19	0.00

Fundação B10						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	18.44	0.00	0.00	0.00	0.00	0.00
Adicional (G2)	1.05	0.00	0.00	0.00	0.00	0.00
Solo (S)	22.21	0.00	0.00	-0.63	0.00	0.00
Acidental (Q)	3.14	0.00	0.00	0.00	0.00	0.00
Água (A)	19.21	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	0.00	0.00	0.00	0.00
Vento Y+ (V3)	0.00	0.00	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	0.00	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.00	0.00	0.00	0.19	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	0.00	-0.19	0.00	0.00
Desaprumo Y+ (D3)	0.00	0.00	0.00	0.00	0.19	0.00
Desaprumo Y- (D4)	0.00	0.00	0.00	0.00	-0.19	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	43.90	0.00	0.00	-0.44	0.00	0.00

G1+G2+S+0.7Q+0.6V2+D2	43.90	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+0.7Q+0.6V3+D3	43.90	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+0.7Q+0.6V4+D4	43.90	0.00	0.00	-0.63	-0.20	0.00
G1+G2+S+0.7Q+A+0.6V1+0.6D1	63.11	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+0.7Q+A+0.6V1+D1	63.11	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+0.6D2	63.11	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+D2	63.11	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+0.7Q+A+0.6V3+0.6D3	63.11	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+0.7Q+A+0.6V3+D3	63.11	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+0.7Q+A+0.6V4+0.6D4	63.11	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+0.7Q+A+0.6V4+D4	63.11	0.00	0.00	-0.63	-0.20	0.00
G1+G2+S+0.7Q+A+D1	63.11	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+0.7Q+A+D2	63.11	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+0.7Q+A+D3	63.11	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+0.7Q+A+D4	63.11	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+0.7Q+A+V1+0.6D1	63.11	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+0.7Q+A+V2+0.6D2	63.11	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+A+V3+0.6D3	63.11	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+0.7Q+A+V4+0.6D4	63.11	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+0.7Q+V1+0.6D1	43.90	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+0.7Q+V2+0.6D2	43.90	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+V3+0.6D3	43.90	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+0.7Q+V4+0.6D4	43.90	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+A+0.6V1+0.6D1	60.91	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+A+0.6V1+D1	60.91	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+A+0.6V2+0.6D2	60.91	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+A+0.6V2+D2	60.91	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+A+0.6V3+0.6D3	60.91	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+A+0.6V3+D3	60.91	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+A+0.6V4+0.6D4	60.91	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+A+0.6V4+D4	60.91	0.00	0.00	-0.63	-0.20	0.00
G1+G2+S+A+D1	60.91	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+A+D2	60.91	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+A+D3	60.91	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+A+D4	60.91	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+A+V1+0.6D1	60.91	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+A+V2+0.6D2	60.91	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+A+V3+0.6D3	60.91	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+A+V4+0.6D4	60.91	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+D1	41.70	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+D2	41.70	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+D3	41.70	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+D4	41.70	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+Q+0.6V1+0.6D1	44.84	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+Q+0.6V2+0.6D2	44.84	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+Q+0.6V3+0.6D3	44.84	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+Q+0.6V4+0.6D4	44.84	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+Q+A+0.6V1+0.6D1	64.06	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+Q+A+0.6V2+0.6D2	64.06	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+Q+A+0.6V3+0.6D3	64.06	0.00	0.00	-0.63	0.12	0.00
G1+G2+S+Q+A+0.6V4+0.6D4	64.06	0.00	0.00	-0.63	-0.12	0.00
G1+G2+S+Q+A+D1	64.06	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+Q+A+D2	64.06	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+Q+A+D3	64.06	0.00	0.00	-0.63	0.19	0.00
G1+G2+S+Q+A+D4	64.06	0.00	0.00	-0.63	-0.19	0.00
G1+G2+S+Q+D1	44.84	0.00	0.00	-0.44	0.00	0.00
G1+G2+S+Q+D2	44.84	0.00	0.00	-0.82	0.00	0.00
G1+G2+S+Q+D3	44.84	0.00	0.00	-0.63	0.19	0.00

G1+G2+S+Q+D4	44.84	0.00	0.00	-0.63	-0.19	0.00
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Fundação B11						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	18.59	0.00	0.00	0.00	0.00	0.00
Adicional (G2)	1.06	0.00	0.00	0.00	0.00	0.00
Solo (S)	21.19	0.00	0.00	-0.63	0.00	0.00
Acidental (Q)	3.19	0.00	0.00	0.00	0.00	0.00
Água (A)	20.91	0.00	0.00	0.00	0.00	0.00
Vento X+ (V1)	0.00	0.00	0.00	0.00	0.00	0.00
Vento X- (V2)	0.00	0.00	0.00	0.00	0.00	0.00
Vento Y+ (V3)	0.00	0.00	0.00	0.00	0.01	0.00
Vento Y- (V4)	0.00	0.00	0.00	0.00	-0.01	0.00
Desaprumo X+ (D1)	0.01	0.00	0.00	0.20	0.00	0.00
Desaprumo X- (D2)	-0.01	0.00	0.00	-0.20	0.00	0.00
Desaprumo Y+ (D3)	0.00	0.00	0.00	0.00	0.20	0.00
Desaprumo Y- (D4)	0.00	0.00	0.00	0.00	-0.20	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	43.08	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+0.7Q+0.6V2+D2	43.07	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+0.7Q+0.6V3+D3	43.08	0.00	0.00	-0.63	0.21	0.00
G1+G2+S+0.7Q+0.6V4+D4	43.08	0.00	0.00	-0.63	-0.21	0.00
G1+G2+S+0.7Q+A+0.6V1+0.6D1	63.99	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+0.7Q+A+0.6V1+D1	63.99	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+0.6D2	63.98	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+A+0.6V2+D2	63.98	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+0.7Q+A+0.6V3+0.6D3	63.98	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+0.7Q+A+0.6V3+D3	63.98	0.00	0.00	-0.63	0.21	0.00
G1+G2+S+0.7Q+A+0.6V4+0.6D4	63.98	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+0.7Q+A+0.6V4+D4	63.98	0.00	0.00	-0.63	-0.21	0.00
G1+G2+S+0.7Q+A+D1	63.99	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+0.7Q+A+D2	63.98	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+0.7Q+A+D3	63.98	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+0.7Q+A+D4	63.98	0.00	0.00	-0.63	-0.20	0.00
G1+G2+S+0.7Q+A+V1+0.6D1	63.99	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+0.7Q+A+V2+0.6D2	63.98	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+A+V3+0.6D3	63.98	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+0.7Q+A+V4+0.6D4	63.98	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+0.7Q+V1+0.6D1	43.08	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+0.7Q+V2+0.6D2	43.07	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+0.7Q+V3+0.6D3	43.08	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+0.7Q+V4+0.6D4	43.08	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+A+0.6V1+0.6D1	61.75	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+A+0.6V1+D1	61.76	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+A+0.6V2+0.6D2	61.74	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+A+0.6V2+D2	61.74	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+A+0.6V3+0.6D3	61.75	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+A+0.6V3+D3	61.75	0.00	0.00	-0.63	0.21	0.00
G1+G2+S+A+0.6V4+0.6D4	61.75	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+A+0.6V4+D4	61.75	0.00	0.00	-0.63	-0.21	0.00
G1+G2+S+A+D1	61.75	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+A+D2	61.74	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+A+D3	61.75	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+A+D4	61.75	0.00	0.00	-0.63	-0.20	0.00

G1+G2+S+A+V1+0.6D1	61.75	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+A+V2+0.6D2	61.74	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+A+V3+0.6D3	61.75	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+A+V4+0.6D4	61.75	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+D1	40.85	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+D2	40.83	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+D3	40.84	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+D4	40.84	0.00	0.00	-0.63	-0.20	0.00
G1+G2+S+Q+0.6V1+0.6D1	44.04	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+Q+0.6V2+0.6D2	44.03	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+Q+0.6V3+0.6D3	44.03	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+Q+0.6V4+0.6D4	44.03	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+Q+A+0.6V1+0.6D1	64.95	0.00	0.00	-0.51	0.00	0.00
G1+G2+S+Q+A+0.6V2+0.6D2	64.94	0.00	0.00	-0.75	0.00	0.00
G1+G2+S+Q+A+0.6V3+0.6D3	64.94	0.00	0.00	-0.63	0.13	0.00
G1+G2+S+Q+A+0.6V4+0.6D4	64.94	0.00	0.00	-0.63	-0.13	0.00
G1+G2+S+Q+A+D1	64.95	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+Q+A+D2	64.94	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+Q+A+D3	64.94	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+Q+A+D4	64.94	0.00	0.00	-0.63	-0.20	0.00
G1+G2+S+Q+D1	44.04	0.00	0.00	-0.43	0.00	0.00
G1+G2+S+Q+D2	44.03	0.00	0.00	-0.83	0.00	0.00
G1+G2+S+Q+D3	44.03	0.00	0.00	-0.63	0.20	0.00
G1+G2+S+Q+D4	44.03	0.00	0.00	-0.63	-0.20	0.00

Fundação B12						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	18.29	-0.01	2.73	0.00	0.00	0.00
Adicional (G2)	0.49	-0.02	4.63	0.00	0.00	0.00
Solo (S)	4.51	8.10	-2752.58	-5.26	0.00	43.98
Acidental (Q)	1.47	-0.05	13.91	0.00	0.00	0.00
Água (A)	16.89	0.05	1689.12	0.00	0.00	-0.03
Vento X+ (V1)	0.01	-0.06	3.43	0.03	0.00	-0.22
Vento X- (V2)	-0.01	0.06	-3.43	-0.03	0.00	0.22
Vento Y+ (V3)	0.00	-56.26	0.02	0.00	0.10	-56.18
Vento Y- (V4)	0.00	56.26	-0.02	0.00	-0.10	56.18
Desaprumo X+ (D1)	0.02	-0.03	31.57	0.17	0.00	0.00
Desaprumo X- (D2)	-0.02	0.03	-31.57	-0.17	0.00	0.00
Desaprumo Y+ (D3)	0.00	-42.32	0.00	0.00	0.17	-0.11
Desaprumo Y- (D4)	0.00	42.32	0.00	0.00	-0.17	0.11
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	24.35	7.97	-2701.87	-5.07	0.00	43.86
G1+G2+S+0.7Q+0.6V2+D2	24.30	8.11	-2769.12	-5.44	0.00	44.12
G1+G2+S+0.7Q+0.6V3+D3	24.32	-68.03	-2735.48	-5.26	0.23	10.17
G1+G2+S+0.7Q+0.6V4+D4	24.32	84.11	-2735.51	-5.26	-0.23	77.80
G1+G2+S+0.7Q+A+0.6V1+0.6D1	41.23	8.03	-1025.37	-5.14	0.00	43.82
G1+G2+S+0.7Q+A+0.6V1+D1	41.24	8.02	-1012.75	-5.07	0.00	43.82
G1+G2+S+0.7Q+A+0.6V2+0.6D2	41.20	8.14	-1067.37	-5.38	0.00	44.08
G1+G2+S+0.7Q+A+0.6V2+D2	41.19	8.16	-1080.00	-5.44	0.00	44.08
G1+G2+S+0.7Q+A+0.6V3+0.6D3	41.21	-51.06	-1046.36	-5.26	0.16	10.18
G1+G2+S+0.7Q+A+0.6V3+D3	41.21	-67.98	-1046.36	-5.26	0.23	10.14
G1+G2+S+0.7Q+A+0.6V4+0.6D4	41.21	67.23	-1046.39	-5.26	-0.16	77.72
G1+G2+S+0.7Q+A+0.6V4+D4	41.21	84.16	-1046.39	-5.26	-0.23	77.77
G1+G2+S+0.7Q+A+D1	41.23	8.06	-1014.81	-5.09	0.00	43.95

G1+G2+S+0.7Q+A+D2	41.20	8.12	-1077.94	-5.43	0.00	43.95
G1+G2+S+0.7Q+A+D3	41.21	-34.23	-1046.37	-5.26	0.17	43.84
G1+G2+S+0.7Q+A+D4	41.21	50.41	-1046.38	-5.26	-0.17	44.06
G1+G2+S+0.7Q+A+V1+0.6D1	41.23	8.01	-1024.00	-5.13	0.00	43.73
G1+G2+S+0.7Q+A+V2+0.6D2	41.20	8.17	-1068.75	-5.39	0.00	44.17
G1+G2+S+0.7Q+A+V3+0.6D3	41.21	-73.56	-1046.35	-5.26	0.20	-12.29
G1+G2+S+0.7Q+A+V4+0.6D4	41.21	89.74	-1046.40	-5.26	-0.20	100.20
G1+G2+S+0.7Q+V1+0.6D1	24.34	7.96	-2713.12	-5.13	0.00	43.77
G1+G2+S+0.7Q+V2+0.6D2	24.31	8.12	-2757.87	-5.39	0.00	44.21
G1+G2+S+0.7Q+V3+0.6D3	24.32	-73.61	-2735.47	-5.26	0.20	-12.26
G1+G2+S+0.7Q+V4+0.6D4	24.32	89.69	-2735.52	-5.26	-0.20	100.23
G1+G2+S+A+0.6V1+0.6D1	40.20	8.07	-1035.11	-5.14	0.00	43.82
G1+G2+S+A+0.6V2+0.6D2	40.20	8.06	-1022.48	-5.07	0.00	43.82
G1+G2+S+A+0.6V2+0.6D2	40.17	8.18	-1077.11	-5.38	0.00	44.08
G1+G2+S+A+0.6V2+D2	40.16	8.19	-1089.73	-5.44	0.00	44.08
G1+G2+S+A+0.6V3+0.6D3	40.18	-51.02	-1056.09	-5.26	0.16	10.18
G1+G2+S+A+0.6V3+D3	40.18	-67.95	-1056.09	-5.26	0.23	10.14
G1+G2+S+A+0.6V4+0.6D4	40.18	67.27	-1056.12	-5.26	-0.16	77.72
G1+G2+S+A+0.6V4+D4	40.18	84.20	-1056.12	-5.26	-0.23	77.77
G1+G2+S+A+D1	40.20	8.09	-1024.54	-5.09	0.00	43.95
G1+G2+S+A+D2	40.16	8.15	-1087.67	-5.43	0.00	43.95
G1+G2+S+A+D3	40.18	-34.20	-1056.10	-5.26	0.17	43.84
G1+G2+S+A+D4	40.18	50.44	-1056.11	-5.26	-0.17	44.06
G1+G2+S+A+V1+0.6D1	40.20	8.04	-1033.73	-5.13	0.00	43.73
G1+G2+S+A+V2+0.6D2	40.16	8.20	-1078.48	-5.39	0.00	44.17
G1+G2+S+A+V3+0.6D3	40.18	-73.52	-1056.09	-5.26	0.20	-12.29
G1+G2+S+A+V4+0.6D4	40.18	89.77	-1056.13	-5.26	-0.20	100.20
G1+G2+S+D1	23.31	8.04	-2713.66	-5.09	0.00	43.99
G1+G2+S+D2	23.27	8.10	-2776.79	-5.43	0.00	43.99
G1+G2+S+D3	23.29	-34.25	-2745.22	-5.26	0.17	43.88
G1+G2+S+D4	23.29	50.39	-2745.23	-5.26	-0.17	44.10
G1+G2+S+Q+0.6V1+0.6D1	24.78	7.97	-2710.32	-5.14	0.00	43.86
G1+G2+S+Q+0.6V2+0.6D2	24.75	8.08	-2752.32	-5.38	0.00	44.12
G1+G2+S+Q+0.6V3+0.6D3	24.77	-51.12	-2731.31	-5.26	0.16	10.22
G1+G2+S+Q+0.6V4+0.6D4	24.77	67.17	-2731.34	-5.26	-0.16	77.76
G1+G2+S+Q+A+0.6V1+0.6D1	41.67	8.02	-1021.20	-5.14	0.00	43.82
G1+G2+S+Q+A+0.6V2+0.6D2	41.64	8.13	-1063.20	-5.38	0.00	44.08
G1+G2+S+Q+A+0.6V3+0.6D3	41.66	-51.07	-1042.19	-5.26	0.16	10.18
G1+G2+S+Q+A+0.6V4+0.6D4	41.66	67.22	-1042.22	-5.26	-0.16	77.72
G1+G2+S+Q+A+D1	41.67	8.05	-1010.64	-5.09	0.00	43.95
G1+G2+S+Q+A+D2	41.64	8.11	-1073.77	-5.43	0.00	43.95
G1+G2+S+Q+A+D3	41.66	-34.24	-1042.20	-5.26	0.17	43.84
G1+G2+S+Q+A+D4	41.66	50.39	-1042.21	-5.26	-0.17	44.06
G1+G2+S+Q+D1	24.78	8.00	-2699.76	-5.09	0.00	43.99
G1+G2+S+Q+D2	24.75	8.06	-2762.89	-5.43	0.00	43.99
G1+G2+S+Q+D3	24.77	-34.29	-2731.32	-5.26	0.17	43.88
G1+G2+S+Q+D4	24.77	50.34	-2731.33	-5.26	-0.17	44.10

Fundação B13						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	14.58	237.82	180.75	0.00	0.00	4.77
Adicional (G2)	0.29	1.34	4.65	0.00	0.00	0.02
Solo (S)	12.51	-79.50	-1041.04	-5.26	0.00	-70.20
Acidental (Q)	0.87	4.00	13.95	0.00	0.00	0.05
Água (A)	7.73	105.46	56.50	0.00	0.00	-27.12
Vento X+ (V1)	-0.02	5.35	-10.22	0.03	0.00	0.31
Vento X- (V2)	0.02	-5.35	10.22	-0.03	0.00	-0.31



Vento Y+ (V3)	-0.38	112.30	-5.75	0.00	0.09	-51.03
Vento Y- (V4)	0.38	-112.30	5.75	0.00	-0.09	51.03
Desaprumo X+ (D1)	-0.07	-6.25	16.20	0.11	0.00	-0.53
Desaprumo X- (D2)	0.07	6.25	-16.20	-0.11	0.00	0.53
Desaprumo Y+ (D3)	-0.12	-33.68	-0.95	0.00	0.11	-0.20
Desaprumo Y- (D4)	0.12	33.68	0.95	0.00	-0.11	0.20
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	27.90	159.42	-835.81	-5.14	0.00	-65.73
G1+G2+S+0.7Q+0.6V2+D2	28.07	165.50	-855.94	-5.38	0.00	-65.04
G1+G2+S+0.7Q+0.6V3+D3	27.64	196.16	-850.27	-5.26	0.16	-96.20
G1+G2+S+0.7Q+0.6V4+D4	28.34	128.75	-841.47	-5.26	-0.16	-34.56
G1+G2+S+0.7Q+A+0.6V1+0.6D1	35.66	267.37	-785.79	-5.18	0.00	-92.64
G1+G2+S+0.7Q+A+0.6V1+D1	35.63	264.87	-779.31	-5.14	0.00	-92.85
G1+G2+S+0.7Q+A+0.6V2+0.6D2	35.77	268.45	-792.96	-5.34	0.00	-92.37
G1+G2+S+0.7Q+A+0.6V2+D2	35.80	270.95	-799.44	-5.38	0.00	-92.16
G1+G2+S+0.7Q+A+0.6V3+0.6D3	35.42	315.09	-793.39	-5.26	0.12	-123.25
G1+G2+S+0.7Q+A+0.6V3+D3	35.37	301.62	-793.77	-5.26	0.16	-123.33
G1+G2+S+0.7Q+A+0.6V4+0.6D4	36.02	220.74	-785.35	-5.26	-0.12	-61.77
G1+G2+S+0.7Q+A+0.6V4+D4	36.06	234.21	-784.97	-5.26	-0.16	-61.68
G1+G2+S+0.7Q+A+D1	35.64	261.66	-773.18	-5.15	0.00	-93.03
G1+G2+S+0.7Q+A+D2	35.79	274.16	-805.57	-5.37	0.00	-91.98
G1+G2+S+0.7Q+A+D3	35.60	234.24	-790.32	-5.26	0.11	-92.71
G1+G2+S+0.7Q+A+D4	35.83	301.59	-788.43	-5.26	-0.11	-92.30
G1+G2+S+0.7Q+A+V1+0.6D1	35.65	269.51	-789.87	-5.17	0.00	-92.52
G1+G2+S+0.7Q+A+V2+0.6D2	35.78	266.32	-788.87	-5.35	0.00	-92.50
G1+G2+S+0.7Q+A+V3+0.6D3	35.26	360.01	-795.70	-5.26	0.16	-143.66
G1+G2+S+0.7Q+A+V4+0.6D4	36.17	175.82	-783.05	-5.26	-0.16	-41.35
G1+G2+S+0.7Q+V1+0.6D1	27.93	164.06	-846.38	-5.17	0.00	-65.39
G1+G2+S+0.7Q+V2+0.6D2	28.05	160.86	-845.37	-5.35	0.00	-65.37
G1+G2+S+0.7Q+V3+0.6D3	27.54	254.55	-852.20	-5.26	0.16	-116.53
G1+G2+S+0.7Q+V4+0.6D4	28.44	70.36	-839.55	-5.26	-0.15	-14.23
G1+G2+S+A+0.6V1+0.6D1	35.05	264.57	-795.55	-5.18	0.00	-92.67
G1+G2+S+A+0.6V1+D1	35.02	262.07	-789.07	-5.14	0.00	-92.88
G1+G2+S+A+0.6V2+0.6D2	35.16	265.65	-802.72	-5.34	0.00	-92.41
G1+G2+S+A+0.6V2+D2	35.19	268.15	-809.20	-5.38	0.00	-92.20
G1+G2+S+A+0.6V3+0.6D3	34.81	312.29	-803.16	-5.26	0.12	-123.28
G1+G2+S+A+0.6V3+D3	34.76	298.82	-803.54	-5.26	0.16	-123.36
G1+G2+S+A+0.6V4+0.6D4	35.41	217.94	-795.11	-5.26	-0.12	-61.80
G1+G2+S+A+0.6V4+D4	35.46	231.41	-794.73	-5.26	-0.16	-61.72
G1+G2+S+A+D1	35.04	258.86	-782.94	-5.15	0.00	-93.07
G1+G2+S+A+D2	35.18	271.36	-815.33	-5.37	0.00	-92.01
G1+G2+S+A+D3	34.99	231.43	-800.08	-5.26	0.11	-92.75
G1+G2+S+A+D4	35.23	298.79	-798.19	-5.26	-0.11	-92.34
G1+G2+S+A+V1+0.6D1	35.05	266.71	-799.64	-5.17	0.00	-92.55
G1+G2+S+A+V2+0.6D2	35.17	263.51	-798.63	-5.35	0.00	-92.53
G1+G2+S+A+V3+0.6D3	34.66	357.21	-805.46	-5.26	0.16	-143.69
G1+G2+S+A+V4+0.6D4	35.56	173.02	-792.81	-5.26	-0.16	-41.39
G1+G2+S+D1	27.31	153.41	-839.44	-5.15	0.00	-65.95
G1+G2+S+D2	27.45	165.91	-871.83	-5.37	0.00	-64.89
G1+G2+S+D3	27.26	125.98	-856.58	-5.26	0.11	-65.62
G1+G2+S+D4	27.50	193.33	-854.69	-5.26	-0.11	-65.21
G1+G2+S+Q+0.6V1+0.6D1	28.19	163.12	-838.10	-5.18	0.00	-65.50
G1+G2+S+Q+0.6V2+0.6D2	28.30	164.20	-845.28	-5.34	0.00	-65.24
G1+G2+S+Q+0.6V3+0.6D3	27.95	210.83	-845.71	-5.26	0.12	-96.11
G1+G2+S+Q+0.6V4+0.6D4	28.55	116.48	-837.67	-5.26	-0.12	-34.63

G1+G2+S+Q+A+0.6V1+0.6D1	35.92	268.58	-781.60	-5.18	0.00	-92.62
G1+G2+S+Q+A+0.6V2+0.6D2	36.03	269.66	-788.78	-5.34	0.00	-92.36
G1+G2+S+Q+A+0.6V3+0.6D3	35.68	316.29	-789.21	-5.26	0.12	-123.23
G1+G2+S+Q+A+0.6V4+0.6D4	36.28	221.94	-781.17	-5.26	-0.12	-61.75
G1+G2+S+Q+A+D1	35.90	262.87	-768.99	-5.15	0.00	-93.02
G1+G2+S+Q+A+D2	36.05	275.37	-801.39	-5.37	0.00	-91.96
G1+G2+S+Q+A+D3	35.86	235.44	-786.14	-5.26	0.11	-92.70
G1+G2+S+Q+A+D4	36.09	302.79	-784.24	-5.26	-0.11	-92.29
G1+G2+S+Q+D1	28.18	157.41	-825.49	-5.15	0.00	-65.90
G1+G2+S+Q+D2	28.32	169.91	-857.89	-5.37	0.00	-64.84
G1+G2+S+Q+D3	28.13	129.98	-842.64	-5.26	0.11	-65.57
G1+G2+S+Q+D4	28.37	197.34	-840.74	-5.26	-0.11	-65.16

Fundação B14						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	23.28	838.93	13.25	0.00	0.00	0.71
Adicional (G2)	0.66	17.68	0.74	0.00	0.00	0.08
Solo (S)	14.09	-453.46	-851.91	-5.26	0.00	37.31
Acidental (Q)	1.98	53.05	2.22	0.00	0.00	0.23
Água (A)	19.95	1078.89	51.34	0.00	0.00	12.53
Vento X+ (V1)	-0.05	-3.09	-10.21	0.03	0.00	0.86
Vento X- (V2)	0.05	3.09	10.21	-0.03	0.00	-0.86
Vento Y+ (V3)	-0.53	142.42	1.74	0.00	0.09	-53.16
Vento Y- (V4)	0.53	-142.42	-1.74	0.00	-0.09	53.16
Desaprumo X+ (D1)	-0.01	-0.66	28.26	0.21	0.00	-0.56
Desaprumo X- (D2)	0.01	0.66	-28.26	-0.21	0.00	0.56
Desaprumo Y+ (D3)	-0.13	-58.22	0.48	0.00	0.21	0.13
Desaprumo Y- (D4)	0.13	58.22	-0.48	0.00	-0.21	-0.13
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	39.38	437.77	-814.23	-5.04	0.00	38.21
G1+G2+S+0.7Q+0.6V2+D2	39.46	442.80	-858.50	-5.49	0.00	38.30
G1+G2+S+0.7Q+0.6V3+D3	38.97	467.52	-834.84	-5.26	0.27	6.48
G1+G2+S+0.7Q+0.6V4+D4	39.88	413.05	-837.89	-5.26	-0.26	70.02
G1+G2+S+0.7Q+A+0.6V1+0.6D1	59.34	1516.92	-774.20	-5.12	0.00	50.96
G1+G2+S+0.7Q+A+0.6V1+D1	59.34	1516.66	-762.89	-5.04	0.00	50.74
G1+G2+S+0.7Q+A+0.6V2+0.6D2	59.41	1521.43	-795.86	-5.40	0.00	50.60
G1+G2+S+0.7Q+A+0.6V2+D2	59.42	1521.69	-807.16	-5.49	0.00	50.83
G1+G2+S+0.7Q+A+0.6V3+0.6D3	58.98	1569.70	-783.70	-5.26	0.18	18.96
G1+G2+S+0.7Q+A+0.6V3+D3	58.92	1546.41	-783.50	-5.26	0.27	19.01
G1+G2+S+0.7Q+A+0.6V4+0.6D4	59.78	1468.65	-786.36	-5.26	-0.18	82.61
G1+G2+S+0.7Q+A+0.6V4+D4	59.83	1491.94	-786.55	-5.26	-0.26	82.56
G1+G2+S+0.7Q+A+D1	59.36	1518.51	-756.77	-5.05	0.00	50.22
G1+G2+S+0.7Q+A+D2	59.39	1519.83	-813.29	-5.47	0.00	51.34
G1+G2+S+0.7Q+A+D3	59.24	1460.96	-784.55	-5.26	0.21	50.91
G1+G2+S+0.7Q+A+D4	59.51	1577.39	-785.51	-5.26	-0.21	50.66
G1+G2+S+0.7Q+A+V1+0.6D1	59.32	1515.68	-778.28	-5.11	0.00	51.31
G1+G2+S+0.7Q+A+V2+0.6D2	59.43	1522.66	-791.78	-5.41	0.00	50.26
G1+G2+S+0.7Q+A+V3+0.6D3	58.76	1626.66	-783.00	-5.26	0.22	-2.31
G1+G2+S+0.7Q+A+V4+0.6D4	59.99	1411.68	-787.05	-5.26	-0.22	103.87
G1+G2+S+0.7Q+V1+0.6D1	39.37	436.79	-829.62	-5.11	0.00	38.78
G1+G2+S+0.7Q+V2+0.6D2	39.48	443.77	-843.12	-5.41	0.00	37.73
G1+G2+S+0.7Q+V3+0.6D3	38.81	547.77	-834.34	-5.26	0.22	-14.84
G1+G2+S+0.7Q+V4+0.6D4	40.04	332.79	-838.40	-5.26	-0.22	91.34
G1+G2+S+A+0.6V1+0.6D1	57.96	1479.79	-775.75	-5.12	0.00	50.80

G1+G2+S+A+0.6V1+D1	57.95	1479.52	-764.45	-5.04	0.00	50.58
G1+G2+S+A+0.6V2+0.6D2	58.03	1484.29	-797.42	-5.40	0.00	50.44
G1+G2+S+A+0.6V2+D2	58.03	1484.56	-808.72	-5.49	0.00	50.67
G1+G2+S+A+0.6V3+0.6D3	57.59	1532.56	-785.25	-5.26	0.18	18.80
G1+G2+S+A+0.6V3+D3	57.54	1509.27	-785.06	-5.26	0.27	18.85
G1+G2+S+A+0.6V4+0.6D4	58.39	1431.52	-787.92	-5.26	-0.18	82.45
G1+G2+S+A+0.6V4+D4	58.45	1454.80	-788.11	-5.26	-0.26	82.40
G1+G2+S+A+D1	57.98	1481.38	-758.32	-5.05	0.00	50.07
G1+G2+S+A+D2	58.00	1482.70	-814.85	-5.47	0.00	51.18
G1+G2+S+A+D3	57.86	1423.82	-786.10	-5.26	0.21	50.75
G1+G2+S+A+D4	58.13	1540.26	-787.06	-5.26	-0.21	50.50
G1+G2+S+A+V1+0.6D1	57.94	1478.55	-779.84	-5.11	0.00	51.15
G1+G2+S+A+V2+0.6D2	58.05	1485.53	-793.33	-5.41	0.00	50.10
G1+G2+S+A+V3+0.6D3	57.38	1589.53	-784.56	-5.26	0.22	-2.46
G1+G2+S+A+V4+0.6D4	58.61	1374.55	-788.61	-5.26	-0.22	103.71
G1+G2+S+D1	38.02	402.49	-809.66	-5.05	0.00	37.53
G1+G2+S+D2	38.05	403.81	-866.19	-5.47	0.00	38.65
G1+G2+S+D3	37.90	344.93	-837.44	-5.26	0.21	38.22
G1+G2+S+D4	38.17	461.37	-838.40	-5.26	-0.21	37.97
G1+G2+S+Q+0.6V1+0.6D1	39.98	453.95	-824.87	-5.12	0.00	38.50
G1+G2+S+Q+0.6V2+0.6D2	40.05	458.45	-846.53	-5.40	0.00	38.14
G1+G2+S+Q+0.6V3+0.6D3	39.62	506.72	-834.37	-5.26	0.18	6.50
G1+G2+S+Q+0.6V4+0.6D4	40.42	405.68	-837.03	-5.26	-0.18	70.14
G1+G2+S+Q+A+0.6V1+0.6D1	59.94	1532.84	-773.53	-5.12	0.00	51.03
G1+G2+S+Q+A+0.6V2+0.6D2	60.01	1537.34	-795.19	-5.40	0.00	50.67
G1+G2+S+Q+A+0.6V3+0.6D3	59.57	1585.61	-783.03	-5.26	0.18	19.03
G1+G2+S+Q+A+0.6V4+0.6D4	60.37	1484.57	-785.69	-5.26	-0.18	82.67
G1+G2+S+Q+A+D1	59.96	1534.43	-756.10	-5.05	0.00	50.29
G1+G2+S+Q+A+D2	59.98	1535.75	-812.62	-5.47	0.00	51.41
G1+G2+S+Q+A+D3	59.84	1476.87	-783.88	-5.26	0.21	50.98
G1+G2+S+Q+A+D4	60.11	1593.31	-784.84	-5.26	-0.21	50.72
G1+G2+S+Q+D1	40.00	455.54	-807.44	-5.05	0.00	37.76
G1+G2+S+Q+D2	40.03	456.86	-863.96	-5.47	0.00	38.88
G1+G2+S+Q+D3	39.88	397.98	-835.22	-5.26	0.21	38.45
G1+G2+S+Q+D4	40.15	514.42	-836.18	-5.26	-0.21	38.19

**Fundação B15**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	19.97	-32.91	11.28	0.00	0.00	-0.27
Adicional (G2)	0.56	1.49	0.54	0.00	0.00	-0.01
Solo (S)	10.10	-2221.99	-1397.30	-5.26	0.00	37.80
Acidental (Q)	1.68	4.51	1.62	0.00	0.00	-0.03
Água (A)	17.66	1495.82	6.30	0.00	0.00	-0.59
Vento X+ (V1)	-0.03	-0.11	8.33	0.03	0.00	-0.28
Vento X- (V2)	0.03	0.11	-8.33	-0.03	0.00	0.28
Vento Y+ (V3)	0.08	-16.78	18.97	0.00	0.09	-54.93
Vento Y- (V4)	-0.08	16.78	-18.97	0.00	-0.09	54.93
Desaprumo X+ (D1)	0.00	0.04	39.37	0.18	0.00	0.13
Desaprumo X- (D2)	0.00	-0.04	-39.37	-0.18	0.00	-0.13
Desaprumo Y+ (D3)	-0.01	-35.58	3.31	0.00	0.18	0.10
Desaprumo Y- (D4)	0.01	35.58	-3.31	0.00	-0.18	-0.10
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	31.78	-2250.27	-1339.97	-5.06	0.00	37.46
G1+G2+S+0.7Q+0.6V2+D2	31.83	-2250.22	-1428.71	-5.46	0.00	37.54

G1+G2+S+0.7Q+0.6V3+D3	31.84	-2295.89	-1369.65	-5.26	0.24	4.65
G1+G2+S+0.7Q+0.6V4+D4	31.77	-2204.60	-1399.03	-5.26	-0.24	70.36
G1+G2+S+0.7Q+A+0.6V1+0.6D1	49.44	-754.47	-1349.42	-5.14	0.00	36.82
G1+G2+S+0.7Q+A+0.6V1+D1	49.44	-754.45	-1333.67	-5.06	0.00	36.88
G1+G2+S+0.7Q+A+0.6V2+0.6D2	49.48	-754.38	-1406.66	-5.39	0.00	37.00
G1+G2+S+0.7Q+A+0.6V2+D2	49.48	-754.40	-1422.41	-5.46	0.00	36.95
G1+G2+S+0.7Q+A+0.6V3+0.6D3	49.50	-785.84	-1364.67	-5.26	0.17	4.02
G1+G2+S+0.7Q+A+0.6V3+D3	49.49	-800.07	-1363.35	-5.26	0.24	4.06
G1+G2+S+0.7Q+A+0.6V4+0.6D4	49.42	-723.01	-1391.41	-5.26	-0.16	69.81
G1+G2+S+0.7Q+A+0.6V4+D4	49.43	-708.78	-1392.73	-5.26	-0.24	69.77
G1+G2+S+0.7Q+A+D1	49.46	-754.38	-1338.67	-5.08	0.00	37.04
G1+G2+S+0.7Q+A+D2	49.47	-754.47	-1417.41	-5.44	0.00	36.78
G1+G2+S+0.7Q+A+D3	49.45	-790.00	-1374.73	-5.26	0.18	37.02
G1+G2+S+0.7Q+A+D4	49.48	-718.85	-1381.35	-5.26	-0.18	36.81
G1+G2+S+0.7Q+A+V1+0.6D1	49.43	-754.51	-1346.08	-5.13	0.00	36.71
G1+G2+S+0.7Q+A+V2+0.6D2	49.49	-754.34	-1409.99	-5.40	0.00	37.11
G1+G2+S+0.7Q+A+V3+0.6D3	49.53	-792.55	-1357.08	-5.26	0.20	-17.96
G1+G2+S+0.7Q+A+V4+0.6D4	49.39	-716.30	-1398.99	-5.26	-0.20	91.78
G1+G2+S+0.7Q+V1+0.6D1	31.77	-2250.33	-1352.39	-5.13	0.00	37.30
G1+G2+S+0.7Q+V2+0.6D2	31.84	-2250.16	-1416.30	-5.40	0.00	37.70
G1+G2+S+0.7Q+V3+0.6D3	31.88	-2288.37	-1363.39	-5.26	0.20	-17.37
G1+G2+S+0.7Q+V4+0.6D4	31.74	-2212.12	-1405.30	-5.26	-0.20	92.37
G1+G2+S+A+0.6V1+0.6D1	48.27	-757.62	-1350.55	-5.14	0.00	36.84
G1+G2+S+A+0.6V1+D1	48.27	-757.61	-1334.81	-5.06	0.00	36.90
G1+G2+S+A+0.6V2+0.6D2	48.31	-757.54	-1407.80	-5.39	0.00	37.02
G1+G2+S+A+0.6V2+D2	48.31	-757.56	-1423.55	-5.46	0.00	36.97
G1+G2+S+A+0.6V3+0.6D3	48.33	-789.00	-1365.81	-5.26	0.17	4.04
G1+G2+S+A+0.6V3+D3	48.32	-803.23	-1364.48	-5.26	0.24	4.08
G1+G2+S+A+0.6V4+0.6D4	48.25	-726.17	-1392.54	-5.26	-0.16	69.83
G1+G2+S+A+0.6V4+D4	48.26	-711.94	-1393.87	-5.26	-0.24	69.79
G1+G2+S+A+D1	48.28	-757.54	-1339.81	-5.08	0.00	37.06
G1+G2+S+A+D2	48.29	-757.62	-1418.55	-5.44	0.00	36.80
G1+G2+S+A+D3	48.28	-793.16	-1375.86	-5.26	0.18	37.04
G1+G2+S+A+D4	48.30	-722.01	-1382.49	-5.26	-0.18	36.83
G1+G2+S+A+V1+0.6D1	48.26	-757.67	-1347.22	-5.13	0.00	36.73
G1+G2+S+A+V2+0.6D2	48.32	-757.50	-1411.13	-5.40	0.00	37.13
G1+G2+S+A+V3+0.6D3	48.36	-795.51	-1358.22	-5.26	0.20	-17.94
G1+G2+S+A+V4+0.6D4	48.22	-719.46	-1400.13	-5.26	-0.20	91.80
G1+G2+S+D1	30.63	-2253.36	-1346.11	-5.08	0.00	37.65
G1+G2+S+D2	30.64	-2253.45	-1424.85	-5.44	0.00	37.39
G1+G2+S+D3	30.62	-2288.98	-1382.17	-5.26	0.18	37.63
G1+G2+S+D4	30.65	-2217.83	-1388.79	-5.26	-0.18	37.42
G1+G2+S+Q+0.6V1+0.6D1	32.29	-2248.93	-1355.23	-5.14	0.00	37.40
G1+G2+S+Q+0.6V2+0.6D2	32.33	-2248.85	-1412.48	-5.39	0.00	37.58
G1+G2+S+Q+0.6V3+0.6D3	32.35	-2280.30	-1370.49	-5.26	0.17	4.60
G1+G2+S+Q+0.6V4+0.6D4	32.27	-2217.48	-1397.22	-5.26	-0.16	70.39
G1+G2+S+Q+A+0.6V1+0.6D1	49.94	-753.11	-1348.93	-5.14	0.00	36.82
G1+G2+S+Q+A+0.6V2+0.6D2	49.99	-753.03	-1406.17	-5.39	0.00	36.99
G1+G2+S+Q+A+0.6V3+0.6D3	50.00	-784.48	-1364.18	-5.26	0.17	4.01
G1+G2+S+Q+A+0.6V4+0.6D4	49.93	-721.66	-1390.92	-5.26	-0.16	69.80
G1+G2+S+Q+A+D1	49.96	-753.03	-1338.18	-5.08	0.00	37.03
G1+G2+S+Q+A+D2	49.97	-753.11	-1416.92	-5.44	0.00	36.77
G1+G2+S+Q+A+D3	49.95	-788.65	-1374.24	-5.26	0.18	37.01
G1+G2+S+Q+A+D4	49.98	-717.49	-1380.86	-5.26	-0.18	36.80
G1+G2+S+Q+D1	32.30	-2248.85	-1344.48	-5.08	0.00	37.62
G1+G2+S+Q+D2	32.31	-2248.93	-1423.22	-5.44	0.00	37.36
G1+G2+S+Q+D3	32.30	-2284.47	-1380.54	-5.26	0.18	37.60
G1+G2+S+Q+D4	32.32	-2213.31	-1387.17	-5.26	-0.18	37.39

<b>Fundação B16</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	20.17	-0.98	-4.54	0.00	0.00	0.17
Adicional (G2)	0.57	3.89	-0.28	0.00	0.00	0.01
Solo (S)	9.18	-2310.70	-1469.92	-5.26	0.00	40.89
Acidental (Q)	1.72	11.70	-0.83	0.00	0.00	0.03
Água (A)	17.61	1646.28	-16.16	0.00	0.00	0.68
Vento X+ (V1)	0.00	-0.01	8.40	0.03	0.00	-0.30
Vento X- (V2)	0.00	0.01	-8.40	-0.03	0.00	0.30
Vento Y+ (V3)	0.25	-18.26	6.80	0.00	0.09	-55.24
Vento Y- (V4)	-0.25	18.26	-6.80	0.00	-0.09	55.24
Desaprumo X+ (D1)	0.00	-0.01	39.73	0.18	0.00	0.13
Desaprumo X- (D2)	0.00	0.01	-39.73	-0.18	0.00	-0.13
Desaprumo Y+ (D3)	0.03	-36.62	0.10	0.00	0.18	0.00
Desaprumo Y- (D4)	-0.03	36.62	-0.10	0.00	-0.18	0.00
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	31.13	-2299.62	-1430.54	-5.06	0.00	41.04
G1+G2+S+0.7Q+0.6V2+D2	31.13	-2299.59	-1520.08	-5.46	0.00	41.14
G1+G2+S+0.7Q+0.6V3+D3	31.31	-2347.18	-1471.13	-5.26	0.24	7.95
G1+G2+S+0.7Q+0.6V4+D4	30.95	-2252.03	-1479.49	-5.26	-0.24	74.24
G1+G2+S+0.7Q+A+0.6V1+0.6D1	48.74	-653.34	-1462.59	-5.13	0.00	41.68
G1+G2+S+0.7Q+A+0.6V1+D1	48.74	-653.34	-1446.70	-5.06	0.00	41.73
G1+G2+S+0.7Q+A+0.6V2+0.6D2	48.74	-653.32	-1520.35	-5.39	0.00	41.88
G1+G2+S+0.7Q+A+0.6V2+D2	48.74	-653.31	-1536.24	-5.46	0.00	41.83
G1+G2+S+0.7Q+A+0.6V3+0.6D3	48.90	-686.26	-1487.33	-5.26	0.17	8.63
G1+G2+S+0.7Q+A+0.6V3+D3	48.92	-700.90	-1487.29	-5.26	0.24	8.63
G1+G2+S+0.7Q+A+0.6V4+0.6D4	48.57	-620.40	-1495.61	-5.26	-0.17	74.92
G1+G2+S+0.7Q+A+0.6V4+D4	48.56	-605.75	-1495.65	-5.26	-0.24	74.92
G1+G2+S+0.7Q+A+D1	48.74	-653.34	-1451.74	-5.08	0.00	41.90
G1+G2+S+0.7Q+A+D2	48.74	-653.32	-1531.20	-5.44	0.00	41.65
G1+G2+S+0.7Q+A+D3	48.77	-689.95	-1491.37	-5.26	0.18	41.78
G1+G2+S+0.7Q+A+D4	48.70	-616.71	-1491.57	-5.26	-0.18	41.78
G1+G2+S+0.7Q+A+V1+0.6D1	48.74	-653.34	-1459.23	-5.12	0.00	41.56
G1+G2+S+0.7Q+A+V2+0.6D2	48.74	-653.31	-1523.71	-5.40	0.00	42.00
G1+G2+S+0.7Q+A+V3+0.6D3	49.00	-693.56	-1484.61	-5.26	0.20	-13.46
G1+G2+S+0.7Q+A+V4+0.6D4	48.47	-613.09	-1498.33	-5.26	-0.20	97.02
G1+G2+S+0.7Q+V1+0.6D1	31.13	-2299.62	-1443.07	-5.12	0.00	40.87
G1+G2+S+0.7Q+V2+0.6D2	31.13	-2299.59	-1507.55	-5.40	0.00	41.31
G1+G2+S+0.7Q+V3+0.6D3	31.40	-2339.84	-1468.45	-5.26	0.20	-14.15
G1+G2+S+0.7Q+V4+0.6D4	30.86	-2259.37	-1482.17	-5.26	-0.20	96.33
G1+G2+S+A+0.6V1+0.6D1	47.53	-661.53	-1462.01	-5.13	0.00	41.66
G1+G2+S+A+0.6V1+D1	47.53	-661.53	-1446.12	-5.06	0.00	41.71
G1+G2+S+A+0.6V2+0.6D2	47.53	-661.50	-1519.77	-5.39	0.00	41.86
G1+G2+S+A+0.6V2+D2	47.53	-661.50	-1535.66	-5.46	0.00	41.81
G1+G2+S+A+0.6V3+0.6D3	47.70	-694.44	-1486.75	-5.26	0.17	8.61
G1+G2+S+A+0.6V3+D3	47.71	-709.09	-1486.71	-5.26	0.24	8.61
G1+G2+S+A+0.6V4+0.6D4	47.36	-628.59	-1495.03	-5.26	-0.17	74.90
G1+G2+S+A+0.6V4+D4	47.35	-613.94	-1495.07	-5.26	-0.24	74.90
G1+G2+S+A+D1	47.53	-661.53	-1451.16	-5.08	0.00	41.88
G1+G2+S+A+D2	47.53	-661.51	-1530.62	-5.44	0.00	41.63
G1+G2+S+A+D3	47.56	-698.14	-1490.79	-5.26	0.18	41.76
G1+G2+S+A+D4	47.50	-624.89	-1490.99	-5.26	-0.18	41.76
G1+G2+S+A+V1+0.6D1	47.53	-661.53	-1458.65	-5.12	0.00	41.54
G1+G2+S+A+V2+0.6D2	47.53	-661.50	-1523.13	-5.40	0.00	41.98

G1+G2+S+A+V3+0.6D3	47.80	-701.75	-1484.03	-5.26	0.20	-13.48
G1+G2+S+A+V4+0.6D4	47.27	-621.28	-1497.75	-5.26	-0.20	97.00
G1+G2+S+D1	29.93	-2307.80	-1435.00	-5.08	0.00	41.20
G1+G2+S+D2	29.93	-2307.78	-1514.46	-5.44	0.00	40.95
G1+G2+S+D3	29.96	-2344.41	-1474.62	-5.26	0.18	41.07
G1+G2+S+D4	29.90	-2271.17	-1474.83	-5.26	-0.18	41.07
G1+G2+S+Q+0.6V1+0.6D1	31.65	-2296.11	-1446.68	-5.13	0.00	41.00
G1+G2+S+Q+0.6V2+0.6D2	31.65	-2296.08	-1504.44	-5.39	0.00	41.20
G1+G2+S+Q+0.6V3+0.6D3	31.81	-2329.03	-1471.42	-5.26	0.17	7.96
G1+G2+S+Q+0.6V4+0.6D4	31.48	-2263.17	-1479.70	-5.26	-0.17	74.25
G1+G2+S+Q+A+0.6V1+0.6D1	49.25	-649.83	-1462.84	-5.13	0.00	41.68
G1+G2+S+Q+A+0.6V2+0.6D2	49.25	-649.81	-1520.60	-5.39	0.00	41.89
G1+G2+S+Q+A+0.6V3+0.6D3	49.42	-682.75	-1487.58	-5.26	0.17	8.64
G1+G2+S+Q+A+0.6V4+0.6D4	49.08	-616.89	-1495.86	-5.26	-0.17	74.93
G1+G2+S+Q+A+D1	49.25	-649.83	-1451.99	-5.08	0.00	41.91
G1+G2+S+Q+A+D2	49.25	-649.81	-1531.45	-5.44	0.00	41.66
G1+G2+S+Q+A+D3	49.28	-686.44	-1491.62	-5.26	0.18	41.78
G1+G2+S+Q+A+D4	49.22	-613.20	-1491.82	-5.26	-0.18	41.79
G1+G2+S+Q+D1	31.65	-2296.11	-1435.83	-5.08	0.00	41.23
G1+G2+S+Q+D2	31.65	-2296.09	-1515.29	-5.44	0.00	40.98
G1+G2+S+Q+D3	31.68	-2332.72	-1475.45	-5.26	0.18	41.10
G1+G2+S+Q+D4	31.62	-2259.48	-1475.66	-5.26	-0.18	41.10

Fundação B17						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	19.70	-39.00	-24.41	0.00	0.00	0.62
Adicional (G2)	0.54	1.22	-1.31	0.00	0.00	0.01
Solo (S)	7.03	-2201.87	-1513.36	-5.26	0.00	42.60
Acidental (Q)	1.62	3.70	-3.93	0.00	0.00	0.03
Água (A)	16.94	1459.25	-44.07	0.00	0.00	1.62
Vento X+ (V1)	0.04	0.09	8.97	0.03	0.00	-0.29
Vento X- (V2)	-0.04	-0.09	-8.97	-0.03	0.00	0.29
Vento Y+ (V3)	0.07	-17.42	-9.19	0.00	0.09	-55.65
Vento Y- (V4)	-0.07	17.42	9.19	0.00	-0.09	55.65
Desaprumo X+ (D1)	0.01	-0.08	38.80	0.18	0.00	0.11
Desaprumo X- (D2)	-0.01	0.08	-38.80	-0.18	0.00	-0.11
Desaprumo Y+ (D3)	-0.01	-34.63	-3.80	0.00	0.18	-0.12
Desaprumo Y- (D4)	0.01	34.63	3.80	0.00	-0.18	0.12
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	28.44	-2237.08	-1497.65	-5.07	0.00	43.20
G1+G2+S+0.7Q+0.6V2+D2	28.36	-2237.03	-1586.02	-5.45	0.00	43.31
G1+G2+S+0.7Q+0.6V3+D3	28.43	-2282.13	-1551.15	-5.26	0.23	9.75
G1+G2+S+0.7Q+0.6V4+D4	28.37	-2191.97	-1532.52	-5.26	-0.23	76.77
G1+G2+S+0.7Q+A+0.6V1+0.6D1	45.38	-777.79	-1557.25	-5.14	0.00	44.77
G1+G2+S+0.7Q+A+0.6V1+D1	45.38	-777.82	-1541.73	-5.07	0.00	44.82
G1+G2+S+0.7Q+A+0.6V2+0.6D2	45.31	-777.81	-1614.58	-5.38	0.00	44.98
G1+G2+S+0.7Q+A+0.6V2+D2	45.31	-777.77	-1630.10	-5.45	0.00	44.93
G1+G2+S+0.7Q+A+0.6V3+0.6D3	45.38	-809.03	-1593.71	-5.26	0.16	11.41
G1+G2+S+0.7Q+A+0.6V3+D3	45.37	-822.88	-1595.23	-5.26	0.23	11.36
G1+G2+S+0.7Q+A+0.6V4+0.6D4	45.31	-746.57	-1578.12	-5.26	-0.16	78.34
G1+G2+S+0.7Q+A+0.6V4+D4	45.32	-732.72	-1576.60	-5.26	-0.23	78.38
G1+G2+S+0.7Q+A+D1	45.36	-777.88	-1547.11	-5.08	0.00	44.99
G1+G2+S+0.7Q+A+D2	45.33	-777.72	-1624.72	-5.44	0.00	44.76
G1+G2+S+0.7Q+A+D3	45.33	-812.43	-1589.71	-5.26	0.18	44.75

G1+G2+S+0.7Q+A+D4	45.36	-743.17	-1582.11	-5.26	-0.18	44.99
G1+G2+S+0.7Q+A+V1+0.6D1	45.39	-777.76	-1553.66	-5.13	0.00	44.66
G1+G2+S+0.7Q+A+V2+0.6D2	45.30	-777.84	-1618.16	-5.39	0.00	45.09
G1+G2+S+0.7Q+A+V3+0.6D3	45.40	-816.00	-1597.39	-5.26	0.20	-10.85
G1+G2+S+0.7Q+A+V4+0.6D4	45.29	-739.60	-1574.44	-5.26	-0.20	100.60
G1+G2+S+0.7Q+V1+0.6D1	28.45	-2237.01	-1509.59	-5.13	0.00	43.04
G1+G2+S+0.7Q+V2+0.6D2	28.35	-2237.09	-1574.09	-5.39	0.00	43.47
G1+G2+S+0.7Q+V3+0.6D3	28.46	-2275.25	-1553.31	-5.26	0.20	-12.47
G1+G2+S+0.7Q+V4+0.6D4	28.34	-2198.85	-1530.36	-5.26	-0.20	98.98
G1+G2+S+A+0.6V1+0.6D1	44.25	-780.38	-1554.50	-5.14	0.00	44.75
G1+G2+S+A+0.6V1+D1	44.25	-780.42	-1538.97	-5.07	0.00	44.79
G1+G2+S+A+0.6V2+0.6D2	44.18	-780.40	-1611.82	-5.38	0.00	44.96
G1+G2+S+A+0.6V2+D2	44.18	-780.37	-1627.34	-5.45	0.00	44.91
G1+G2+S+A+0.6V3+0.6D3	44.25	-811.62	-1590.95	-5.26	0.16	11.39
G1+G2+S+A+0.6V3+D3	44.24	-825.47	-1592.48	-5.26	0.23	11.34
G1+G2+S+A+0.6V4+0.6D4	44.18	-749.16	-1575.36	-5.26	-0.16	78.31
G1+G2+S+A+0.6V4+D4	44.18	-735.31	-1573.84	-5.26	-0.23	78.36
G1+G2+S+A+D1	44.22	-780.47	-1544.36	-5.08	0.00	44.97
G1+G2+S+A+D2	44.20	-780.31	-1621.96	-5.44	0.00	44.74
G1+G2+S+A+D3	44.20	-815.02	-1586.96	-5.26	0.18	44.73
G1+G2+S+A+D4	44.22	-745.76	-1579.36	-5.26	-0.18	44.97
G1+G2+S+A+V1+0.6D1	44.26	-780.35	-1550.91	-5.13	0.00	44.63
G1+G2+S+A+V2+0.6D2	44.16	-780.43	-1615.41	-5.39	0.00	45.07
G1+G2+S+A+V3+0.6D3	44.27	-818.59	-1594.63	-5.26	0.20	-10.87
G1+G2+S+A+V4+0.6D4	44.15	-742.19	-1571.69	-5.26	-0.20	100.57
G1+G2+S+D1	27.28	-2239.72	-1500.28	-5.08	0.00	43.35
G1+G2+S+D2	27.26	-2239.56	-1577.89	-5.44	0.00	43.12
G1+G2+S+D3	27.26	-2274.27	-1542.88	-5.26	0.18	43.11
G1+G2+S+D4	27.28	-2205.01	-1535.28	-5.26	-0.18	43.35
G1+G2+S+Q+0.6V1+0.6D1	28.92	-2235.93	-1514.36	-5.14	0.00	43.16
G1+G2+S+Q+0.6V2+0.6D2	28.85	-2235.95	-1571.68	-5.38	0.00	43.37
G1+G2+S+Q+0.6V3+0.6D3	28.92	-2267.17	-1550.81	-5.26	0.16	9.80
G1+G2+S+Q+0.6V4+0.6D4	28.85	-2204.71	-1535.22	-5.26	-0.16	76.73
G1+G2+S+Q+A+0.6V1+0.6D1	45.86	-776.68	-1558.43	-5.14	0.00	44.78
G1+G2+S+Q+A+0.6V2+0.6D2	45.80	-776.70	-1615.76	-5.38	0.00	44.99
G1+G2+S+Q+A+0.6V3+0.6D3	45.86	-807.92	-1594.89	-5.26	0.16	11.42
G1+G2+S+Q+A+0.6V4+0.6D4	45.80	-745.46	-1579.30	-5.26	-0.16	78.35
G1+G2+S+Q+A+D1	45.84	-776.77	-1548.29	-5.08	0.00	45.00
G1+G2+S+Q+A+D2	45.82	-776.61	-1625.90	-5.44	0.00	44.77
G1+G2+S+Q+A+D3	45.82	-811.32	-1590.89	-5.26	0.18	44.76
G1+G2+S+Q+A+D4	45.84	-742.06	-1583.29	-5.26	-0.18	45.00
G1+G2+S+Q+D1	28.90	-2236.02	-1504.22	-5.08	0.00	43.38
G1+G2+S+Q+D2	28.88	-2235.86	-1581.82	-5.44	0.00	43.15
G1+G2+S+Q+D3	28.88	-2270.57	-1546.82	-5.26	0.18	43.15
G1+G2+S+Q+D4	28.90	-2201.31	-1539.22	-5.26	-0.18	43.39

Fundação B18						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	15.89	296.47	-200.99	0.00	0.00	-7.34
Adicional (G2)	0.35	4.21	-5.37	0.00	0.00	-0.12
Solo (S)	-0.74	-899.61	-1015.70	-5.26	0.00	117.45
Acidental (Q)	1.06	12.64	-16.12	0.00	0.00	-0.37
Água (A)	8.57	302.35	-93.17	0.00	0.00	3.50
Vento X+ (V1)	0.05	-4.18	-12.41	0.03	0.00	0.29
Vento X- (V2)	-0.05	4.18	12.41	-0.03	0.00	-0.29
Vento Y+ (V3)	-0.77	91.46	7.11	0.00	0.10	-53.07
Vento Y- (V4)	0.77	-91.46	-7.11	0.00	-0.10	53.07

Desaprumo X+ (D1)	0.08	6.69	18.08	0.12	0.00	-0.56
Desaprumo X- (D2)	-0.08	-6.69	-18.08	-0.12	0.00	0.56
Desaprumo Y+ (D3)	-0.19	-41.73	0.86	0.00	0.12	0.10
Desaprumo Y- (D4)	0.19	41.73	-0.86	0.00	-0.12	-0.10
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	16.36	-585.90	-1222.70	-5.13	0.00	109.34
G1+G2+S+0.7Q+0.6V2+D2	16.14	-594.26	-1243.97	-5.39	0.00	110.12
G1+G2+S+0.7Q+0.6V3+D3	15.60	-576.94	-1228.21	-5.26	0.17	77.99
G1+G2+S+0.7Q+0.6V4+D4	16.91	-603.22	-1238.46	-5.26	-0.18	141.48
G1+G2+S+0.7Q+A+0.6V1+0.6D1	24.90	-286.22	-1323.10	-5.17	0.00	113.08
G1+G2+S+0.7Q+A+0.6V1+D1	24.93	-283.55	-1315.87	-5.13	0.00	112.85
G1+G2+S+0.7Q+A+0.6V2+0.6D2	24.74	-289.23	-1329.91	-5.35	0.00	113.40
G1+G2+S+0.7Q+A+0.6V2+D2	24.71	-291.91	-1337.14	-5.39	0.00	113.63
G1+G2+S+0.7Q+A+0.6V3+0.6D3	24.24	-257.90	-1321.73	-5.26	0.13	81.45
G1+G2+S+0.7Q+A+0.6V3+D3	24.16	-274.59	-1321.38	-5.26	0.17	81.49
G1+G2+S+0.7Q+A+0.6V4+0.6D4	25.40	-317.56	-1331.29	-5.26	-0.13	145.02
G1+G2+S+0.7Q+A+0.6V4+D4	25.47	-300.87	-1331.63	-5.26	-0.18	144.98
G1+G2+S+0.7Q+A+D1	24.90	-281.04	-1308.43	-5.14	0.00	112.67
G1+G2+S+0.7Q+A+D2	24.74	-294.42	-1344.58	-5.38	0.00	113.80
G1+G2+S+0.7Q+A+D3	24.63	-329.46	-1325.65	-5.26	0.12	113.34
G1+G2+S+0.7Q+A+D4	25.01	-246.00	-1327.36	-5.26	-0.12	113.14
G1+G2+S+0.7Q+A+V1+0.6D1	24.92	-287.90	-1328.07	-5.16	0.00	113.19
G1+G2+S+0.7Q+A+V2+0.6D2	24.72	-287.56	-1324.95	-5.36	0.00	113.28
G1+G2+S+0.7Q+A+V3+0.6D3	23.93	-221.31	-1318.88	-5.26	0.16	60.22
G1+G2+S+0.7Q+A+V4+0.6D4	25.71	-354.15	-1334.13	-5.26	-0.17	166.25
G1+G2+S+0.7Q+V1+0.6D1	16.35	-590.24	-1234.89	-5.16	0.00	109.69
G1+G2+S+0.7Q+V2+0.6D2	16.15	-589.91	-1231.77	-5.36	0.00	109.78
G1+G2+S+0.7Q+V3+0.6D3	15.37	-523.66	-1225.71	-5.26	0.17	56.72
G1+G2+S+0.7Q+V4+0.6D4	17.14	-656.50	-1240.96	-5.26	-0.17	162.75
G1+G2+S+A+0.6V1+0.6D1	24.16	-295.07	-1311.82	-5.17	0.00	113.33
G1+G2+S+A+0.6V1+D1	24.19	-292.40	-1304.59	-5.13	0.00	113.11
G1+G2+S+A+0.6V2+0.6D2	24.00	-298.08	-1318.63	-5.35	0.00	113.66
G1+G2+S+A+0.6V2+D2	23.97	-300.76	-1325.86	-5.39	0.00	113.89
G1+G2+S+A+0.6V3+0.6D3	23.50	-266.74	-1310.44	-5.26	0.13	81.71
G1+G2+S+A+0.6V3+D3	23.42	-283.44	-1310.10	-5.26	0.17	81.75
G1+G2+S+A+0.6V4+0.6D4	24.66	-326.41	-1320.01	-5.26	-0.13	145.28
G1+G2+S+A+0.6V4+D4	24.73	-309.72	-1320.35	-5.26	-0.18	145.24
G1+G2+S+A+D1	24.16	-289.89	-1297.15	-5.14	0.00	112.93
G1+G2+S+A+D2	24.00	-303.26	-1333.30	-5.38	0.00	114.06
G1+G2+S+A+D3	23.89	-338.31	-1314.37	-5.26	0.12	113.60
G1+G2+S+A+D4	24.27	-254.84	-1316.08	-5.26	-0.12	113.40
G1+G2+S+A+V1+0.6D1	24.18	-296.74	-1316.79	-5.16	0.00	113.45
G1+G2+S+A+V2+0.6D2	23.98	-296.41	-1313.66	-5.36	0.00	113.54
G1+G2+S+A+V3+0.6D3	23.19	-230.16	-1307.60	-5.26	0.16	60.48
G1+G2+S+A+V4+0.6D4	24.97	-363.00	-1322.85	-5.26	-0.17	166.51
G1+G2+S+D1	15.59	-592.24	-1203.98	-5.14	0.00	109.43
G1+G2+S+D2	15.43	-605.61	-1240.13	-5.38	0.00	110.56
G1+G2+S+D3	15.32	-640.66	-1221.20	-5.26	0.12	110.09
G1+G2+S+D4	15.70	-557.19	-1222.91	-5.26	-0.12	109.89
G1+G2+S+Q+0.6V1+0.6D1	16.65	-584.78	-1234.77	-5.17	0.00	109.46
G1+G2+S+Q+0.6V2+0.6D2	16.49	-587.79	-1241.57	-5.35	0.00	109.79
G1+G2+S+Q+0.6V3+0.6D3	15.99	-556.45	-1233.39	-5.26	0.13	77.84
G1+G2+S+Q+0.6V4+0.6D4	17.15	-616.12	-1242.95	-5.26	-0.13	141.41
G1+G2+S+Q+A+0.6V1+0.6D1	25.22	-282.43	-1327.94	-5.17	0.00	112.96
G1+G2+S+Q+A+0.6V2+0.6D2	25.06	-285.44	-1334.74	-5.35	0.00	113.29



G1+G2+S+Q+A+0.6V3+0.6D3	24.56	-254.10	-1326.56	-5.26	0.13	81.34
G1+G2+S+Q+A+0.6V4+0.6D4	25.71	-313.77	-1336.12	-5.26	-0.13	144.91
G1+G2+S+Q+A+D1	25.22	-277.25	-1313.27	-5.14	0.00	112.56
G1+G2+S+Q+A+D2	25.05	-290.62	-1349.42	-5.38	0.00	113.69
G1+G2+S+Q+A+D3	24.95	-325.67	-1330.49	-5.26	0.12	113.23
G1+G2+S+Q+A+D4	25.33	-242.20	-1332.20	-5.26	-0.12	113.03
G1+G2+S+Q+D1	16.65	-579.60	-1220.09	-5.14	0.00	109.06
G1+G2+S+Q+D2	16.49	-592.97	-1256.24	-5.38	0.00	110.19
G1+G2+S+Q+D3	16.38	-628.02	-1237.31	-5.26	0.12	109.72
G1+G2+S+Q+D4	16.76	-544.55	-1239.02	-5.26	-0.12	109.52

Fundação E1						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	4.17	-16.87	5.43	0.00	0.00	0.14
Adicional (G2)	0.20	0.48	0.03	0.00	0.00	0.01
Solo (S)	3.42	-567.36	-2131.98	-5.26	0.00	30.75
Acidental (Q)	0.60	1.45	0.09	0.00	0.00	0.02
Água (A)	12.58	377.65	-3.34	0.00	0.00	0.47
Vento X+ (V1)	0.00	0.03	10.48	0.03	0.00	-0.10
Vento X- (V2)	0.00	-0.03	-10.48	-0.03	0.00	0.10
Vento Y+ (V3)	-0.01	-33.23	-0.52	0.00	0.09	-42.81
Vento Y- (V4)	0.01	33.23	0.52	0.00	-0.09	42.81
Desaprumo X+ (D1)	0.00	0.01	33.28	0.08	0.00	0.08
Desaprumo X- (D2)	0.00	-0.01	-33.28	-0.08	0.00	-0.08
Desaprumo Y+ (D3)	-0.01	-24.90	-0.12	0.00	0.08	0.03
Desaprumo Y- (D4)	0.01	24.90	0.12	0.00	-0.08	-0.03
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	8.22	-582.71	-2086.89	-5.16	0.00	30.94
G1+G2+S+0.7Q+0.6V2+D2	8.22	-582.76	-2166.03	-5.36	0.00	30.90
G1+G2+S+0.7Q+0.6V3+D3	8.21	-627.57	-2126.89	-5.26	0.14	5.26
G1+G2+S+0.7Q+0.6V4+D4	8.23	-537.90	-2126.03	-5.26	-0.14	56.58
G1+G2+S+0.7Q+A+0.6V1+0.6D1	20.80	-205.06	-2103.55	-5.20	0.00	31.38
G1+G2+S+0.7Q+A+0.6V1+D1	20.80	-205.06	-2090.24	-5.16	0.00	31.41
G1+G2+S+0.7Q+A+0.6V2+0.6D2	20.80	-205.11	-2156.06	-5.32	0.00	31.40
G1+G2+S+0.7Q+A+0.6V2+D2	20.80	-205.11	-2169.37	-5.36	0.00	31.37
G1+G2+S+0.7Q+A+0.6V3+0.6D3	20.79	-239.96	-2130.19	-5.26	0.10	5.72
G1+G2+S+0.7Q+A+0.6V3+D3	20.79	-249.92	-2130.23	-5.26	0.14	5.73
G1+G2+S+0.7Q+A+0.6V4+0.6D4	20.81	-170.21	-2129.42	-5.26	-0.10	57.06
G1+G2+S+0.7Q+A+0.6V4+D4	20.81	-160.25	-2129.38	-5.26	-0.14	57.05
G1+G2+S+0.7Q+A+D1	20.80	-205.07	-2096.52	-5.18	0.00	31.47
G1+G2+S+0.7Q+A+D2	20.80	-205.09	-2163.09	-5.34	0.00	31.31
G1+G2+S+0.7Q+A+D3	20.80	-229.98	-2129.92	-5.26	0.08	31.42
G1+G2+S+0.7Q+A+D4	20.81	-180.19	-2129.69	-5.26	-0.08	31.36
G1+G2+S+0.7Q+A+V1+0.6D1	20.80	-205.05	-2099.36	-5.19	0.00	31.33
G1+G2+S+0.7Q+A+V2+0.6D2	20.80	-205.12	-2160.25	-5.33	0.00	31.45
G1+G2+S+0.7Q+A+V3+0.6D3	20.79	-253.25	-2130.39	-5.26	0.14	-11.41
G1+G2+S+0.7Q+A+V4+0.6D4	20.81	-156.91	-2129.22	-5.26	-0.14	74.18
G1+G2+S+0.7Q+V1+0.6D1	8.22	-582.70	-2096.01	-5.19	0.00	30.86
G1+G2+S+0.7Q+V2+0.6D2	8.22	-582.77	-2156.91	-5.33	0.00	30.98
G1+G2+S+0.7Q+V3+0.6D3	8.21	-630.90	-2127.05	-5.26	0.14	-11.88
G1+G2+S+0.7Q+V4+0.6D4	8.23	-534.57	-2125.87	-5.26	-0.14	73.71
G1+G2+S+A+0.6V1+0.6D1	20.38	-206.08	-2103.61	-5.20	0.00	31.36
G1+G2+S+A+0.6V1+D1	20.38	-206.07	-2090.30	-5.16	0.00	31.39
G1+G2+S+A+0.6V2+0.6D2	20.38	-206.12	-2156.12	-5.32	0.00	31.39

G1+G2+S+A+0.6V2+D2	20.38	-206.13	-2169.44	-5.36	0.00	31.35
G1+G2+S+A+0.6V3+0.6D3	20.37	-240.98	-2130.25	-5.26	0.10	5.70
G1+G2+S+A+0.6V3+D3	20.37	-250.93	-2130.29	-5.26	0.14	5.72
G1+G2+S+A+0.6V4+0.6D4	20.39	-171.22	-2129.48	-5.26	-0.10	57.04
G1+G2+S+A+0.6V4+D4	20.39	-161.26	-2129.44	-5.26	-0.14	57.03
G1+G2+S+A+D1	20.38	-206.09	-2096.58	-5.18	0.00	31.45
G1+G2+S+A+D2	20.38	-206.11	-2163.15	-5.34	0.00	31.29
G1+G2+S+A+D3	20.37	-230.99	-2129.98	-5.26	0.08	31.40
G1+G2+S+A+D4	20.38	-181.20	-2129.75	-5.26	-0.08	31.34
G1+G2+S+A+V1+0.6D1	20.38	-206.07	-2099.42	-5.19	0.00	31.32
G1+G2+S+A+V2+0.6D2	20.38	-206.13	-2160.32	-5.33	0.00	31.43
G1+G2+S+A+V3+0.6D3	20.37	-254.27	-2130.45	-5.26	0.14	-11.42
G1+G2+S+A+V4+0.6D4	20.39	-157.93	-2129.28	-5.26	-0.14	74.17
G1+G2+S+D1	7.80	-583.74	-2093.24	-5.18	0.00	30.98
G1+G2+S+D2	7.80	-583.76	-2159.80	-5.34	0.00	30.82
G1+G2+S+D3	7.79	-608.65	-2126.64	-5.26	0.08	30.93
G1+G2+S+D4	7.80	-558.86	-2126.41	-5.26	-0.08	30.87
G1+G2+S+Q+0.6V1+0.6D1	8.40	-582.28	-2100.18	-5.20	0.00	30.91
G1+G2+S+Q+0.6V2+0.6D2	8.40	-582.32	-2152.69	-5.32	0.00	30.94
G1+G2+S+Q+0.6V3+0.6D3	8.39	-617.17	-2126.82	-5.26	0.10	5.26
G1+G2+S+Q+0.6V4+0.6D4	8.41	-547.42	-2126.06	-5.26	-0.10	56.60
G1+G2+S+Q+A+0.6V1+0.6D1	20.98	-204.62	-2103.52	-5.20	0.00	31.38
G1+G2+S+Q+A+0.6V2+0.6D2	20.98	-204.67	-2156.04	-5.32	0.00	31.41
G1+G2+S+Q+A+0.6V3+0.6D3	20.98	-239.52	-2130.16	-5.26	0.10	5.73
G1+G2+S+Q+A+0.6V4+0.6D4	20.99	-169.77	-2129.40	-5.26	-0.10	57.07
G1+G2+S+Q+A+D1	20.98	-204.64	-2096.50	-5.18	0.00	31.48
G1+G2+S+Q+A+D2	20.98	-204.66	-2163.06	-5.34	0.00	31.32
G1+G2+S+Q+A+D3	20.98	-229.54	-2129.90	-5.26	0.08	31.43
G1+G2+S+Q+A+D4	20.99	-179.75	-2129.66	-5.26	-0.08	31.36
G1+G2+S+Q+D1	8.40	-582.29	-2093.16	-5.18	0.00	31.01
G1+G2+S+Q+D2	8.40	-582.31	-2159.72	-5.34	0.00	30.85
G1+G2+S+Q+D3	8.40	-607.19	-2126.55	-5.26	0.08	30.96
G1+G2+S+Q+D4	8.41	-557.40	-2126.32	-5.26	-0.08	30.89

**Fundação E2**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	4.18	-7.25	0.42	0.00	0.00	-0.04
Adicional (G2)	0.20	1.18	0.02	0.00	0.00	0.00
Solo (S)	3.40	-600.85	-2112.13	-5.26	0.00	28.95
Acidental (Q)	0.60	3.55	0.07	0.00	0.00	0.00
Água (A)	12.44	427.77	3.18	0.00	0.00	-0.41
Vento X+ (V1)	0.00	0.00	10.54	0.03	0.00	-0.10
Vento X- (V2)	0.00	0.00	-10.54	-0.03	0.00	0.10
Vento Y+ (V3)	-0.01	-32.68	-0.26	0.00	0.09	-42.88
Vento Y- (V4)	0.01	32.68	0.26	0.00	-0.09	42.88
Desaprumo X+ (D1)	0.00	0.01	33.06	0.08	0.00	0.09
Desaprumo X- (D2)	0.00	-0.01	-33.06	-0.08	0.00	-0.09
Desaprumo Y+ (D3)	-0.01	-24.16	0.00	0.00	0.08	-0.01
Desaprumo Y- (D4)	0.01	24.16	0.00	0.00	-0.08	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	8.20	-604.42	-2072.26	-5.16	0.00	28.94
G1+G2+S+0.7Q+0.6V2+D2	8.20	-604.44	-2151.02	-5.35	0.00	28.89
G1+G2+S+0.7Q+0.6V3+D3	8.19	-648.20	-2111.79	-5.26	0.14	3.17
G1+G2+S+0.7Q+0.6V4+D4	8.21	-560.66	-2111.48	-5.26	-0.14	54.65

G1+G2+S+0.7Q+A+0.6V1+0.6D1	20.64	-176.65	-2082.30	-5.20	0.00	28.50
G1+G2+S+0.7Q+A+0.6V1+D1	20.64	-176.65	-2069.08	-5.16	0.00	28.53
G1+G2+S+0.7Q+A+0.6V2+0.6D2	20.64	-176.67	-2134.62	-5.32	0.00	28.51
G1+G2+S+0.7Q+A+0.6V2+D2	20.64	-176.67	-2147.84	-5.35	0.00	28.48
G1+G2+S+0.7Q+A+0.6V3+0.6D3	20.63	-210.76	-2108.62	-5.26	0.10	2.77
G1+G2+S+0.7Q+A+0.6V3+D3	20.63	-220.43	-2108.62	-5.26	0.14	2.77
G1+G2+S+0.7Q+A+0.6V4+0.6D4	20.64	-142.56	-2108.31	-5.26	-0.10	54.24
G1+G2+S+0.7Q+A+0.6V4+D4	20.65	-132.89	-2108.31	-5.26	-0.14	54.24
G1+G2+S+0.7Q+A+D1	20.64	-176.65	-2075.40	-5.18	0.00	28.59
G1+G2+S+0.7Q+A+D2	20.64	-176.67	-2141.52	-5.34	0.00	28.42
G1+G2+S+0.7Q+A+D3	20.63	-200.82	-2108.46	-5.26	0.08	28.50
G1+G2+S+0.7Q+A+D4	20.64	-152.50	-2108.46	-5.26	-0.08	28.51
G1+G2+S+0.7Q+A+V1+0.6D1	20.64	-176.65	-2078.09	-5.19	0.00	28.46
G1+G2+S+0.7Q+A+V2+0.6D2	20.64	-176.67	-2138.84	-5.33	0.00	28.55
G1+G2+S+0.7Q+A+V3+0.6D3	20.63	-223.83	-2108.72	-5.26	0.14	-14.38
G1+G2+S+0.7Q+A+V4+0.6D4	20.65	-129.49	-2108.20	-5.26	-0.14	71.39
G1+G2+S+0.7Q+V1+0.6D1	8.20	-604.42	-2081.26	-5.19	0.00	28.86
G1+G2+S+0.7Q+V2+0.6D2	8.20	-604.44	-2142.02	-5.33	0.00	28.96
G1+G2+S+0.7Q+V3+0.6D3	8.19	-651.60	-2111.90	-5.26	0.14	-13.98
G1+G2+S+0.7Q+V4+0.6D4	8.21	-557.26	-2111.38	-5.26	-0.14	71.80
G1+G2+S+A+0.6V1+0.6D1	20.22	-179.14	-2082.35	-5.20	0.00	28.50
G1+G2+S+A+0.6V1+D1	20.22	-179.14	-2069.13	-5.16	0.00	28.53
G1+G2+S+A+0.6V2+0.6D2	20.22	-179.15	-2134.67	-5.32	0.00	28.52
G1+G2+S+A+0.6V2+D2	20.22	-179.16	-2147.89	-5.35	0.00	28.48
G1+G2+S+A+0.6V3+0.6D3	20.21	-213.25	-2108.67	-5.26	0.10	2.77
G1+G2+S+A+0.6V3+D3	20.21	-222.91	-2108.67	-5.26	0.14	2.77
G1+G2+S+A+0.6V4+0.6D4	20.22	-145.05	-2108.36	-5.26	-0.10	54.24
G1+G2+S+A+0.6V4+D4	20.23	-135.38	-2108.36	-5.26	-0.14	54.24
G1+G2+S+A+D1	20.22	-179.14	-2075.45	-5.18	0.00	28.59
G1+G2+S+A+D2	20.22	-179.15	-2141.57	-5.34	0.00	28.42
G1+G2+S+A+D3	20.21	-203.31	-2108.51	-5.26	0.08	28.50
G1+G2+S+A+D4	20.22	-154.99	-2108.51	-5.26	-0.08	28.51
G1+G2+S+A+V1+0.6D1	20.22	-179.14	-2078.14	-5.19	0.00	28.46
G1+G2+S+A+V2+0.6D2	20.22	-179.16	-2138.89	-5.33	0.00	28.56
G1+G2+S+A+V3+0.6D3	20.21	-226.32	-2108.77	-5.26	0.14	-14.38
G1+G2+S+A+V4+0.6D4	20.23	-131.98	-2108.25	-5.26	-0.14	71.39
G1+G2+S+D1	7.78	-606.91	-2078.63	-5.18	0.00	29.00
G1+G2+S+D2	7.78	-606.92	-2144.75	-5.34	0.00	28.83
G1+G2+S+D3	7.77	-631.08	-2111.69	-5.26	0.08	28.91
G1+G2+S+D4	7.79	-582.76	-2111.69	-5.26	-0.08	28.92
G1+G2+S+Q+0.6V1+0.6D1	8.38	-603.36	-2085.46	-5.20	0.00	28.90
G1+G2+S+Q+0.6V2+0.6D2	8.38	-603.37	-2137.78	-5.32	0.00	28.92
G1+G2+S+Q+0.6V3+0.6D3	8.37	-637.46	-2111.77	-5.26	0.10	3.18
G1+G2+S+Q+0.6V4+0.6D4	8.39	-569.26	-2111.46	-5.26	-0.10	54.64
G1+G2+S+Q+A+0.6V1+0.6D1	20.82	-175.59	-2082.28	-5.20	0.00	28.49
G1+G2+S+Q+A+0.6V2+0.6D2	20.82	-175.60	-2134.60	-5.32	0.00	28.51
G1+G2+S+Q+A+0.6V3+0.6D3	20.81	-209.70	-2108.60	-5.26	0.10	2.77
G1+G2+S+Q+A+0.6V4+0.6D4	20.82	-141.49	-2108.29	-5.26	-0.10	54.24
G1+G2+S+Q+A+D1	20.82	-175.59	-2075.38	-5.18	0.00	28.59
G1+G2+S+Q+A+D2	20.82	-175.60	-2141.50	-5.34	0.00	28.42
G1+G2+S+Q+A+D3	20.81	-199.76	-2108.44	-5.26	0.08	28.50
G1+G2+S+Q+A+D4	20.82	-151.43	-2108.44	-5.26	-0.08	28.51
G1+G2+S+Q+D1	8.38	-603.36	-2078.56	-5.18	0.00	28.99
G1+G2+S+Q+D2	8.38	-603.37	-2144.68	-5.34	0.00	28.82
G1+G2+S+Q+D3	8.37	-627.52	-2111.62	-5.26	0.08	28.90
G1+G2+S+Q+D4	8.38	-579.20	-2111.62	-5.26	-0.08	28.92

Fundação E3						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf.m)
Peso próprio (G1)	4.34	-14.53	27.70	0.00	0.00	0.04
Adicional (G2)	0.21	0.64	2.31	0.00	0.00	0.00
Solo (S)	3.02	-564.62	-2169.76	-5.26	0.00	28.19
Acidental (Q)	0.64	1.94	6.95	0.00	0.00	0.00
Água (A)	13.57	385.53	204.04	0.00	0.00	-1.04
Vento X+ (V1)	0.00	-0.04	10.56	0.03	0.00	-0.09
Vento X- (V2)	0.00	0.04	-10.56	-0.03	0.00	0.09
Vento Y+ (V3)	-0.01	-33.64	0.00	0.00	0.09	-43.01
Vento Y- (V4)	0.01	33.64	0.00	0.00	-0.09	43.01
Desaprumo X+ (D1)	0.00	-0.02	35.93	0.09	0.00	0.09
Desaprumo X- (D2)	0.00	0.02	-35.93	-0.09	0.00	-0.09
Desaprumo Y+ (D3)	-0.01	-26.91	0.09	0.00	0.09	-0.06
Desaprumo Y- (D4)	0.01	26.91	-0.09	0.00	-0.09	0.06
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	8.02	-577.20	-2092.61	-5.16	0.00	28.26
G1+G2+S+0.7Q+0.6V2+D2	8.02	-577.11	-2177.16	-5.36	0.00	28.20
G1+G2+S+0.7Q+0.6V3+D3	8.01	-624.25	-2134.79	-5.26	0.14	2.37
G1+G2+S+0.7Q+0.6V4+D4	8.03	-530.07	-2134.98	-5.26	-0.14	54.10
G1+G2+S+0.7Q+A+0.6V1+0.6D1	21.59	-191.66	-1902.94	-5.19	0.00	27.19
G1+G2+S+0.7Q+A+0.6V1+D1	21.59	-191.67	-1888.57	-5.16	0.00	27.23
G1+G2+S+0.7Q+A+0.6V2+0.6D2	21.58	-191.59	-1958.74	-5.33	0.00	27.20
G1+G2+S+0.7Q+A+0.6V2+D2	21.58	-191.58	-1973.11	-5.36	0.00	27.17
G1+G2+S+0.7Q+A+0.6V3+0.6D3	21.58	-227.95	-1930.79	-5.26	0.11	1.36
G1+G2+S+0.7Q+A+0.6V3+D3	21.58	-238.72	-1930.75	-5.26	0.14	1.34
G1+G2+S+0.7Q+A+0.6V4+0.6D4	21.59	-155.30	-1930.90	-5.26	-0.11	53.04
G1+G2+S+0.7Q+A+0.6V4+D4	21.60	-144.54	-1930.93	-5.26	-0.14	53.06
G1+G2+S+0.7Q+A+D1	21.59	-191.64	-1894.91	-5.17	0.00	27.29
G1+G2+S+0.7Q+A+D2	21.58	-191.61	-1966.78	-5.34	0.00	27.11
G1+G2+S+0.7Q+A+D3	21.58	-218.53	-1930.75	-5.26	0.08	27.14
G1+G2+S+0.7Q+A+D4	21.59	-164.72	-1930.93	-5.26	-0.09	27.26
G1+G2+S+0.7Q+A+V1+0.6D1	21.59	-191.68	-1898.72	-5.18	0.00	27.16
G1+G2+S+0.7Q+A+V2+0.6D2	21.58	-191.57	-1962.97	-5.34	0.00	27.24
G1+G2+S+0.7Q+A+V3+0.6D3	21.58	-241.41	-1930.79	-5.26	0.15	-15.84
G1+G2+S+0.7Q+A+V4+0.6D4	21.60	-141.84	-1930.90	-5.26	-0.15	70.24
G1+G2+S+0.7Q+V1+0.6D1	8.02	-577.21	-2102.76	-5.18	0.00	28.19
G1+G2+S+0.7Q+V2+0.6D2	8.02	-577.10	-2167.01	-5.34	0.00	28.28
G1+G2+S+0.7Q+V3+0.6D3	8.01	-626.94	-2134.83	-5.26	0.15	-14.81
G1+G2+S+0.7Q+V4+0.6D4	8.03	-527.37	-2134.94	-5.26	-0.15	71.28
G1+G2+S+A+0.6V1+0.6D1	21.14	-193.02	-1907.81	-5.19	0.00	27.19
G1+G2+S+A+0.6V1+D1	21.14	-193.03	-1893.43	-5.16	0.00	27.23
G1+G2+S+A+0.6V2+0.6D2	21.14	-192.95	-1963.60	-5.33	0.00	27.20
G1+G2+S+A+0.6V2+D2	21.14	-192.94	-1977.98	-5.36	0.00	27.17
G1+G2+S+A+0.6V3+0.6D3	21.13	-229.31	-1935.65	-5.26	0.11	1.36
G1+G2+S+A+0.6V3+D3	21.13	-240.08	-1935.61	-5.26	0.14	1.34
G1+G2+S+A+0.6V4+0.6D4	21.15	-156.66	-1935.76	-5.26	-0.11	53.04
G1+G2+S+A+0.6V4+D4	21.15	-145.90	-1935.80	-5.26	-0.14	53.06
G1+G2+S+A+D1	21.14	-193.00	-1899.77	-5.17	0.00	27.29
G1+G2+S+A+D2	21.14	-192.97	-1971.64	-5.34	0.00	27.11
G1+G2+S+A+D3	21.13	-219.89	-1935.61	-5.26	0.08	27.14
G1+G2+S+A+D4	21.14	-166.08	-1935.80	-5.26	-0.09	27.26
G1+G2+S+A+V1+0.6D1	21.14	-193.04	-1903.58	-5.18	0.00	27.16
G1+G2+S+A+V2+0.6D2	21.14	-192.93	-1967.83	-5.34	0.00	27.24

G1+G2+S+A+V3+0.6D3	21.13	-242.77	-1935.65	-5.26	0.15	-15.84
G1+G2+S+A+V4+0.6D4	21.15	-143.20	-1935.76	-5.26	-0.15	70.24
G1+G2+S+D1	7.57	-578.53	-2103.81	-5.17	0.00	28.32
G1+G2+S+D2	7.57	-578.50	-2175.68	-5.34	0.00	28.15
G1+G2+S+D3	7.57	-605.42	-2139.66	-5.26	0.08	28.18
G1+G2+S+D4	7.58	-551.61	-2139.84	-5.26	-0.09	28.29
G1+G2+S+Q+0.6V1+0.6D1	8.21	-576.61	-2104.90	-5.19	0.00	28.23
G1+G2+S+Q+0.6V2+0.6D2	8.21	-576.54	-2160.70	-5.33	0.00	28.24
G1+G2+S+Q+0.6V3+0.6D3	8.21	-612.90	-2132.75	-5.26	0.11	2.39
G1+G2+S+Q+0.6V4+0.6D4	8.22	-540.25	-2132.86	-5.26	-0.11	54.07
G1+G2+S+Q+A+0.6V1+0.6D1	21.78	-191.08	-1900.86	-5.19	0.00	27.20
G1+G2+S+Q+A+0.6V2+0.6D2	21.78	-191.01	-1956.66	-5.33	0.00	27.20
G1+G2+S+Q+A+0.6V3+0.6D3	21.77	-227.37	-1928.70	-5.26	0.11	1.36
G1+G2+S+Q+A+0.6V4+0.6D4	21.79	-154.72	-1928.81	-5.26	-0.11	53.04
G1+G2+S+Q+A+D1	21.78	-191.06	-1892.83	-5.17	0.00	27.29
G1+G2+S+Q+A+D2	21.78	-191.03	-1964.69	-5.34	0.00	27.11
G1+G2+S+Q+A+D3	21.77	-217.95	-1928.67	-5.26	0.08	27.14
G1+G2+S+Q+A+D4	21.78	-164.14	-1928.85	-5.26	-0.09	27.26
G1+G2+S+Q+D1	8.21	-576.59	-2096.87	-5.17	0.00	28.32
G1+G2+S+Q+D2	8.21	-576.56	-2168.74	-5.34	0.00	28.15
G1+G2+S+Q+D3	8.21	-603.48	-2132.71	-5.26	0.08	28.18
G1+G2+S+Q+D4	8.22	-549.67	-2132.89	-5.26	-0.09	28.29

Fundação E4						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.52	8.58	43.40	0.00	0.00	0.00
Adicional (G2)	0.16	0.48	3.51	0.00	0.00	0.00
Solo (S)	-3.22	-4.98	-664.61	-5.26	0.00	34.63
Acidental (Q)	0.48	1.43	10.53	0.00	0.00	0.00
Água (A)	7.25	21.88	656.91	0.00	0.00	0.09
Vento X+ (V1)	0.00	0.01	9.37	0.03	0.00	-0.17
Vento X- (V2)	0.00	-0.01	-9.37	-0.03	0.00	0.17
Vento Y+ (V3)	0.00	-38.47	-0.11	0.00	0.09	-42.89
Vento Y- (V4)	0.00	38.47	0.11	0.00	-0.09	42.89
Desaprumo X+ (D1)	-0.01	-0.03	11.59	0.05	0.00	0.00
Desaprumo X- (D2)	0.01	0.03	-11.59	-0.05	0.00	0.00
Desaprumo Y+ (D3)	0.00	-22.48	-0.02	0.00	0.05	0.07
Desaprumo Y- (D4)	0.00	22.48	0.02	0.00	-0.05	-0.07
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	0.79	5.06	-593.11	-5.19	0.00	34.52
G1+G2+S+0.7Q+0.6V2+D2	0.80	5.11	-627.54	-5.33	0.00	34.73
G1+G2+S+0.7Q+0.6V3+D3	0.80	-40.48	-610.42	-5.26	0.11	8.97
G1+G2+S+0.7Q+0.6V4+D4	0.80	50.64	-610.24	-5.26	-0.11	60.29
G1+G2+S+0.7Q+A+0.6V1+0.6D1	8.05	26.95	59.16	-5.21	0.00	34.61
G1+G2+S+0.7Q+A+0.6V1+D1	8.05	26.94	63.80	-5.19	0.00	34.61
G1+G2+S+0.7Q+A+0.6V2+0.6D2	8.06	26.98	34.01	-5.31	0.00	34.82
G1+G2+S+0.7Q+A+0.6V2+D2	8.06	26.99	29.37	-5.33	0.00	34.82
G1+G2+S+0.7Q+A+0.6V3+0.6D3	8.05	-9.61	46.50	-5.26	0.09	9.03
G1+G2+S+0.7Q+A+0.6V3+D3	8.05	-18.60	46.50	-5.26	0.11	9.06
G1+G2+S+0.7Q+A+0.6V4+0.6D4	8.05	63.54	46.67	-5.26	-0.09	60.41
G1+G2+S+0.7Q+A+0.6V4+D4	8.05	72.53	46.68	-5.26	-0.11	60.38
G1+G2+S+0.7Q+A+D1	8.05	26.93	58.18	-5.21	0.00	34.72
G1+G2+S+0.7Q+A+D2	8.06	27.00	34.99	-5.31	0.00	34.72
G1+G2+S+0.7Q+A+D3	8.05	4.49	46.56	-5.26	0.05	34.79

G1+G2+S+0.7Q+A+D4	8.05	49.44	46.61	-5.26	-0.05	34.65
G1+G2+S+0.7Q+A+V1+0.6D1	8.05	26.96	62.91	-5.20	0.00	34.55
G1+G2+S+0.7Q+A+V2+0.6D2	8.05	26.97	30.27	-5.32	0.00	34.89
G1+G2+S+0.7Q+A+V3+0.6D3	8.05	-25.00	46.46	-5.26	0.12	-8.13
G1+G2+S+0.7Q+A+V4+0.6D4	8.05	78.93	46.71	-5.26	-0.12	77.56
G1+G2+S+0.7Q+V1+0.6D1	0.80	5.07	-594.00	-5.20	0.00	34.45
G1+G2+S+0.7Q+V2+0.6D2	0.80	5.09	-626.65	-5.32	0.00	34.80
G1+G2+S+0.7Q+V3+0.6D3	0.80	-46.88	-610.45	-5.26	0.12	-8.22
G1+G2+S+0.7Q+V4+0.6D4	0.80	57.04	-610.20	-5.26	-0.12	77.47
G1+G2+S+A+0.6V1+0.6D1	7.71	25.95	51.79	-5.21	0.00	34.62
G1+G2+S+A+0.6V1+D1	7.71	25.94	56.43	-5.19	0.00	34.62
G1+G2+S+A+0.6V2+0.6D2	7.72	25.98	26.64	-5.31	0.00	34.83
G1+G2+S+A+0.6V2+D2	7.72	25.99	22.00	-5.33	0.00	34.83
G1+G2+S+A+0.6V3+0.6D3	7.71	-10.61	39.13	-5.26	0.09	9.03
G1+G2+S+A+0.6V3+D3	7.71	-19.60	39.12	-5.26	0.11	9.06
G1+G2+S+A+0.6V4+0.6D4	7.71	62.53	39.30	-5.26	-0.09	60.41
G1+G2+S+A+0.6V4+D4	7.71	71.53	39.30	-5.26	-0.11	60.38
G1+G2+S+A+D1	7.71	25.93	50.81	-5.21	0.00	34.72
G1+G2+S+A+D2	7.72	25.99	27.62	-5.31	0.00	34.72
G1+G2+S+A+D3	7.71	3.48	39.19	-5.26	0.05	34.79
G1+G2+S+A+D4	7.71	48.44	39.24	-5.26	-0.05	34.65
G1+G2+S+A+V1+0.6D1	7.71	25.95	55.53	-5.20	0.00	34.55
G1+G2+S+A+V2+0.6D2	7.71	25.97	22.89	-5.32	0.00	34.89
G1+G2+S+A+V3+0.6D3	7.71	-26.00	39.09	-5.26	0.12	-8.12
G1+G2+S+A+V4+0.6D4	7.71	77.92	39.34	-5.26	-0.12	77.57
G1+G2+S+D1	0.45	4.05	-606.11	-5.21	0.00	34.63
G1+G2+S+D2	0.47	4.11	-629.29	-5.31	0.00	34.63
G1+G2+S+D3	0.46	-18.40	-617.72	-5.26	0.05	34.70
G1+G2+S+D4	0.46	26.56	-617.68	-5.26	-0.05	34.55
G1+G2+S+Q+0.6V1+0.6D1	0.94	5.50	-594.59	-5.21	0.00	34.52
G1+G2+S+Q+0.6V2+0.6D2	0.95	5.52	-619.74	-5.31	0.00	34.73
G1+G2+S+Q+0.6V3+0.6D3	0.94	-31.06	-607.25	-5.26	0.09	8.94
G1+G2+S+Q+0.6V4+0.6D4	0.94	42.08	-607.08	-5.26	-0.09	60.31
G1+G2+S+Q+A+0.6V1+0.6D1	8.20	27.38	62.32	-5.21	0.00	34.61
G1+G2+S+Q+A+0.6V2+0.6D2	8.20	27.41	37.17	-5.31	0.00	34.82
G1+G2+S+Q+A+0.6V3+0.6D3	8.20	-9.18	49.66	-5.26	0.09	9.03
G1+G2+S+Q+A+0.6V4+0.6D4	8.20	63.97	49.83	-5.26	-0.09	60.41
G1+G2+S+Q+A+D1	8.19	27.36	61.34	-5.21	0.00	34.72
G1+G2+S+Q+A+D2	8.20	27.42	38.15	-5.31	0.00	34.72
G1+G2+S+Q+A+D3	8.20	4.92	49.72	-5.26	0.05	34.79
G1+G2+S+Q+A+D4	8.20	49.87	49.77	-5.26	-0.05	34.64
G1+G2+S+Q+D1	0.94	5.48	-595.57	-5.21	0.00	34.62
G1+G2+S+Q+D2	0.95	5.54	-618.76	-5.31	0.00	34.63
G1+G2+S+Q+D3	0.94	-16.97	-607.19	-5.26	0.05	34.70
G1+G2+S+Q+D4	0.94	27.99	-607.14	-5.26	-0.05	34.55

Fundação E5						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	4.00	-0.23	-45.46	0.00	0.00	0.00
Adicional (G2)	0.20	-0.02	-1.08	0.00	0.00	0.00
Solo (S)	-3.19	-0.85	-1439.07	-5.26	0.00	34.27
Acidental (Q)	0.59	-0.06	-3.23	0.00	0.00	0.00
Água (A)	14.11	-0.46	-120.46	0.00	0.00	0.02
Vento X+ (V1)	0.00	0.00	9.63	0.03	0.00	-0.17
Vento X- (V2)	0.00	0.00	-9.63	-0.03	0.00	0.17
Vento Y+ (V3)	0.00	-38.56	-0.03	0.00	0.09	-42.02
Vento Y- (V4)	0.00	38.56	0.03	0.00	-0.09	42.02

Desaprumo X+ (D1)	0.02	0.00	25.61	0.09	0.00	0.00
Desaprumo X- (D2)	-0.02	0.00	-25.61	-0.09	0.00	0.00
Desaprumo Y+ (D3)	0.00	-37.72	-0.01	0.00	0.09	0.25
Desaprumo Y- (D4)	0.00	37.72	0.01	0.00	-0.09	-0.25
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	1.45	-1.15	-1456.48	-5.16	0.00	34.17
G1+G2+S+0.7Q+0.6V2+D2	1.41	-1.14	-1519.25	-5.36	0.00	34.37
G1+G2+S+0.7Q+0.6V3+D3	1.43	-62.00	-1487.89	-5.26	0.14	9.31
G1+G2+S+0.7Q+0.6V4+D4	1.43	59.71	-1487.84	-5.26	-0.14	59.23
G1+G2+S+0.7Q+A+0.6V1+0.6D1	15.55	-1.61	-1587.18	-5.19	0.00	34.19
G1+G2+S+0.7Q+A+0.6V1+D1	15.56	-1.61	-1576.94	-5.16	0.00	34.19
G1+G2+S+0.7Q+A+0.6V2+0.6D2	15.53	-1.60	-1629.47	-5.33	0.00	34.39
G1+G2+S+0.7Q+A+0.6V2+D2	15.52	-1.60	-1639.72	-5.36	0.00	34.39
G1+G2+S+0.7Q+A+0.6V3+0.6D3	15.54	-47.37	-1608.35	-5.26	0.11	9.23
G1+G2+S+0.7Q+A+0.6V3+D3	15.54	-62.46	-1608.35	-5.26	0.14	9.33
G1+G2+S+0.7Q+A+0.6V4+0.6D4	15.54	44.16	-1608.30	-5.26	-0.11	59.35
G1+G2+S+0.7Q+A+0.6V4+D4	15.54	59.25	-1608.30	-5.26	-0.14	59.25
G1+G2+S+0.7Q+A+D1	15.56	-1.61	-1582.71	-5.17	0.00	34.29
G1+G2+S+0.7Q+A+D2	15.52	-1.60	-1633.94	-5.35	0.00	34.29
G1+G2+S+0.7Q+A+D3	15.54	-39.33	-1608.33	-5.26	0.09	34.54
G1+G2+S+0.7Q+A+D4	15.54	36.11	-1608.32	-5.26	-0.09	34.04
G1+G2+S+0.7Q+A+V1+0.6D1	15.55	-1.61	-1583.33	-5.18	0.00	34.12
G1+G2+S+0.7Q+A+V2+0.6D2	15.53	-1.60	-1633.32	-5.34	0.00	34.46
G1+G2+S+0.7Q+A+V3+0.6D3	15.54	-62.80	-1608.36	-5.26	0.15	-7.58
G1+G2+S+0.7Q+A+V4+0.6D4	15.54	59.58	-1608.29	-5.26	-0.14	76.16
G1+G2+S+0.7Q+V1+0.6D1	1.44	-1.15	-1462.87	-5.18	0.00	34.10
G1+G2+S+0.7Q+V2+0.6D2	1.42	-1.14	-1512.86	-5.34	0.00	34.44
G1+G2+S+0.7Q+V3+0.6D3	1.43	-62.33	-1487.90	-5.26	0.15	-7.60
G1+G2+S+0.7Q+V4+0.6D4	1.43	60.05	-1487.83	-5.26	-0.14	76.14
G1+G2+S+A+0.6V1+0.6D1	15.14	-1.56	-1584.92	-5.19	0.00	34.19
G1+G2+S+A+0.6V1+D1	15.14	-1.57	-1574.68	-5.16	0.00	34.19
G1+G2+S+A+0.6V2+0.6D2	15.12	-1.56	-1627.21	-5.33	0.00	34.39
G1+G2+S+A+0.6V2+D2	15.11	-1.56	-1637.46	-5.36	0.00	34.39
G1+G2+S+A+0.6V3+0.6D3	15.13	-47.33	-1606.09	-5.26	0.11	9.23
G1+G2+S+A+0.6V3+D3	15.13	-62.42	-1606.09	-5.26	0.14	9.33
G1+G2+S+A+0.6V4+0.6D4	15.13	44.20	-1606.04	-5.26	-0.11	59.35
G1+G2+S+A+0.6V4+D4	15.13	59.29	-1606.04	-5.26	-0.14	59.25
G1+G2+S+A+D1	15.14	-1.56	-1580.45	-5.17	0.00	34.29
G1+G2+S+A+D2	15.11	-1.56	-1631.68	-5.35	0.00	34.29
G1+G2+S+A+D3	15.13	-39.28	-1606.07	-5.26	0.09	34.54
G1+G2+S+A+D4	15.13	36.16	-1606.06	-5.26	-0.09	34.04
G1+G2+S+A+V1+0.6D1	15.13	-1.57	-1581.07	-5.18	0.00	34.12
G1+G2+S+A+V2+0.6D2	15.12	-1.56	-1631.06	-5.34	0.00	34.46
G1+G2+S+A+V3+0.6D3	15.13	-62.75	-1606.10	-5.26	0.15	-7.58
G1+G2+S+A+V4+0.6D4	15.13	59.63	-1606.03	-5.26	-0.14	76.16
G1+G2+S+D1	1.03	-1.10	-1459.99	-5.17	0.00	34.27
G1+G2+S+D2	1.00	-1.10	-1511.22	-5.35	0.00	34.27
G1+G2+S+D3	1.01	-38.82	-1485.61	-5.26	0.09	34.52
G1+G2+S+D4	1.01	36.62	-1485.60	-5.26	-0.09	34.01
G1+G2+S+Q+0.6V1+0.6D1	1.62	-1.16	-1467.69	-5.19	0.00	34.17
G1+G2+S+Q+0.6V2+0.6D2	1.60	-1.16	-1509.98	-5.33	0.00	34.37
G1+G2+S+Q+0.6V3+0.6D3	1.61	-46.93	-1488.86	-5.26	0.11	9.21
G1+G2+S+Q+0.6V4+0.6D4	1.61	44.60	-1488.81	-5.26	-0.11	59.33
G1+G2+S+Q+A+0.6V1+0.6D1	15.73	-1.63	-1588.15	-5.19	0.00	34.19
G1+G2+S+Q+A+0.6V2+0.6D2	15.71	-1.62	-1630.44	-5.33	0.00	34.39

G1+G2+S+Q+A+0.6V3+0.6D3	15.72	-47.39	-1609.32	-5.26	0.11	9.23
G1+G2+S+Q+A+0.6V4+0.6D4	15.72	44.14	-1609.27	-5.26	-0.11	59.35
G1+G2+S+Q+A+D1	15.74	-1.63	-1583.68	-5.17	0.00	34.29
G1+G2+S+Q+A+D2	15.70	-1.62	-1634.91	-5.35	0.00	34.29
G1+G2+S+Q+A+D3	15.72	-39.34	-1609.30	-5.26	0.09	34.54
G1+G2+S+Q+A+D4	15.72	36.10	-1609.29	-5.26	-0.09	34.04
G1+G2+S+Q+D1	1.62	-1.16	-1463.22	-5.17	0.00	34.27
G1+G2+S+Q+D2	1.59	-1.16	-1514.45	-5.35	0.00	34.27
G1+G2+S+Q+D3	1.61	-38.88	-1488.84	-5.26	0.09	34.52
G1+G2+S+Q+D4	1.61	36.56	-1488.83	-5.26	-0.09	34.01

Fundação E6						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.77	-0.01	0.44	0.00	0.00	0.01
Adicional (G2)	0.19	0.00	0.16	0.00	0.00	0.00
Solo (S)	-0.25	0.20	-1909.77	-5.26	0.00	34.16
Acidental (Q)	0.57	0.00	0.48	0.00	0.00	0.00
Água (A)	13.56	-0.04	-4.64	0.00	0.00	-0.02
Vento X+ (V1)	0.00	0.00	9.36	0.03	0.00	-0.17
Vento X- (V2)	0.00	0.00	-9.36	-0.03	0.00	0.17
Vento Y+ (V3)	0.00	-38.40	-0.05	0.00	0.09	-42.50
Vento Y- (V4)	0.00	38.40	0.05	0.00	-0.09	42.50
Desaprumo X+ (D1)	0.00	0.00	26.76	0.08	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-26.76	-0.08	0.00	0.00
Desaprumo Y+ (D3)	0.00	-37.23	-0.01	0.00	0.08	0.09
Desaprumo Y- (D4)	0.00	37.23	0.01	0.00	-0.08	-0.09
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	4.11	0.18	-1876.44	-5.16	0.00	34.07
G1+G2+S+0.7Q+0.6V2+D2	4.11	0.18	-1941.20	-5.36	0.00	34.27
G1+G2+S+0.7Q+0.6V3+D3	4.11	-60.09	-1908.86	-5.26	0.14	8.77
G1+G2+S+0.7Q+0.6V4+D4	4.11	60.45	-1908.78	-5.26	-0.14	59.58
G1+G2+S+0.7Q+A+0.6V1+0.6D1	17.67	0.13	-1891.79	-5.19	0.00	34.05
G1+G2+S+0.7Q+A+0.6V1+D1	17.67	0.13	-1881.09	-5.16	0.00	34.05
G1+G2+S+0.7Q+A+0.6V2+0.6D2	17.67	0.14	-1935.14	-5.32	0.00	34.26
G1+G2+S+0.7Q+A+0.6V2+D2	17.67	0.14	-1945.85	-5.36	0.00	34.26
G1+G2+S+0.7Q+A+0.6V3+0.6D3	17.67	-45.24	-1913.50	-5.26	0.11	8.71
G1+G2+S+0.7Q+A+0.6V3+D3	17.67	-60.13	-1913.51	-5.26	0.14	8.75
G1+G2+S+0.7Q+A+0.6V4+0.6D4	17.67	45.51	-1913.43	-5.26	-0.11	59.60
G1+G2+S+0.7Q+A+0.6V4+D4	17.67	60.41	-1913.43	-5.26	-0.14	59.56
G1+G2+S+0.7Q+A+D1	17.67	0.14	-1886.70	-5.18	0.00	34.15
G1+G2+S+0.7Q+A+D2	17.67	0.14	-1940.23	-5.34	0.00	34.15
G1+G2+S+0.7Q+A+D3	17.67	-37.09	-1913.48	-5.26	0.08	34.25
G1+G2+S+0.7Q+A+D4	17.67	37.37	-1913.46	-5.26	-0.08	34.06
G1+G2+S+0.7Q+A+V1+0.6D1	17.67	0.13	-1888.05	-5.18	0.00	33.98
G1+G2+S+0.7Q+A+V2+0.6D2	17.67	0.14	-1938.89	-5.34	0.00	34.32
G1+G2+S+0.7Q+A+V3+0.6D3	17.67	-60.60	-1913.52	-5.26	0.14	-8.29
G1+G2+S+0.7Q+A+V4+0.6D4	17.67	60.87	-1913.41	-5.26	-0.14	76.60
G1+G2+S+0.7Q+V1+0.6D1	4.11	0.18	-1883.40	-5.18	0.00	34.00
G1+G2+S+0.7Q+V2+0.6D2	4.11	0.18	-1934.24	-5.34	0.00	34.34
G1+G2+S+0.7Q+V3+0.6D3	4.11	-60.56	-1908.88	-5.26	0.14	-8.27
G1+G2+S+0.7Q+V4+0.6D4	4.11	60.92	-1908.77	-5.26	-0.14	76.61
G1+G2+S+A+0.6V1+0.6D1	17.27	0.14	-1892.13	-5.19	0.00	34.05
G1+G2+S+A+0.6V1+D1	17.27	0.14	-1881.43	-5.16	0.00	34.05
G1+G2+S+A+0.6V2+0.6D2	17.27	0.14	-1935.48	-5.32	0.00	34.25



G1+G2+S+A+0.6V2+D2	17.27	0.14	-1946.19	-5.36	0.00	34.25
G1+G2+S+A+0.6V3+0.6D3	17.27	-45.24	-1913.84	-5.26	0.11	8.71
G1+G2+S+A+0.6V3+D3	17.27	-60.13	-1913.85	-5.26	0.14	8.75
G1+G2+S+A+0.6V4+0.6D4	17.27	45.52	-1913.77	-5.26	-0.11	59.60
G1+G2+S+A+0.6V4+D4	17.27	60.41	-1913.77	-5.26	-0.14	59.56
G1+G2+S+A+D1	17.27	0.14	-1887.04	-5.18	0.00	34.15
G1+G2+S+A+D2	17.27	0.14	-1940.57	-5.34	0.00	34.15
G1+G2+S+A+D3	17.27	-37.09	-1913.82	-5.26	0.08	34.25
G1+G2+S+A+D4	17.27	37.37	-1913.80	-5.26	-0.08	34.06
G1+G2+S+A+V1+0.6D1	17.27	0.14	-1888.39	-5.18	0.00	33.98
G1+G2+S+A+V2+0.6D2	17.27	0.14	-1939.23	-5.34	0.00	34.32
G1+G2+S+A+V3+0.6D3	17.27	-60.60	-1913.86	-5.26	0.14	-8.29
G1+G2+S+A+V4+0.6D4	17.27	60.88	-1913.75	-5.26	-0.14	76.60
G1+G2+S+D1	3.71	0.18	-1882.40	-5.18	0.00	34.17
G1+G2+S+D2	3.71	0.19	-1935.93	-5.34	0.00	34.17
G1+G2+S+D3	3.71	-37.05	-1909.17	-5.26	0.08	34.26
G1+G2+S+D4	3.71	37.41	-1909.15	-5.26	-0.08	34.08
G1+G2+S+Q+0.6V1+0.6D1	4.28	0.18	-1887.00	-5.19	0.00	34.07
G1+G2+S+Q+0.6V2+0.6D2	4.28	0.18	-1930.35	-5.32	0.00	34.27
G1+G2+S+Q+0.6V3+0.6D3	4.28	-45.20	-1908.71	-5.26	0.11	8.73
G1+G2+S+Q+0.6V4+0.6D4	4.28	45.56	-1908.64	-5.26	-0.11	59.62
G1+G2+S+Q+A+0.6V1+0.6D1	17.84	0.13	-1891.65	-5.19	0.00	34.05
G1+G2+S+Q+A+0.6V2+0.6D2	17.84	0.14	-1935.00	-5.32	0.00	34.26
G1+G2+S+Q+A+0.6V3+0.6D3	17.84	-45.24	-1913.36	-5.26	0.11	8.71
G1+G2+S+Q+A+0.6V4+0.6D4	17.84	45.51	-1913.29	-5.26	-0.11	59.60
G1+G2+S+Q+A+D1	17.84	0.13	-1886.56	-5.18	0.00	34.15
G1+G2+S+Q+A+D2	17.84	0.14	-1940.09	-5.34	0.00	34.15
G1+G2+S+Q+A+D3	17.84	-37.09	-1913.33	-5.26	0.08	34.25
G1+G2+S+Q+A+D4	17.84	37.36	-1913.31	-5.26	-0.08	34.06
G1+G2+S+Q+D1	4.28	0.18	-1881.91	-5.18	0.00	34.17
G1+G2+S+Q+D2	4.28	0.18	-1935.44	-5.34	0.00	34.17
G1+G2+S+Q+D3	4.28	-37.05	-1908.69	-5.26	0.08	34.27
G1+G2+S+Q+D4	4.28	37.41	-1908.67	-5.26	-0.08	34.08

Fundação E7						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.72	-0.99	-9.78	0.00	0.00	0.01
Adicional (G2)	0.19	-0.05	-0.62	0.00	0.00	0.00
Solo (S)	0.00	0.38	-1906.34	-5.26	0.00	34.11
Acidental (Q)	0.56	-0.16	-1.87	0.00	0.00	0.00
Água (A)	13.18	-3.59	-55.40	0.00	0.00	-0.02
Vento X+ (V1)	0.00	0.00	9.33	0.03	0.00	-0.17
Vento X- (V2)	0.00	0.00	-9.33	-0.03	0.00	0.17
Vento Y+ (V3)	0.00	-38.69	-0.02	0.00	0.09	-43.13
Vento Y- (V4)	0.00	38.69	0.02	0.00	-0.09	43.13
Desaprumo X+ (D1)	0.00	0.00	25.77	0.08	0.00	0.00
Desaprumo X- (D2)	0.00	0.00	-25.77	-0.08	0.00	0.00
Desaprumo Y+ (D3)	0.00	-36.45	0.00	0.00	0.08	-0.09
Desaprumo Y- (D4)	0.00	36.45	0.00	0.00	-0.08	0.09
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	4.30	-0.77	-1886.68	-5.16	0.00	34.01
G1+G2+S+0.7Q+0.6V2+D2	4.30	-0.76	-1949.42	-5.36	0.00	34.22
G1+G2+S+0.7Q+0.6V3+D3	4.30	-60.43	-1918.07	-5.26	0.14	8.15
G1+G2+S+0.7Q+0.6V4+D4	4.30	58.90	-1918.03	-5.26	-0.14	60.08

G1+G2+S+0.7Q+A+0.6V1+0.6D1	17.48	-4.36	-1952.39	-5.20	0.00	33.99
G1+G2+S+0.7Q+A+0.6V1+D1	17.48	-4.36	-1942.08	-5.16	0.00	33.99
G1+G2+S+0.7Q+A+0.6V2+0.6D2	17.48	-4.35	-1994.52	-5.32	0.00	34.20
G1+G2+S+0.7Q+A+0.6V2+D2	17.48	-4.35	-2004.83	-5.36	0.00	34.20
G1+G2+S+0.7Q+A+0.6V3+0.6D3	17.48	-49.44	-1973.47	-5.26	0.10	8.17
G1+G2+S+0.7Q+A+0.6V3+D3	17.48	-64.02	-1973.47	-5.26	0.14	8.13
G1+G2+S+0.7Q+A+0.6V4+0.6D4	17.48	40.73	-1973.44	-5.26	-0.11	60.02
G1+G2+S+0.7Q+A+0.6V4+D4	17.48	55.31	-1973.44	-5.26	-0.14	60.06
G1+G2+S+0.7Q+A+D1	17.48	-4.36	-1947.68	-5.18	0.00	34.09
G1+G2+S+0.7Q+A+D2	17.48	-4.35	-1999.23	-5.34	0.00	34.09
G1+G2+S+0.7Q+A+D3	17.48	-40.80	-1973.46	-5.26	0.08	34.01
G1+G2+S+0.7Q+A+D4	17.48	32.09	-1973.45	-5.26	-0.08	34.18
G1+G2+S+0.7Q+A+V1+0.6D1	17.48	-4.36	-1948.66	-5.18	0.00	33.92
G1+G2+S+0.7Q+A+V2+0.6D2	17.48	-4.35	-1998.25	-5.33	0.00	34.26
G1+G2+S+0.7Q+A+V3+0.6D3	17.48	-64.91	-1973.48	-5.26	0.14	-9.09
G1+G2+S+0.7Q+A+V4+0.6D4	17.48	56.20	-1973.43	-5.26	-0.14	77.27
G1+G2+S+0.7Q+V1+0.6D1	4.30	-0.77	-1893.25	-5.19	0.00	33.95
G1+G2+S+0.7Q+V2+0.6D2	4.30	-0.76	-1942.84	-5.33	0.00	34.29
G1+G2+S+0.7Q+V3+0.6D3	4.30	-61.32	-1918.08	-5.26	0.14	-9.06
G1+G2+S+0.7Q+V4+0.6D4	4.30	59.79	-1918.02	-5.26	-0.14	77.29
G1+G2+S+A+0.6V1+0.6D1	17.09	-4.25	-1951.08	-5.20	0.00	33.99
G1+G2+S+A+0.6V1+D1	17.09	-4.25	-1940.77	-5.16	0.00	33.99
G1+G2+S+A+0.6V2+0.6D2	17.09	-4.24	-1993.21	-5.32	0.00	34.20
G1+G2+S+A+0.6V2+D2	17.09	-4.24	-2003.52	-5.36	0.00	34.20
G1+G2+S+A+0.6V3+0.6D3	17.09	-49.33	-1972.16	-5.26	0.10	8.17
G1+G2+S+A+0.6V3+D3	17.09	-63.91	-1972.16	-5.26	0.14	8.13
G1+G2+S+A+0.6V4+0.6D4	17.09	40.84	-1972.13	-5.26	-0.11	60.02
G1+G2+S+A+0.6V4+D4	17.09	55.42	-1972.13	-5.26	-0.14	60.06
G1+G2+S+A+D1	17.09	-4.25	-1946.37	-5.18	0.00	34.09
G1+G2+S+A+D2	17.09	-4.24	-1997.92	-5.34	0.00	34.09
G1+G2+S+A+D3	17.09	-40.69	-1972.15	-5.26	0.08	34.01
G1+G2+S+A+D4	17.09	32.20	-1972.14	-5.26	-0.08	34.18
G1+G2+S+A+V1+0.6D1	17.09	-4.25	-1947.35	-5.18	0.00	33.92
G1+G2+S+A+V2+0.6D2	17.09	-4.24	-1996.94	-5.33	0.00	34.26
G1+G2+S+A+V3+0.6D3	17.09	-64.80	-1972.17	-5.26	0.14	-9.09
G1+G2+S+A+V4+0.6D4	17.09	56.31	-1972.12	-5.26	-0.14	77.27
G1+G2+S+D1	3.90	-0.66	-1890.96	-5.18	0.00	34.12
G1+G2+S+D2	3.90	-0.65	-1942.51	-5.34	0.00	34.12
G1+G2+S+D3	3.90	-37.10	-1916.74	-5.26	0.08	34.03
G1+G2+S+D4	3.90	35.79	-1916.74	-5.26	-0.08	34.20
G1+G2+S+Q+0.6V1+0.6D1	4.47	-0.82	-1897.55	-5.20	0.00	34.01
G1+G2+S+Q+0.6V2+0.6D2	4.47	-0.81	-1939.67	-5.32	0.00	34.22
G1+G2+S+Q+0.6V3+0.6D3	4.47	-45.89	-1918.63	-5.26	0.10	8.19
G1+G2+S+Q+0.6V4+0.6D4	4.47	44.27	-1918.59	-5.26	-0.11	60.04
G1+G2+S+Q+A+0.6V1+0.6D1	17.65	-4.41	-1952.95	-5.20	0.00	33.99
G1+G2+S+Q+A+0.6V2+0.6D2	17.65	-4.40	-1995.08	-5.32	0.00	34.20
G1+G2+S+Q+A+0.6V3+0.6D3	17.65	-49.48	-1974.03	-5.26	0.10	8.17
G1+G2+S+Q+A+0.6V4+0.6D4	17.65	40.68	-1974.00	-5.26	-0.11	60.02
G1+G2+S+Q+A+D1	17.65	-4.41	-1948.24	-5.18	0.00	34.09
G1+G2+S+Q+A+D2	17.65	-4.40	-1999.79	-5.34	0.00	34.09
G1+G2+S+Q+A+D3	17.65	-40.85	-1974.02	-5.26	0.08	34.01
G1+G2+S+Q+A+D4	17.65	32.05	-1974.01	-5.26	-0.08	34.18
G1+G2+S+Q+D1	4.46	-0.82	-1892.84	-5.18	0.00	34.12
G1+G2+S+Q+D2	4.47	-0.81	-1944.39	-5.34	0.00	34.12
G1+G2+S+Q+D3	4.47	-37.26	-1918.61	-5.26	0.08	34.03
G1+G2+S+Q+D4	4.47	35.63	-1918.61	-5.26	-0.08	34.20

Fundação E8						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.93	-0.86	-33.28	0.00	0.00	0.00
Adicional (G2)	0.19	-0.05	-4.28	0.00	0.00	0.00
Solo (S)	4.09	0.46	-1335.79	-5.26	0.00	34.12
Acidental (Q)	0.57	-0.14	-12.84	0.00	0.00	0.00
Água (A)	11.02	-3.15	-682.47	0.00	0.00	-0.03
Vento X+ (V1)	0.00	0.00	9.44	0.03	0.00	-0.17
Vento X- (V2)	0.00	0.00	-9.44	-0.03	0.00	0.17
Vento Y+ (V3)	0.00	-39.43	-0.01	0.00	0.10	-43.74
Vento Y- (V4)	0.00	39.43	0.01	0.00	-0.10	43.74
Desaprumo X+ (D1)	-0.01	0.00	21.77	0.07	0.00	0.00
Desaprumo X- (D2)	0.01	0.00	-21.77	-0.07	0.00	0.00
Desaprumo Y+ (D3)	0.00	-30.89	0.00	0.00	0.07	-0.27
Desaprumo Y- (D4)	0.00	30.89	0.00	0.00	-0.07	0.27
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	8.60	-0.54	-1354.90	-5.17	0.00	34.02
G1+G2+S+0.7Q+0.6V2+D2	8.62	-0.54	-1409.77	-5.35	0.00	34.22
G1+G2+S+0.7Q+0.6V3+D3	8.61	-55.09	-1382.34	-5.26	0.13	7.61
G1+G2+S+0.7Q+0.6V4+D4	8.61	54.01	-1382.32	-5.26	-0.13	60.64
G1+G2+S+0.7Q+A+0.6V1+0.6D1	19.62	-3.69	-2046.07	-5.20	0.00	33.99
G1+G2+S+0.7Q+A+0.6V1+D1	19.62	-3.69	-2037.37	-5.17	0.00	33.99
G1+G2+S+0.7Q+A+0.6V2+0.6D2	19.64	-3.69	-2083.53	-5.32	0.00	34.20
G1+G2+S+0.7Q+A+0.6V2+D2	19.64	-3.69	-2092.24	-5.35	0.00	34.20
G1+G2+S+0.7Q+A+0.6V3+0.6D3	19.63	-45.88	-2064.81	-5.26	0.10	7.69
G1+G2+S+0.7Q+A+0.6V3+D3	19.63	-58.24	-2064.81	-5.26	0.13	7.58
G1+G2+S+0.7Q+A+0.6V4+0.6D4	19.63	38.50	-2064.79	-5.26	-0.10	60.50
G1+G2+S+0.7Q+A+0.6V4+D4	19.63	50.86	-2064.79	-5.26	-0.13	60.61
G1+G2+S+0.7Q+A+D1	19.62	-3.69	-2043.03	-5.19	0.00	34.09
G1+G2+S+0.7Q+A+D2	19.64	-3.69	-2086.57	-5.33	0.00	34.10
G1+G2+S+0.7Q+A+D3	19.63	-34.58	-2064.80	-5.26	0.07	33.82
G1+G2+S+0.7Q+A+D4	19.63	27.20	-2064.80	-5.26	-0.07	34.37
G1+G2+S+0.7Q+A+V1+0.6D1	19.62	-3.69	-2042.30	-5.19	0.00	33.92
G1+G2+S+0.7Q+A+V2+0.6D2	19.64	-3.69	-2087.30	-5.33	0.00	34.27
G1+G2+S+0.7Q+A+V3+0.6D3	19.63	-61.65	-2064.82	-5.26	0.14	-9.81
G1+G2+S+0.7Q+A+V4+0.6D4	19.63	54.28	-2064.78	-5.26	-0.14	78.00
G1+G2+S+0.7Q+V1+0.6D1	8.60	-0.54	-1359.83	-5.19	0.00	33.95
G1+G2+S+0.7Q+V2+0.6D2	8.62	-0.54	-1404.83	-5.33	0.00	34.29
G1+G2+S+0.7Q+V3+0.6D3	8.61	-58.51	-1382.35	-5.26	0.14	-9.78
G1+G2+S+0.7Q+V4+0.6D4	8.61	57.42	-1382.32	-5.26	-0.14	78.02
G1+G2+S+A+0.6V1+0.6D1	19.22	-3.60	-2037.09	-5.20	0.00	33.99
G1+G2+S+A+0.6V1+D1	19.22	-3.60	-2028.38	-5.17	0.00	33.99
G1+G2+S+A+0.6V2+0.6D2	19.24	-3.59	-2074.54	-5.32	0.00	34.20
G1+G2+S+A+0.6V2+D2	19.24	-3.59	-2083.25	-5.35	0.00	34.20
G1+G2+S+A+0.6V3+0.6D3	19.23	-45.79	-2055.82	-5.26	0.10	7.69
G1+G2+S+A+0.6V3+D3	19.23	-58.14	-2055.83	-5.26	0.13	7.58
G1+G2+S+A+0.6V4+0.6D4	19.23	38.60	-2055.80	-5.26	-0.10	60.50
G1+G2+S+A+0.6V4+D4	19.23	50.96	-2055.80	-5.26	-0.13	60.61
G1+G2+S+A+D1	19.22	-3.59	-2034.04	-5.19	0.00	34.10
G1+G2+S+A+D2	19.24	-3.59	-2077.59	-5.33	0.00	34.10
G1+G2+S+A+D3	19.23	-34.49	-2055.82	-5.26	0.07	33.82
G1+G2+S+A+D4	19.23	27.30	-2055.81	-5.26	-0.07	34.37
G1+G2+S+A+V1+0.6D1	19.22	-3.60	-2033.31	-5.19	0.00	33.93
G1+G2+S+A+V2+0.6D2	19.24	-3.59	-2078.31	-5.33	0.00	34.27

G1+G2+S+A+V3+0.6D3	19.23	-61.56	-2055.83	-5.26	0.14	-9.81
G1+G2+S+A+V4+0.6D4	19.23	54.37	-2055.80	-5.26	-0.14	78.00
G1+G2+S+D1	8.20	-0.44	-1351.57	-5.19	0.00	34.12
G1+G2+S+D2	8.22	-0.45	-1395.12	-5.33	0.00	34.12
G1+G2+S+D3	8.21	-31.34	-1373.35	-5.26	0.07	33.85
G1+G2+S+D4	8.21	30.45	-1373.34	-5.26	-0.07	34.39
G1+G2+S+Q+0.6V1+0.6D1	8.77	-0.58	-1367.46	-5.20	0.00	34.02
G1+G2+S+Q+0.6V2+0.6D2	8.78	-0.58	-1404.91	-5.32	0.00	34.22
G1+G2+S+Q+0.6V3+0.6D3	8.78	-42.78	-1386.19	-5.26	0.10	7.72
G1+G2+S+Q+0.6V4+0.6D4	8.78	41.61	-1386.17	-5.26	-0.10	60.53
G1+G2+S+Q+A+0.6V1+0.6D1	19.79	-3.73	-2049.93	-5.20	0.00	33.99
G1+G2+S+Q+A+0.6V2+0.6D2	19.81	-3.73	-2087.38	-5.32	0.00	34.20
G1+G2+S+Q+A+0.6V3+0.6D3	19.80	-45.92	-2068.66	-5.26	0.10	7.69
G1+G2+S+Q+A+0.6V4+0.6D4	19.80	38.46	-2068.64	-5.26	-0.10	60.50
G1+G2+S+Q+A+D1	19.79	-3.73	-2046.88	-5.19	0.00	34.09
G1+G2+S+Q+A+D2	19.81	-3.73	-2090.43	-5.33	0.00	34.10
G1+G2+S+Q+A+D3	19.80	-34.62	-2068.66	-5.26	0.07	33.82
G1+G2+S+Q+A+D4	19.80	27.16	-2068.65	-5.26	-0.07	34.37
G1+G2+S+Q+D1	8.77	-0.58	-1364.41	-5.19	0.00	34.12
G1+G2+S+Q+D2	8.79	-0.58	-1407.96	-5.33	0.00	34.12
G1+G2+S+Q+D3	8.78	-31.47	-1386.19	-5.26	0.07	33.85
G1+G2+S+Q+D4	8.78	30.31	-1386.18	-5.26	-0.07	34.39

Fundação E9						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	4.17	16.75	5.29	0.00	0.00	-0.14
Adicional (G2)	0.20	-0.49	0.02	0.00	0.00	-0.01
Solo (S)	3.42	566.34	-2132.62	-5.26	0.00	37.58
Acidental (Q)	0.60	-1.47	0.06	0.00	0.00	-0.02
Água (A)	12.58	-377.92	-3.59	0.00	0.00	-0.53
Vento X+ (V1)	0.00	-0.02	10.48	0.03	0.00	-0.23
Vento X- (V2)	0.00	0.02	-10.48	-0.03	0.00	0.23
Vento Y+ (V3)	0.01	-33.24	0.54	0.00	0.09	-42.81
Vento Y- (V4)	-0.01	33.24	-0.54	0.00	-0.09	42.81
Desaprumo X+ (D1)	0.00	0.00	33.28	0.08	0.00	-0.08
Desaprumo X- (D2)	0.00	0.00	-33.28	-0.08	0.00	0.08
Desaprumo Y+ (D3)	0.01	-24.90	0.12	0.00	0.08	0.03
Desaprumo Y- (D4)	-0.01	24.90	-0.12	0.00	-0.08	-0.03
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	8.22	581.55	-2087.69	-5.16	0.00	37.19
G1+G2+S+0.7Q+0.6V2+D2	8.22	581.58	-2166.84	-5.36	0.00	37.63
G1+G2+S+0.7Q+0.6V3+D3	8.23	536.71	-2126.82	-5.26	0.14	11.76
G1+G2+S+0.7Q+0.6V4+D4	8.21	626.41	-2127.71	-5.26	-0.14	63.07
G1+G2+S+0.7Q+A+0.6V1+0.6D1	20.80	203.63	-2104.60	-5.20	0.00	36.70
G1+G2+S+0.7Q+A+0.6V1+D1	20.80	203.63	-2091.28	-5.16	0.00	36.67
G1+G2+S+0.7Q+A+0.6V2+0.6D2	20.80	203.66	-2157.12	-5.32	0.00	37.07
G1+G2+S+0.7Q+A+0.6V2+D2	20.80	203.66	-2170.43	-5.36	0.00	37.11
G1+G2+S+0.7Q+A+0.6V3+0.6D3	20.81	168.76	-2130.46	-5.26	0.10	11.22
G1+G2+S+0.7Q+A+0.6V3+D3	20.81	158.80	-2130.41	-5.26	0.14	11.23
G1+G2+S+0.7Q+A+0.6V4+0.6D4	20.80	238.53	-2131.26	-5.26	-0.10	62.55
G1+G2+S+0.7Q+A+0.6V4+D4	20.79	248.49	-2131.30	-5.26	-0.14	62.54
G1+G2+S+0.7Q+A+D1	20.80	203.64	-2097.57	-5.18	0.00	36.81
G1+G2+S+0.7Q+A+D2	20.80	203.65	-2164.14	-5.34	0.00	36.97
G1+G2+S+0.7Q+A+D3	20.81	178.74	-2130.74	-5.26	0.08	36.92

G1+G2+S+0.7Q+A+D4	20.80	228.55	-2130.98	-5.26	-0.08	36.85
G1+G2+S+0.7Q+A+V1+0.6D1	20.80	203.62	-2100.40	-5.19	0.00	36.61
G1+G2+S+0.7Q+A+V2+0.6D2	20.80	203.67	-2161.31	-5.33	0.00	37.17
G1+G2+S+0.7Q+A+V3+0.6D3	20.81	155.46	-2130.24	-5.26	0.14	-5.90
G1+G2+S+0.7Q+A+V4+0.6D4	20.79	251.83	-2131.47	-5.26	-0.14	79.68
G1+G2+S+0.7Q+V1+0.6D1	8.22	581.54	-2096.81	-5.19	0.00	37.13
G1+G2+S+0.7Q+V2+0.6D2	8.22	581.58	-2157.72	-5.33	0.00	37.69
G1+G2+S+0.7Q+V3+0.6D3	8.23	533.38	-2126.65	-5.26	0.14	-5.38
G1+G2+S+0.7Q+V4+0.6D4	8.21	629.75	-2127.88	-5.26	-0.14	80.20
G1+G2+S+A+0.6V1+0.6D1	20.38	204.66	-2104.64	-5.20	0.00	36.71
G1+G2+S+A+0.6V1+D1	20.38	204.66	-2091.33	-5.16	0.00	36.68
G1+G2+S+A+0.6V2+0.6D2	20.38	204.69	-2157.16	-5.32	0.00	37.09
G1+G2+S+A+0.6V2+D2	20.38	204.69	-2170.48	-5.36	0.00	37.12
G1+G2+S+A+0.6V3+0.6D3	20.39	169.79	-2130.50	-5.26	0.10	11.23
G1+G2+S+A+0.6V3+D3	20.39	159.83	-2130.46	-5.26	0.14	11.25
G1+G2+S+A+0.6V4+0.6D4	20.37	239.56	-2131.30	-5.26	-0.10	62.57
G1+G2+S+A+0.6V4+D4	20.37	249.52	-2131.35	-5.26	-0.14	62.56
G1+G2+S+A+D1	20.38	204.67	-2097.62	-5.18	0.00	36.82
G1+G2+S+A+D2	20.38	204.68	-2164.19	-5.34	0.00	36.98
G1+G2+S+A+D3	20.39	179.77	-2130.78	-5.26	0.08	36.93
G1+G2+S+A+D4	20.38	229.58	-2131.02	-5.26	-0.08	36.87
G1+G2+S+A+V1+0.6D1	20.38	204.66	-2100.45	-5.19	0.00	36.62
G1+G2+S+A+V2+0.6D2	20.38	204.70	-2161.35	-5.33	0.00	37.18
G1+G2+S+A+V3+0.6D3	20.39	156.49	-2130.29	-5.26	0.14	-5.89
G1+G2+S+A+V4+0.6D4	20.37	252.86	-2131.52	-5.26	-0.14	79.69
G1+G2+S+D1	7.80	582.59	-2094.03	-5.18	0.00	37.35
G1+G2+S+D2	7.80	582.60	-2160.59	-5.34	0.00	37.51
G1+G2+S+D3	7.81	557.69	-2127.19	-5.26	0.08	37.46
G1+G2+S+D4	7.79	607.49	-2127.43	-5.26	-0.08	37.39
G1+G2+S+Q+0.6V1+0.6D1	8.40	581.11	-2100.99	-5.20	0.00	37.22
G1+G2+S+Q+0.6V2+0.6D2	8.40	581.13	-2153.51	-5.32	0.00	37.59
G1+G2+S+Q+0.6V3+0.6D3	8.41	546.23	-2126.85	-5.26	0.10	11.74
G1+G2+S+Q+0.6V4+0.6D4	8.40	616.01	-2127.65	-5.26	-0.10	63.07
G1+G2+S+Q+A+0.6V1+0.6D1	20.99	203.19	-2104.58	-5.20	0.00	36.69
G1+G2+S+Q+A+0.6V2+0.6D2	20.99	203.22	-2157.10	-5.32	0.00	37.07
G1+G2+S+Q+A+0.6V3+0.6D3	20.99	168.32	-2130.44	-5.26	0.10	11.21
G1+G2+S+Q+A+0.6V4+0.6D4	20.98	238.09	-2131.24	-5.26	-0.10	62.55
G1+G2+S+Q+A+D1	20.99	203.20	-2097.55	-5.18	0.00	36.80
G1+G2+S+Q+A+D2	20.99	203.21	-2164.12	-5.34	0.00	36.96
G1+G2+S+Q+A+D3	20.99	178.30	-2130.72	-5.26	0.08	36.91
G1+G2+S+Q+A+D4	20.98	228.11	-2130.96	-5.26	-0.08	36.85
G1+G2+S+Q+D1	8.40	581.12	-2093.96	-5.18	0.00	37.33
G1+G2+S+Q+D2	8.40	581.12	-2160.53	-5.34	0.00	37.49
G1+G2+S+Q+D3	8.41	556.22	-2127.13	-5.26	0.08	37.44
G1+G2+S+Q+D4	8.40	606.02	-2127.37	-5.26	-0.08	37.37

**Fundação E10**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	4.18	7.29	0.43	0.00	0.00	0.04
Adicional (G2)	0.20	-1.18	0.03	0.00	0.00	0.00
Solo (S)	3.40	600.44	-2112.62	-5.26	0.00	39.20
Acidental (Q)	0.60	-3.54	0.08	0.00	0.00	0.01
Água (A)	12.44	-427.50	3.28	0.00	0.00	0.33
Vento X+ (V1)	0.00	0.00	10.54	0.03	0.00	-0.24
Vento X- (V2)	0.00	0.00	-10.54	-0.03	0.00	0.24
Vento Y+ (V3)	0.01	-32.69	0.29	0.00	0.09	-42.88
Vento Y- (V4)	-0.01	32.69	-0.29	0.00	-0.09	42.88

Desaprumo X+ (D1)	0.00	0.00	33.06	0.08	0.00	-0.08
Desaprumo X- (D2)	0.00	0.00	-33.06	-0.08	0.00	0.08
Desaprumo Y+ (D3)	0.01	-24.16	0.01	0.00	0.08	-0.01
Desaprumo Y- (D4)	-0.01	24.16	-0.01	0.00	-0.08	0.01
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	8.20	604.09	-2072.72	-5.16	0.00	39.03
G1+G2+S+0.7Q+0.6V2+D2	8.20	604.08	-2151.49	-5.35	0.00	39.48
G1+G2+S+0.7Q+0.6V3+D3	8.21	560.31	-2111.93	-5.26	0.14	13.52
G1+G2+S+0.7Q+0.6V4+D4	8.18	647.85	-2112.28	-5.26	-0.14	64.99
G1+G2+S+0.7Q+A+0.6V1+0.6D1	20.63	176.58	-2082.67	-5.20	0.00	39.39
G1+G2+S+0.7Q+A+0.6V1+D1	20.63	176.58	-2069.44	-5.16	0.00	39.36
G1+G2+S+0.7Q+A+0.6V2+0.6D2	20.63	176.58	-2134.99	-5.32	0.00	39.78
G1+G2+S+0.7Q+A+0.6V2+D2	20.63	176.58	-2148.21	-5.35	0.00	39.81
G1+G2+S+0.7Q+A+0.6V3+0.6D3	20.64	142.47	-2108.65	-5.26	0.10	13.85
G1+G2+S+0.7Q+A+0.6V3+D3	20.64	132.81	-2108.65	-5.26	0.14	13.85
G1+G2+S+0.7Q+A+0.6V4+0.6D4	20.62	210.69	-2109.00	-5.26	-0.10	65.32
G1+G2+S+0.7Q+A+0.6V4+D4	20.62	220.35	-2109.00	-5.26	-0.14	65.32
G1+G2+S+0.7Q+A+D1	20.63	176.58	-2075.77	-5.18	0.00	39.50
G1+G2+S+0.7Q+A+D2	20.63	176.58	-2141.88	-5.34	0.00	39.67
G1+G2+S+0.7Q+A+D3	20.64	152.42	-2108.82	-5.26	0.08	39.58
G1+G2+S+0.7Q+A+D4	20.63	200.74	-2108.83	-5.26	-0.08	39.59
G1+G2+S+0.7Q+A+V1+0.6D1	20.63	176.58	-2078.45	-5.19	0.00	39.30
G1+G2+S+0.7Q+A+V2+0.6D2	20.63	176.58	-2139.20	-5.33	0.00	39.87
G1+G2+S+0.7Q+A+V3+0.6D3	20.64	129.40	-2108.53	-5.26	0.14	-3.30
G1+G2+S+0.7Q+A+V4+0.6D4	20.62	223.76	-2109.12	-5.26	-0.14	82.47
G1+G2+S+0.7Q+V1+0.6D1	8.20	604.09	-2081.73	-5.19	0.00	38.97
G1+G2+S+0.7Q+V2+0.6D2	8.20	604.08	-2142.48	-5.33	0.00	39.54
G1+G2+S+0.7Q+V3+0.6D3	8.21	556.90	-2111.81	-5.26	0.14	-3.63
G1+G2+S+0.7Q+V4+0.6D4	8.18	651.26	-2112.40	-5.26	-0.14	82.14
G1+G2+S+A+0.6V1+0.6D1	20.21	179.06	-2082.72	-5.20	0.00	39.39
G1+G2+S+A+0.6V1+D1	20.21	179.06	-2069.50	-5.16	0.00	39.35
G1+G2+S+A+0.6V2+0.6D2	20.21	179.06	-2135.04	-5.32	0.00	39.77
G1+G2+S+A+0.6V2+D2	20.21	179.06	-2148.26	-5.35	0.00	39.81
G1+G2+S+A+0.6V3+0.6D3	20.22	144.95	-2108.70	-5.26	0.10	13.84
G1+G2+S+A+0.6V3+D3	20.22	135.29	-2108.70	-5.26	0.14	13.84
G1+G2+S+A+0.6V4+0.6D4	20.21	213.17	-2109.06	-5.26	-0.10	65.31
G1+G2+S+A+0.6V4+D4	20.20	222.83	-2109.06	-5.26	-0.14	65.32
G1+G2+S+A+D1	20.21	179.06	-2075.82	-5.18	0.00	39.50
G1+G2+S+A+D2	20.21	179.06	-2141.94	-5.34	0.00	39.66
G1+G2+S+A+D3	20.22	154.90	-2108.87	-5.26	0.08	39.57
G1+G2+S+A+D4	20.21	203.22	-2108.88	-5.26	-0.08	39.59
G1+G2+S+A+V1+0.6D1	20.21	179.06	-2078.50	-5.19	0.00	39.29
G1+G2+S+A+V2+0.6D2	20.21	179.05	-2139.26	-5.33	0.00	39.87
G1+G2+S+A+V3+0.6D3	20.22	131.88	-2108.59	-5.26	0.14	-3.31
G1+G2+S+A+V4+0.6D4	20.20	226.24	-2109.17	-5.26	-0.14	82.47
G1+G2+S+D1	7.78	606.56	-2079.10	-5.18	0.00	39.17
G1+G2+S+D2	7.78	606.56	-2145.22	-5.34	0.00	39.33
G1+G2+S+D3	7.78	582.40	-2112.15	-5.26	0.08	39.24
G1+G2+S+D4	7.77	630.72	-2112.17	-5.26	-0.08	39.26
G1+G2+S+Q+0.6V1+0.6D1	8.38	603.02	-2085.92	-5.20	0.00	39.06
G1+G2+S+Q+0.6V2+0.6D2	8.38	603.02	-2138.24	-5.32	0.00	39.45
G1+G2+S+Q+0.6V3+0.6D3	8.38	568.91	-2111.91	-5.26	0.10	13.52
G1+G2+S+Q+0.6V4+0.6D4	8.37	637.13	-2112.26	-5.26	-0.10	64.99
G1+G2+S+Q+A+0.6V1+0.6D1	20.81	175.52	-2082.64	-5.20	0.00	39.39
G1+G2+S+Q+A+0.6V2+0.6D2	20.81	175.52	-2134.96	-5.32	0.00	39.78

G1+G2+S+Q+A+0.6V3+0.6D3	20.82	141.41	-2108.63	-5.26	0.10	13.85
G1+G2+S+Q+A+0.6V4+0.6D4	20.80	209.62	-2108.98	-5.26	-0.10	65.32
G1+G2+S+Q+A+D1	20.81	175.52	-2075.75	-5.18	0.00	39.50
G1+G2+S+Q+A+D2	20.81	175.52	-2141.86	-5.34	0.00	39.67
G1+G2+S+Q+A+D3	20.82	151.36	-2108.80	-5.26	0.08	39.58
G1+G2+S+Q+A+D4	20.81	199.68	-2108.81	-5.26	-0.08	39.59
G1+G2+S+Q+D1	8.38	603.02	-2079.03	-5.18	0.00	39.17
G1+G2+S+Q+D2	8.38	603.02	-2145.14	-5.34	0.00	39.34
G1+G2+S+Q+D3	8.38	578.86	-2112.08	-5.26	0.08	39.25
G1+G2+S+Q+D4	8.37	627.18	-2112.09	-5.26	-0.08	39.26

<b>Fundação E11</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	4.33	21.20	27.76	0.00	0.00	-0.05
Adicional (G2)	0.21	-0.28	2.32	0.00	0.00	0.00
Solo (S)	2.99	559.84	-2169.11	-5.26	0.00	39.83
Acidental (Q)	0.64	-0.85	6.96	0.00	0.00	0.00
Água (A)	13.57	-354.33	204.20	0.00	0.00	0.94
Vento X+ (V1)	0.00	0.05	10.56	0.03	0.00	-0.24
Vento X- (V2)	0.00	-0.05	-10.56	-0.03	0.00	0.24
Vento Y+ (V3)	0.01	-33.64	0.02	0.00	0.09	-43.01
Vento Y- (V4)	-0.01	33.64	-0.02	0.00	-0.09	43.01
Desaprumo X+ (D1)	0.00	0.02	35.95	0.09	0.00	-0.09
Desaprumo X- (D2)	0.00	-0.02	-35.95	-0.09	0.00	0.09
Desaprumo Y+ (D3)	0.00	-26.91	-0.08	0.00	0.09	-0.06
Desaprumo Y- (D4)	0.00	26.91	0.08	0.00	-0.09	0.06
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	7.99	580.21	-2091.87	-5.16	0.00	39.56
G1+G2+S+0.7Q+0.6V2+D2	7.98	580.11	-2176.45	-5.36	0.00	40.02
G1+G2+S+0.7Q+0.6V3+D3	7.99	533.07	-2134.23	-5.26	0.14	13.92
G1+G2+S+0.7Q+0.6V4+D4	7.98	627.25	-2134.09	-5.26	-0.14	65.65
G1+G2+S+0.7Q+A+0.6V1+0.6D1	21.56	225.87	-1902.05	-5.19	0.00	40.53
G1+G2+S+0.7Q+A+0.6V1+D1	21.56	225.88	-1887.67	-5.16	0.00	40.50
G1+G2+S+0.7Q+A+0.6V2+0.6D2	21.56	225.79	-1957.87	-5.33	0.00	40.93
G1+G2+S+0.7Q+A+0.6V2+D2	21.56	225.78	-1972.25	-5.36	0.00	40.96
G1+G2+S+0.7Q+A+0.6V3+0.6D3	21.57	189.51	-1930.00	-5.26	0.11	14.89
G1+G2+S+0.7Q+A+0.6V3+D3	21.57	178.74	-1930.03	-5.26	0.14	14.86
G1+G2+S+0.7Q+A+0.6V4+0.6D4	21.55	262.16	-1929.93	-5.26	-0.11	66.57
G1+G2+S+0.7Q+A+0.6V4+D4	21.55	272.93	-1929.89	-5.26	-0.14	66.60
G1+G2+S+0.7Q+A+D1	21.56	225.86	-1894.01	-5.17	0.00	40.64
G1+G2+S+0.7Q+A+D2	21.56	225.81	-1965.91	-5.35	0.00	40.82
G1+G2+S+0.7Q+A+D3	21.56	198.92	-1930.05	-5.26	0.08	40.67
G1+G2+S+0.7Q+A+D4	21.55	252.74	-1929.88	-5.26	-0.09	40.79
G1+G2+S+0.7Q+A+V1+0.6D1	21.56	225.89	-1897.83	-5.18	0.00	40.44
G1+G2+S+0.7Q+A+V2+0.6D2	21.56	225.78	-1962.10	-5.34	0.00	41.02
G1+G2+S+0.7Q+A+V3+0.6D3	21.57	176.05	-1929.99	-5.26	0.15	-2.32
G1+G2+S+0.7Q+A+V4+0.6D4	21.55	275.62	-1929.94	-5.26	-0.15	83.78
G1+G2+S+0.7Q+V1+0.6D1	7.99	580.22	-2102.02	-5.18	0.00	39.49
G1+G2+S+0.7Q+V2+0.6D2	7.98	580.10	-2166.29	-5.34	0.00	40.08
G1+G2+S+0.7Q+V3+0.6D3	7.99	530.38	-2134.18	-5.26	0.15	-3.26
G1+G2+S+0.7Q+V4+0.6D4	7.98	629.94	-2134.13	-5.26	-0.15	82.84
G1+G2+S+A+0.6V1+0.6D1	21.11	226.47	-1906.92	-5.19	0.00	40.53
G1+G2+S+A+0.6V1+D1	21.11	226.48	-1892.54	-5.16	0.00	40.50
G1+G2+S+A+0.6V2+0.6D2	21.11	226.39	-1962.74	-5.33	0.00	40.93

G1+G2+S+A+0.6V2+D2	21.11	226.38	-1977.12	-5.36	0.00	40.96
G1+G2+S+A+0.6V3+0.6D3	21.12	190.10	-1934.87	-5.26	0.11	14.89
G1+G2+S+A+0.6V3+D3	21.12	179.34	-1934.90	-5.26	0.14	14.86
G1+G2+S+A+0.6V4+0.6D4	21.10	262.76	-1934.79	-5.26	-0.11	66.57
G1+G2+S+A+0.6V4+D4	21.10	273.52	-1934.76	-5.26	-0.14	66.59
G1+G2+S+A+D1	21.11	226.45	-1898.88	-5.17	0.00	40.64
G1+G2+S+A+D2	21.11	226.41	-1970.78	-5.35	0.00	40.81
G1+G2+S+A+D3	21.12	199.52	-1934.92	-5.26	0.08	40.67
G1+G2+S+A+D4	21.11	253.34	-1934.75	-5.26	-0.09	40.79
G1+G2+S+A+V1+0.6D1	21.11	226.49	-1902.70	-5.18	0.00	40.43
G1+G2+S+A+V2+0.6D2	21.11	226.37	-1966.96	-5.34	0.00	41.02
G1+G2+S+A+V3+0.6D3	21.12	176.65	-1934.86	-5.26	0.15	-2.32
G1+G2+S+A+V4+0.6D4	21.10	276.21	-1934.80	-5.26	-0.15	83.78
G1+G2+S+D1	7.54	580.78	-2103.07	-5.17	0.00	39.70
G1+G2+S+D2	7.54	580.74	-2174.98	-5.35	0.00	39.87
G1+G2+S+D3	7.54	553.85	-2139.11	-5.26	0.08	39.73
G1+G2+S+D4	7.53	607.67	-2138.94	-5.26	-0.09	39.85
G1+G2+S+Q+0.6V1+0.6D1	8.18	579.94	-2104.16	-5.19	0.00	39.59
G1+G2+S+Q+0.6V2+0.6D2	8.18	579.86	-2159.98	-5.33	0.00	39.99
G1+G2+S+Q+0.6V3+0.6D3	8.18	543.57	-2132.11	-5.26	0.11	13.95
G1+G2+S+Q+0.6V4+0.6D4	8.17	616.23	-2132.04	-5.26	-0.11	65.63
G1+G2+S+Q+A+0.6V1+0.6D1	21.75	225.62	-1899.97	-5.19	0.00	40.53
G1+G2+S+Q+A+0.6V2+0.6D2	21.75	225.54	-1955.78	-5.33	0.00	40.93
G1+G2+S+Q+A+0.6V3+0.6D3	21.76	189.25	-1927.91	-5.26	0.11	14.89
G1+G2+S+Q+A+0.6V4+0.6D4	21.74	261.91	-1927.84	-5.26	-0.11	66.57
G1+G2+S+Q+A+D1	21.75	225.60	-1891.92	-5.17	0.00	40.64
G1+G2+S+Q+A+D2	21.75	225.56	-1963.83	-5.35	0.00	40.82
G1+G2+S+Q+A+D3	21.76	198.67	-1927.96	-5.26	0.08	40.67
G1+G2+S+Q+A+D4	21.75	252.49	-1927.79	-5.26	-0.09	40.79
G1+G2+S+Q+D1	8.18	579.92	-2096.12	-5.17	0.00	39.70
G1+G2+S+Q+D2	8.18	579.88	-2168.02	-5.35	0.00	39.87
G1+G2+S+Q+D3	8.18	552.99	-2132.16	-5.26	0.08	39.73
G1+G2+S+Q+D4	8.17	606.81	-2131.99	-5.26	-0.09	39.85

**Fundação E12**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.94	-45.20	15.45	0.00	0.00	-0.40
Adicional (G2)	0.18	-1.94	0.87	0.00	0.00	-0.02
Solo (S)	-0.31	-133.41	-1461.39	-5.26	0.00	36.35
Acidental (Q)	0.54	-5.81	2.62	0.00	0.00	-0.07
Água (A)	10.05	-58.48	309.34	0.00	0.00	0.68
Vento X+ (V1)	0.00	0.22	11.91	0.03	0.00	-0.12
Vento X- (V2)	0.00	-0.22	-11.91	-0.03	0.00	0.12
Vento Y+ (V3)	0.01	-41.38	0.39	0.00	0.09	-42.58
Vento Y- (V4)	-0.01	41.38	-0.39	0.00	-0.09	42.58
Desaprumo X+ (D1)	0.00	-0.20	26.45	0.06	0.00	0.04
Desaprumo X- (D2)	0.00	0.20	-26.45	-0.06	0.00	-0.04
Desaprumo Y+ (D3)	0.00	-27.06	0.10	0.00	0.06	0.05
Desaprumo Y- (D4)	0.00	27.06	-0.10	0.00	-0.06	-0.05
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	3.18	-184.68	-1409.64	-5.18	0.00	35.85
G1+G2+S+0.7Q+0.6V2+D2	3.18	-184.55	-1476.83	-5.34	0.00	35.91
G1+G2+S+0.7Q+0.6V3+D3	3.19	-236.51	-1442.90	-5.26	0.12	10.38
G1+G2+S+0.7Q+0.6V4+D4	3.17	-132.72	-1443.57	-5.26	-0.12	61.39



G1+G2+S+0.7Q+A+0.6V1+0.6D1	13.23	-243.08	-1110.88	-5.21	0.00	36.51
G1+G2+S+0.7Q+A+0.6V1+D1	13.23	-243.16	-1100.30	-5.18	0.00	36.53
G1+G2+S+0.7Q+A+0.6V2+0.6D2	13.23	-243.11	-1156.91	-5.31	0.00	36.61
G1+G2+S+0.7Q+A+0.6V2+D2	13.23	-243.03	-1167.49	-5.34	0.00	36.59
G1+G2+S+0.7Q+A+0.6V3+0.6D3	13.24	-284.16	-1133.60	-5.26	0.09	11.04
G1+G2+S+0.7Q+A+0.6V3+D3	13.24	-294.99	-1133.56	-5.26	0.12	11.06
G1+G2+S+0.7Q+A+0.6V4+0.6D4	13.22	-202.03	-1134.19	-5.26	-0.09	62.08
G1+G2+S+0.7Q+A+0.6V4+D4	13.22	-191.20	-1134.23	-5.26	-0.12	62.07
G1+G2+S+0.7Q+A+D1	13.23	-243.30	-1107.45	-5.20	0.00	36.60
G1+G2+S+0.7Q+A+D2	13.23	-242.90	-1160.34	-5.32	0.00	36.52
G1+G2+S+0.7Q+A+D3	13.23	-270.16	-1133.80	-5.26	0.06	36.61
G1+G2+S+0.7Q+A+D4	13.23	-216.03	-1134.00	-5.26	-0.06	36.52
G1+G2+S+0.7Q+A+V1+0.6D1	13.23	-243.00	-1106.12	-5.20	0.00	36.47
G1+G2+S+0.7Q+A+V2+0.6D2	13.23	-243.20	-1161.68	-5.32	0.00	36.66
G1+G2+S+0.7Q+A+V3+0.6D3	13.24	-300.72	-1133.45	-5.26	0.13	-5.99
G1+G2+S+0.7Q+A+V4+0.6D4	13.21	-185.47	-1134.35	-5.26	-0.13	79.12
G1+G2+S+0.7Q+V1+0.6D1	3.18	-184.51	-1415.45	-5.20	0.00	35.79
G1+G2+S+0.7Q+V2+0.6D2	3.18	-184.72	-1471.01	-5.32	0.00	35.98
G1+G2+S+0.7Q+V3+0.6D3	3.19	-242.24	-1442.78	-5.26	0.13	-6.67
G1+G2+S+0.7Q+V4+0.6D4	3.16	-126.99	-1443.69	-5.26	-0.13	78.44
G1+G2+S+A+0.6V1+0.6D1	12.85	-239.02	-1112.71	-5.21	0.00	36.57
G1+G2+S+A+0.6V1+D1	12.85	-239.10	-1102.14	-5.18	0.00	36.58
G1+G2+S+A+0.6V2+0.6D2	12.85	-239.04	-1158.75	-5.31	0.00	36.66
G1+G2+S+A+0.6V2+D2	12.85	-238.96	-1169.32	-5.34	0.00	36.64
G1+G2+S+A+0.6V3+0.6D3	12.86	-280.10	-1135.44	-5.26	0.09	11.09
G1+G2+S+A+0.6V3+D3	12.86	-290.92	-1135.40	-5.26	0.12	11.11
G1+G2+S+A+0.6V4+0.6D4	12.84	-197.96	-1136.02	-5.26	-0.09	62.13
G1+G2+S+A+0.6V4+D4	12.84	-187.14	-1136.06	-5.26	-0.12	62.12
G1+G2+S+A+D1	12.85	-239.23	-1109.28	-5.20	0.00	36.65
G1+G2+S+A+D2	12.85	-238.83	-1162.18	-5.32	0.00	36.57
G1+G2+S+A+D3	12.86	-266.09	-1135.63	-5.26	0.06	36.66
G1+G2+S+A+D4	12.85	-211.97	-1135.83	-5.26	-0.06	36.57
G1+G2+S+A+V1+0.6D1	12.85	-238.93	-1107.95	-5.20	0.00	36.52
G1+G2+S+A+V2+0.6D2	12.85	-239.13	-1163.51	-5.32	0.00	36.71
G1+G2+S+A+V3+0.6D3	12.87	-296.65	-1135.28	-5.26	0.13	-5.94
G1+G2+S+A+V4+0.6D4	12.84	-181.41	-1136.18	-5.26	-0.13	79.17
G1+G2+S+D1	2.80	-180.75	-1418.62	-5.20	0.00	35.97
G1+G2+S+D2	2.80	-180.35	-1471.51	-5.32	0.00	35.89
G1+G2+S+D3	2.81	-207.61	-1444.97	-5.26	0.06	35.98
G1+G2+S+D4	2.80	-153.48	-1445.17	-5.26	-0.06	35.89
G1+G2+S+Q+0.6V1+0.6D1	3.34	-186.35	-1419.43	-5.21	0.00	35.81
G1+G2+S+Q+0.6V2+0.6D2	3.34	-186.37	-1465.46	-5.31	0.00	35.91
G1+G2+S+Q+0.6V3+0.6D3	3.35	-227.43	-1442.15	-5.26	0.09	10.34
G1+G2+S+Q+0.6V4+0.6D4	3.33	-145.29	-1442.74	-5.26	-0.09	61.38
G1+G2+S+Q+A+0.6V1+0.6D1	13.39	-244.83	-1110.10	-5.21	0.00	36.49
G1+G2+S+Q+A+0.6V2+0.6D2	13.39	-244.85	-1156.13	-5.31	0.00	36.59
G1+G2+S+Q+A+0.6V3+0.6D3	13.40	-285.91	-1132.82	-5.26	0.09	11.02
G1+G2+S+Q+A+0.6V4+0.6D4	13.38	-203.77	-1133.41	-5.26	-0.09	62.06
G1+G2+S+Q+A+D1	13.39	-245.04	-1106.66	-5.20	0.00	36.58
G1+G2+S+Q+A+D2	13.39	-244.64	-1159.56	-5.32	0.00	36.50
G1+G2+S+Q+A+D3	13.39	-271.90	-1133.01	-5.26	0.06	36.58
G1+G2+S+Q+A+D4	13.39	-217.78	-1133.21	-5.26	-0.06	36.49
G1+G2+S+Q+D1	3.34	-186.56	-1416.00	-5.20	0.00	35.90
G1+G2+S+Q+D2	3.34	-186.16	-1468.90	-5.32	0.00	35.82
G1+G2+S+Q+D3	3.34	-213.42	-1442.35	-5.26	0.06	35.91
G1+G2+S+Q+D4	3.34	-159.29	-1442.55	-5.26	-0.06	35.82

Fundação E13						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.31	-62.22	-90.17	0.00	0.00	0.27
Adicional (G2)	0.22	-2.37	-3.41	0.00	0.00	0.02
Solo (S)	0.61	-476.01	-1945.19	-5.26	0.00	33.25
Acidental (Q)	0.65	-7.12	-10.24	0.00	0.00	0.06
Água (A)	14.25	171.33	-142.50	0.00	0.00	0.49
Vento X+ (V1)	0.00	0.17	11.39	0.03	0.00	-0.14
Vento X- (V2)	0.00	-0.17	-11.39	-0.03	0.00	0.14
Vento Y+ (V3)	0.01	-40.38	-1.48	0.00	0.09	-42.15
Vento Y- (V4)	-0.01	40.38	1.48	0.00	-0.09	42.15
Desaprumo X+ (D1)	0.00	0.39	34.99	0.08	0.00	0.04
Desaprumo X- (D2)	0.00	-0.39	-34.99	-0.08	0.00	-0.04
Desaprumo Y+ (D3)	0.00	-35.00	-0.43	0.00	0.08	0.15
Desaprumo Y- (D4)	0.00	35.00	0.43	0.00	-0.08	-0.15
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	4.58	-545.10	-2004.12	-5.16	0.00	33.53
G1+G2+S+0.7Q+0.6V2+D2	4.59	-546.08	-2087.77	-5.36	0.00	33.62
G1+G2+S+0.7Q+0.6V3+D3	4.59	-604.81	-2047.27	-5.26	0.14	8.43
G1+G2+S+0.7Q+0.6V4+D4	4.58	-486.36	-2044.62	-5.26	-0.14	58.72
G1+G2+S+0.7Q+A+0.6V1+0.6D1	18.84	-373.92	-2160.61	-5.19	0.00	34.01
G1+G2+S+0.7Q+A+0.6V1+D1	18.84	-373.77	-2146.62	-5.16	0.00	34.02
G1+G2+S+0.7Q+A+0.6V2+0.6D2	18.84	-374.59	-2216.27	-5.33	0.00	34.13
G1+G2+S+0.7Q+A+0.6V2+D2	18.84	-374.75	-2230.27	-5.36	0.00	34.11
G1+G2+S+0.7Q+A+0.6V3+0.6D3	18.85	-419.48	-2189.59	-5.26	0.11	8.87
G1+G2+S+0.7Q+A+0.6V3+D3	18.85	-433.48	-2189.76	-5.26	0.14	8.92
G1+G2+S+0.7Q+A+0.6V4+0.6D4	18.84	-329.03	-2187.29	-5.26	-0.11	59.27
G1+G2+S+0.7Q+A+0.6V4+D4	18.83	-315.04	-2187.12	-5.26	-0.14	59.21
G1+G2+S+0.7Q+A+D1	18.84	-373.87	-2153.45	-5.18	0.00	34.10
G1+G2+S+0.7Q+A+D2	18.84	-374.65	-2223.43	-5.34	0.00	34.03
G1+G2+S+0.7Q+A+D3	18.84	-409.26	-2188.88	-5.26	0.08	34.21
G1+G2+S+0.7Q+A+D4	18.84	-339.26	-2188.01	-5.26	-0.08	33.92
G1+G2+S+0.7Q+A+V1+0.6D1	18.84	-373.85	-2156.06	-5.18	0.00	33.95
G1+G2+S+0.7Q+A+V2+0.6D2	18.84	-374.66	-2220.83	-5.34	0.00	34.18
G1+G2+S+0.7Q+A+V3+0.6D3	18.85	-435.64	-2190.18	-5.26	0.14	-7.99
G1+G2+S+0.7Q+A+V4+0.6D4	18.83	-312.88	-2186.70	-5.26	-0.14	76.13
G1+G2+S+0.7Q+V1+0.6D1	4.58	-545.18	-2013.56	-5.18	0.00	33.46
G1+G2+S+0.7Q+V2+0.6D2	4.59	-545.99	-2078.33	-5.34	0.00	33.69
G1+G2+S+0.7Q+V3+0.6D3	4.59	-606.96	-2047.68	-5.26	0.14	-8.48
G1+G2+S+0.7Q+V4+0.6D4	4.58	-484.21	-2044.21	-5.26	-0.14	75.64
G1+G2+S+A+0.6V1+0.6D1	18.39	-368.94	-2153.44	-5.19	0.00	33.97
G1+G2+S+A+0.6V1+D1	18.38	-368.79	-2139.45	-5.16	0.00	33.98
G1+G2+S+A+0.6V2+0.6D2	18.39	-369.61	-2209.10	-5.33	0.00	34.09
G1+G2+S+A+0.6V2+D2	18.39	-369.77	-2223.10	-5.36	0.00	34.07
G1+G2+S+A+0.6V3+0.6D3	18.39	-414.50	-2182.42	-5.26	0.11	8.83
G1+G2+S+A+0.6V3+D3	18.39	-428.50	-2182.59	-5.26	0.14	8.88
G1+G2+S+A+0.6V4+0.6D4	18.38	-324.05	-2180.12	-5.26	-0.11	59.23
G1+G2+S+A+0.6V4+D4	18.38	-310.05	-2179.95	-5.26	-0.14	59.17
G1+G2+S+A+D1	18.39	-368.89	-2146.28	-5.18	0.00	34.06
G1+G2+S+A+D2	18.39	-369.66	-2216.26	-5.34	0.00	33.99
G1+G2+S+A+D3	18.39	-404.27	-2181.71	-5.26	0.08	34.17
G1+G2+S+A+D4	18.38	-334.28	-2180.84	-5.26	-0.08	33.88
G1+G2+S+A+V1+0.6D1	18.38	-368.87	-2148.89	-5.18	0.00	33.91
G1+G2+S+A+V2+0.6D2	18.39	-369.68	-2213.66	-5.34	0.00	34.14

G1+G2+S+A+V3+0.6D3	18.40	-430.65	-2183.01	-5.26	0.14	-8.03
G1+G2+S+A+V4+0.6D4	18.38	-307.90	-2179.53	-5.26	-0.14	76.09
G1+G2+S+D1	4.13	-540.22	-2003.79	-5.18	0.00	33.57
G1+G2+S+D2	4.13	-540.99	-2073.76	-5.34	0.00	33.50
G1+G2+S+D3	4.13	-575.60	-2039.21	-5.26	0.08	33.68
G1+G2+S+D4	4.13	-505.61	-2038.34	-5.26	-0.08	33.39
G1+G2+S+Q+0.6V1+0.6D1	4.78	-547.39	-2021.19	-5.19	0.00	33.53
G1+G2+S+Q+0.6V2+0.6D2	4.78	-548.06	-2076.85	-5.33	0.00	33.66
G1+G2+S+Q+0.6V3+0.6D3	4.79	-592.95	-2050.17	-5.26	0.11	8.39
G1+G2+S+Q+0.6V4+0.6D4	4.77	-502.50	-2047.87	-5.26	-0.11	58.80
G1+G2+S+Q+A+0.6V1+0.6D1	19.03	-376.06	-2163.69	-5.19	0.00	34.02
G1+G2+S+Q+A+0.6V2+0.6D2	19.04	-376.73	-2219.34	-5.33	0.00	34.15
G1+G2+S+Q+A+0.6V3+0.6D3	19.04	-421.62	-2192.66	-5.26	0.11	8.88
G1+G2+S+Q+A+0.6V4+0.6D4	19.03	-331.17	-2190.37	-5.26	-0.11	59.29
G1+G2+S+Q+A+D1	19.03	-376.01	-2156.53	-5.18	0.00	34.12
G1+G2+S+Q+A+D2	19.04	-376.78	-2226.50	-5.34	0.00	34.05
G1+G2+S+Q+A+D3	19.04	-411.39	-2191.95	-5.26	0.08	34.23
G1+G2+S+Q+A+D4	19.03	-341.40	-2191.08	-5.26	-0.08	33.94
G1+G2+S+Q+D1	4.78	-547.34	-2014.03	-5.18	0.00	33.63
G1+G2+S+Q+D2	4.78	-548.11	-2084.01	-5.34	0.00	33.56
G1+G2+S+Q+D3	4.78	-582.72	-2049.45	-5.26	0.08	33.74
G1+G2+S+Q+D4	4.78	-512.73	-2048.58	-5.26	-0.08	33.45

**Fundação E14**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.29	61.72	-87.99	0.00	0.00	-0.28
Adicional (G2)	0.22	2.33	-3.26	0.00	0.00	-0.02
Solo (S)	0.58	474.36	-1939.53	-5.26	0.00	34.81
Acidental (Q)	0.65	6.99	-9.78	0.00	0.00	-0.06
Água (A)	14.23	-171.64	-138.38	0.00	0.00	-0.51
Vento X+ (V1)	0.00	-0.17	11.40	0.03	0.00	-0.20
Vento X- (V2)	0.00	0.17	-11.40	-0.03	0.00	0.20
Vento Y+ (V3)	-0.01	-40.37	1.53	0.00	0.09	-42.15
Vento Y- (V4)	0.01	40.37	-1.53	0.00	-0.09	42.15
Desaprumo X+ (D1)	0.00	-0.39	34.92	0.08	0.00	-0.03
Desaprumo X- (D2)	0.00	0.39	-34.92	-0.08	0.00	0.03
Desaprumo Y+ (D3)	0.00	-34.92	0.44	0.00	0.08	0.15
Desaprumo Y- (D4)	0.00	34.92	-0.44	0.00	-0.08	-0.15
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	4.54	542.81	-1995.87	-5.16	0.00	34.32
G1+G2+S+0.7Q+0.6V2+D2	4.54	543.79	-2079.39	-5.36	0.00	34.63
G1+G2+S+0.7Q+0.6V3+D3	4.54	484.16	-2036.27	-5.26	0.14	9.33
G1+G2+S+0.7Q+0.6V4+D4	4.55	602.45	-2038.99	-5.26	-0.14	59.62
G1+G2+S+0.7Q+A+0.6V1+0.6D1	18.77	371.33	-2148.22	-5.19	0.00	33.82
G1+G2+S+0.7Q+A+0.6V1+D1	18.77	371.18	-2134.26	-5.16	0.00	33.81
G1+G2+S+0.7Q+A+0.6V2+0.6D2	18.78	372.00	-2203.81	-5.33	0.00	34.10
G1+G2+S+0.7Q+A+0.6V2+D2	18.78	372.16	-2217.77	-5.36	0.00	34.12
G1+G2+S+0.7Q+A+0.6V3+0.6D3	18.77	326.49	-2174.83	-5.26	0.11	8.76
G1+G2+S+0.7Q+A+0.6V3+D3	18.77	312.52	-2174.65	-5.26	0.14	8.82
G1+G2+S+0.7Q+A+0.6V4+0.6D4	18.78	416.84	-2177.20	-5.26	-0.11	59.16
G1+G2+S+0.7Q+A+0.6V4+D4	18.78	430.81	-2177.37	-5.26	-0.14	59.10
G1+G2+S+0.7Q+A+D1	18.77	371.28	-2141.10	-5.18	0.00	33.93
G1+G2+S+0.7Q+A+D2	18.78	372.05	-2210.93	-5.34	0.00	34.00
G1+G2+S+0.7Q+A+D3	18.77	336.75	-2175.57	-5.26	0.08	34.11

G1+G2+S+0.7Q+A+D4	18.78	406.58	-2176.46	-5.26	-0.08	33.82
G1+G2+S+0.7Q+A+V1+0.6D1	18.77	371.26	-2143.66	-5.18	0.00	33.74
G1+G2+S+0.7Q+A+V2+0.6D2	18.78	372.07	-2208.37	-5.34	0.00	34.18
G1+G2+S+0.7Q+A+V3+0.6D3	18.77	310.34	-2174.22	-5.26	0.14	-8.10
G1+G2+S+0.7Q+A+V4+0.6D4	18.78	432.99	-2177.81	-5.26	-0.14	76.02
G1+G2+S+0.7Q+V1+0.6D1	4.54	542.90	-2005.28	-5.18	0.00	34.25
G1+G2+S+0.7Q+V2+0.6D2	4.55	543.71	-2069.98	-5.34	0.00	34.69
G1+G2+S+0.7Q+V3+0.6D3	4.53	481.98	-2035.84	-5.26	0.14	-7.58
G1+G2+S+0.7Q+V4+0.6D4	4.55	604.63	-2039.43	-5.26	-0.14	76.53
G1+G2+S+A+0.6V1+0.6D1	18.32	366.44	-2141.38	-5.19	0.00	33.86
G1+G2+S+A+0.6V1+D1	18.32	366.28	-2127.41	-5.16	0.00	33.85
G1+G2+S+A+0.6V2+0.6D2	18.32	367.11	-2196.96	-5.33	0.00	34.14
G1+G2+S+A+0.6V2+D2	18.32	367.26	-2210.93	-5.36	0.00	34.15
G1+G2+S+A+0.6V3+0.6D3	18.32	321.60	-2167.99	-5.26	0.11	8.80
G1+G2+S+A+0.6V3+D3	18.32	307.63	-2167.81	-5.26	0.14	8.86
G1+G2+S+A+0.6V4+0.6D4	18.33	411.95	-2170.35	-5.26	-0.11	59.20
G1+G2+S+A+0.6V4+D4	18.33	425.92	-2170.53	-5.26	-0.14	59.14
G1+G2+S+A+D1	18.32	366.39	-2134.25	-5.18	0.00	33.97
G1+G2+S+A+D2	18.32	367.16	-2204.09	-5.34	0.00	34.04
G1+G2+S+A+D3	18.32	331.85	-2168.73	-5.26	0.08	34.15
G1+G2+S+A+D4	18.32	401.69	-2169.61	-5.26	-0.08	33.85
G1+G2+S+A+V1+0.6D1	18.32	366.37	-2136.82	-5.18	0.00	33.78
G1+G2+S+A+V2+0.6D2	18.32	367.18	-2201.52	-5.34	0.00	34.22
G1+G2+S+A+V3+0.6D3	18.31	305.45	-2167.37	-5.26	0.14	-8.06
G1+G2+S+A+V4+0.6D4	18.33	428.10	-2170.97	-5.26	-0.14	76.06
G1+G2+S+D1	4.09	538.02	-1995.87	-5.18	0.00	34.48
G1+G2+S+D2	4.09	538.80	-2065.70	-5.34	0.00	34.55
G1+G2+S+D3	4.09	503.49	-2030.35	-5.26	0.08	34.66
G1+G2+S+D4	4.09	573.33	-2031.23	-5.26	-0.08	34.37
G1+G2+S+Q+0.6V1+0.6D1	4.73	545.06	-2012.77	-5.19	0.00	34.32
G1+G2+S+Q+0.6V2+0.6D2	4.74	545.73	-2068.36	-5.33	0.00	34.60
G1+G2+S+Q+0.6V3+0.6D3	4.73	500.22	-2039.38	-5.26	0.11	9.26
G1+G2+S+Q+0.6V4+0.6D4	4.74	590.57	-2041.75	-5.26	-0.11	59.66
G1+G2+S+Q+A+0.6V1+0.6D1	18.97	373.43	-2151.16	-5.19	0.00	33.80
G1+G2+S+Q+A+0.6V2+0.6D2	18.97	374.10	-2206.74	-5.33	0.00	34.08
G1+G2+S+Q+A+0.6V3+0.6D3	18.96	328.59	-2177.76	-5.26	0.11	8.74
G1+G2+S+Q+A+0.6V4+0.6D4	18.97	418.94	-2180.13	-5.26	-0.11	59.14
G1+G2+S+Q+A+D1	18.97	373.38	-2144.03	-5.18	0.00	33.91
G1+G2+S+Q+A+D2	18.97	374.15	-2213.87	-5.34	0.00	33.98
G1+G2+S+Q+A+D3	18.97	338.84	-2178.51	-5.26	0.08	34.09
G1+G2+S+Q+A+D4	18.97	408.68	-2179.39	-5.26	-0.08	33.80
G1+G2+S+Q+D1	4.74	545.01	-2005.65	-5.18	0.00	34.42
G1+G2+S+Q+D2	4.74	545.79	-2075.48	-5.34	0.00	34.49
G1+G2+S+Q+D3	4.73	510.48	-2040.12	-5.26	0.08	34.60
G1+G2+S+Q+D4	4.74	580.32	-2041.01	-5.26	-0.08	34.31

**Fundação E15**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.19	53.03	15.49	0.00	0.00	0.35
Adicional (G2)	0.19	2.21	0.88	0.00	0.00	0.02
Solo (S)	-0.29	147.54	-1405.44	-5.26	0.00	32.09
Acidental (Q)	0.58	6.62	2.64	0.00	0.00	0.06
Água (A)	10.61	67.61	331.68	0.00	0.00	-0.57
Vento X+ (V1)	0.00	-0.25	11.97	0.03	0.00	-0.22
Vento X- (V2)	0.00	0.25	-11.97	-0.03	0.00	0.22
Vento Y+ (V3)	-0.02	-41.77	-0.64	0.00	0.09	-42.57
Vento Y- (V4)	0.02	41.77	0.64	0.00	-0.09	42.57

Desaprumo X+ (D1)	0.00	0.24	28.18	0.07	0.00	-0.04
Desaprumo X- (D2)	0.00	-0.24	-28.18	-0.07	0.00	0.04
Desaprumo Y+ (D3)	0.00	-28.93	-0.15	0.00	0.07	0.05
Desaprumo Y- (D4)	0.00	28.93	0.15	0.00	-0.07	-0.05
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	3.49	207.49	-1351.86	-5.18	0.00	32.34
G1+G2+S+0.7Q+0.6V2+D2	3.49	207.32	-1422.58	-5.34	0.00	32.68
G1+G2+S+0.7Q+0.6V3+D3	3.48	153.41	-1387.75	-5.26	0.12	7.01
G1+G2+S+0.7Q+0.6V4+D4	3.51	261.40	-1386.69	-5.26	-0.12	58.01
G1+G2+S+0.7Q+A+0.6V1+0.6D1	14.10	275.00	-1031.46	-5.21	0.00	31.79
G1+G2+S+0.7Q+A+0.6V1+D1	14.10	275.10	-1020.19	-5.18	0.00	31.77
G1+G2+S+0.7Q+A+0.6V2+0.6D2	14.11	275.02	-1079.63	-5.32	0.00	32.10
G1+G2+S+0.7Q+A+0.6V2+D2	14.11	274.93	-1090.91	-5.34	0.00	32.12
G1+G2+S+0.7Q+A+0.6V3+0.6D3	14.09	232.59	-1056.02	-5.26	0.10	6.43
G1+G2+S+0.7Q+A+0.6V3+D3	14.09	221.02	-1056.08	-5.26	0.12	6.45
G1+G2+S+0.7Q+A+0.6V4+0.6D4	14.12	317.44	-1055.07	-5.26	-0.09	57.46
G1+G2+S+0.7Q+A+0.6V4+D4	14.12	329.01	-1055.02	-5.26	-0.12	57.44
G1+G2+S+0.7Q+A+D1	14.10	275.25	-1027.37	-5.19	0.00	31.90
G1+G2+S+0.7Q+A+D2	14.11	274.78	-1083.72	-5.33	0.00	31.98
G1+G2+S+0.7Q+A+D3	14.10	246.08	-1055.69	-5.26	0.07	31.99
G1+G2+S+0.7Q+A+D4	14.11	303.95	-1055.40	-5.26	-0.07	31.90
G1+G2+S+0.7Q+A+V1+0.6D1	14.10	274.90	-1026.67	-5.19	0.00	31.70
G1+G2+S+0.7Q+A+V2+0.6D2	14.11	275.13	-1084.42	-5.33	0.00	32.19
G1+G2+S+0.7Q+A+V3+0.6D3	14.09	215.88	-1056.28	-5.26	0.13	-10.60
G1+G2+S+0.7Q+A+V4+0.6D4	14.12	334.15	-1054.82	-5.26	-0.13	74.49
G1+G2+S+0.7Q+V1+0.6D1	3.49	207.29	-1358.34	-5.19	0.00	32.26
G1+G2+S+0.7Q+V2+0.6D2	3.49	207.52	-1416.10	-5.33	0.00	32.75
G1+G2+S+0.7Q+V3+0.6D3	3.47	148.27	-1387.95	-5.26	0.13	-10.04
G1+G2+S+0.7Q+V4+0.6D4	3.51	266.54	-1386.49	-5.26	-0.13	75.05
G1+G2+S+A+0.6V1+0.6D1	13.70	270.37	-1033.31	-5.21	0.00	31.74
G1+G2+S+A+0.6V1+D1	13.70	270.46	-1022.04	-5.18	0.00	31.73
G1+G2+S+A+0.6V2+0.6D2	13.70	270.39	-1081.49	-5.32	0.00	32.06
G1+G2+S+A+0.6V2+D2	13.70	270.30	-1092.76	-5.34	0.00	32.07
G1+G2+S+A+0.6V3+0.6D3	13.69	227.96	-1057.87	-5.26	0.10	6.38
G1+G2+S+A+0.6V3+D3	13.69	216.38	-1057.93	-5.26	0.12	6.40
G1+G2+S+A+0.6V4+0.6D4	13.71	312.80	-1056.92	-5.26	-0.09	57.42
G1+G2+S+A+0.6V4+D4	13.72	324.38	-1056.87	-5.26	-0.12	57.40
G1+G2+S+A+D1	13.70	270.62	-1029.22	-5.19	0.00	31.86
G1+G2+S+A+D2	13.70	270.14	-1085.57	-5.33	0.00	31.94
G1+G2+S+A+D3	13.70	241.44	-1057.54	-5.26	0.07	31.95
G1+G2+S+A+D4	13.71	299.31	-1057.25	-5.26	-0.07	31.85
G1+G2+S+A+V1+0.6D1	13.70	270.27	-1028.52	-5.19	0.00	31.65
G1+G2+S+A+V2+0.6D2	13.70	270.49	-1086.27	-5.33	0.00	32.15
G1+G2+S+A+V3+0.6D3	13.68	211.25	-1058.13	-5.26	0.13	-10.65
G1+G2+S+A+V4+0.6D4	13.72	329.51	-1056.67	-5.26	-0.13	74.45
G1+G2+S+D1	3.09	203.01	-1360.90	-5.19	0.00	32.42
G1+G2+S+D2	3.09	202.54	-1417.25	-5.33	0.00	32.51
G1+G2+S+D3	3.09	173.84	-1389.22	-5.26	0.07	32.51
G1+G2+S+D4	3.09	231.71	-1388.93	-5.26	-0.07	32.42
G1+G2+S+Q+0.6V1+0.6D1	3.66	209.38	-1362.34	-5.20	0.00	32.37
G1+G2+S+Q+0.6V2+0.6D2	3.67	209.40	-1410.52	-5.32	0.00	32.68
G1+G2+S+Q+0.6V3+0.6D3	3.65	166.97	-1386.90	-5.26	0.10	7.01
G1+G2+S+Q+0.6V4+0.6D4	3.68	251.82	-1385.96	-5.26	-0.09	58.04
G1+G2+S+Q+A+0.6V1+0.6D1	14.28	276.99	-1030.66	-5.21	0.00	31.81
G1+G2+S+Q+A+0.6V2+0.6D2	14.28	277.01	-1078.84	-5.32	0.00	32.12

G1+G2+S+Q+A+0.6V3+0.6D3	14.27	234.58	-1055.23	-5.26	0.10	6.45
G1+G2+S+Q+A+0.6V4+0.6D4	14.29	319.42	-1054.28	-5.26	-0.09	57.48
G1+G2+S+Q+A+D1	14.28	277.24	-1026.58	-5.19	0.00	31.92
G1+G2+S+Q+A+D2	14.28	276.76	-1082.93	-5.33	0.00	32.00
G1+G2+S+Q+A+D3	14.27	248.06	-1054.90	-5.26	0.07	32.01
G1+G2+S+Q+A+D4	14.28	305.93	-1054.61	-5.26	-0.07	31.92
G1+G2+S+Q+D1	3.66	209.63	-1358.25	-5.19	0.00	32.49
G1+G2+S+Q+D2	3.67	209.16	-1414.60	-5.33	0.00	32.57
G1+G2+S+Q+D3	3.66	180.46	-1386.57	-5.26	0.07	32.57
G1+G2+S+Q+D4	3.67	238.33	-1386.28	-5.26	-0.07	32.48

<b>Fundação E16</b>						
<b>Combinação</b>	<b>N (tf)</b>	<b>Mx (kgf.m)</b>	<b>My (kgf.m)</b>	<b>Vx (tf)</b>	<b>Vy (tf)</b>	<b>Mt (kgf/m)</b>
Peso próprio (G1)	2.93	-44.63	-1.03	0.00	0.00	0.03
Adicional (G2)	0.20	-0.95	-0.03	0.00	0.00	0.00
Solo (S)	2.16	-608.50	-2206.77	-5.26	0.00	31.71
Acidental (Q)	0.60	-2.84	-0.08	0.00	0.00	0.01
Água (A)	13.20	357.20	-2.30	0.00	0.00	-0.05
Vento X+ (V1)	0.00	0.03	10.93	0.03	0.00	-0.14
Vento X- (V2)	0.00	-0.03	-10.93	-0.03	0.00	0.14
Vento Y+ (V3)	0.00	-38.83	-0.10	0.00	0.09	-42.40
Vento Y- (V4)	0.00	38.83	0.10	0.00	-0.09	42.40
Desaprumo X+ (D1)	0.00	0.01	31.91	0.08	0.00	0.04
Desaprumo X- (D2)	0.00	-0.01	-31.91	-0.08	0.00	-0.04
Desaprumo Y+ (D3)	0.00	-30.61	0.01	0.00	0.08	0.05
Desaprumo Y- (D4)	0.00	30.61	-0.01	0.00	-0.08	-0.05
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	5.70	-656.04	-2169.42	-5.17	0.00	31.70
G1+G2+S+0.7Q+0.6V2+D2	5.70	-656.10	-2246.35	-5.35	0.00	31.79
G1+G2+S+0.7Q+0.6V3+D3	5.70	-709.97	-2207.94	-5.26	0.13	6.36
G1+G2+S+0.7Q+0.6V4+D4	5.71	-602.16	-2207.83	-5.26	-0.13	57.14
G1+G2+S+0.7Q+A+0.6V1+0.6D1	18.90	-298.84	-2184.48	-5.20	0.00	31.64
G1+G2+S+0.7Q+A+0.6V1+D1	18.90	-298.83	-2171.72	-5.17	0.00	31.65
G1+G2+S+0.7Q+A+0.6V2+0.6D2	18.90	-298.89	-2235.88	-5.32	0.00	31.76
G1+G2+S+0.7Q+A+0.6V2+D2	18.90	-298.90	-2248.65	-5.35	0.00	31.74
G1+G2+S+0.7Q+A+0.6V3+0.6D3	18.90	-340.53	-2210.24	-5.26	0.10	6.29
G1+G2+S+0.7Q+A+0.6V3+D3	18.90	-352.77	-2210.24	-5.26	0.13	6.31
G1+G2+S+0.7Q+A+0.6V4+0.6D4	18.90	-257.20	-2210.13	-5.26	-0.10	57.11
G1+G2+S+0.7Q+A+0.6V4+D4	18.91	-244.96	-2210.13	-5.26	-0.13	57.09
G1+G2+S+0.7Q+A+D1	18.90	-298.85	-2178.28	-5.18	0.00	31.74
G1+G2+S+0.7Q+A+D2	18.90	-298.88	-2242.09	-5.34	0.00	31.66
G1+G2+S+0.7Q+A+D3	18.90	-329.48	-2210.17	-5.26	0.08	31.75
G1+G2+S+0.7Q+A+D4	18.90	-268.25	-2210.19	-5.26	-0.08	31.65
G1+G2+S+0.7Q+A+V1+0.6D1	18.90	-298.82	-2180.11	-5.19	0.00	31.58
G1+G2+S+0.7Q+A+V2+0.6D2	18.90	-298.91	-2240.26	-5.33	0.00	31.81
G1+G2+S+0.7Q+A+V3+0.6D3	18.90	-356.06	-2210.28	-5.26	0.14	-10.67
G1+G2+S+0.7Q+A+V4+0.6D4	18.91	-241.67	-2210.08	-5.26	-0.14	74.07
G1+G2+S+0.7Q+V1+0.6D1	5.70	-656.03	-2177.81	-5.19	0.00	31.63
G1+G2+S+0.7Q+V2+0.6D2	5.70	-656.11	-2237.96	-5.33	0.00	31.86
G1+G2+S+0.7Q+V3+0.6D3	5.70	-713.26	-2207.98	-5.26	0.14	-10.63
G1+G2+S+0.7Q+V4+0.6D4	5.71	-598.88	-2207.78	-5.26	-0.14	74.12
G1+G2+S+A+0.6V1+0.6D1	18.48	-296.85	-2184.42	-5.20	0.00	31.64
G1+G2+S+A+0.6V1+D1	18.48	-296.85	-2171.66	-5.17	0.00	31.65
G1+G2+S+A+0.6V2+0.6D2	18.48	-296.91	-2235.83	-5.32	0.00	31.76

G1+G2+S+A+0.6V2+D2	18.48	-296.91	-2248.59	-5.35	0.00	31.74
G1+G2+S+A+0.6V3+0.6D3	18.48	-338.54	-2210.18	-5.26	0.10	6.28
G1+G2+S+A+0.6V3+D3	18.48	-350.78	-2210.18	-5.26	0.13	6.31
G1+G2+S+A+0.6V4+0.6D4	18.49	-255.22	-2210.07	-5.26	-0.10	57.11
G1+G2+S+A+0.6V4+D4	18.49	-242.97	-2210.07	-5.26	-0.13	57.08
G1+G2+S+A+D1	18.48	-296.87	-2178.22	-5.18	0.00	31.73
G1+G2+S+A+D2	18.48	-296.89	-2242.03	-5.34	0.00	31.66
G1+G2+S+A+D3	18.48	-327.49	-2210.12	-5.26	0.08	31.75
G1+G2+S+A+D4	18.49	-266.27	-2210.13	-5.26	-0.08	31.64
G1+G2+S+A+V1+0.6D1	18.48	-296.84	-2180.05	-5.19	0.00	31.58
G1+G2+S+A+V2+0.6D2	18.48	-296.92	-2240.20	-5.33	0.00	31.81
G1+G2+S+A+V3+0.6D3	18.48	-354.07	-2210.23	-5.26	0.14	-10.68
G1+G2+S+A+V4+0.6D4	18.49	-239.69	-2210.03	-5.26	-0.14	74.07
G1+G2+S+D1	5.28	-654.07	-2175.92	-5.18	0.00	31.78
G1+G2+S+D2	5.28	-654.09	-2239.74	-5.34	0.00	31.70
G1+G2+S+D3	5.28	-684.69	-2207.82	-5.26	0.08	31.79
G1+G2+S+D4	5.29	-623.47	-2207.84	-5.26	-0.08	31.69
G1+G2+S+Q+0.6V1+0.6D1	5.88	-656.89	-2182.21	-5.20	0.00	31.69
G1+G2+S+Q+0.6V2+0.6D2	5.88	-656.95	-2233.61	-5.32	0.00	31.81
G1+G2+S+Q+0.6V3+0.6D3	5.88	-698.58	-2207.97	-5.26	0.10	6.34
G1+G2+S+Q+0.6V4+0.6D4	5.88	-615.26	-2207.85	-5.26	-0.10	57.16
G1+G2+S+Q+A+0.6V1+0.6D1	19.08	-299.69	-2184.51	-5.20	0.00	31.64
G1+G2+S+Q+A+0.6V2+0.6D2	19.08	-299.74	-2235.91	-5.32	0.00	31.76
G1+G2+S+Q+A+0.6V3+0.6D3	19.08	-341.38	-2210.27	-5.26	0.10	6.29
G1+G2+S+Q+A+0.6V4+0.6D4	19.08	-258.05	-2210.15	-5.26	-0.10	57.11
G1+G2+S+Q+A+D1	19.08	-299.70	-2178.30	-5.18	0.00	31.74
G1+G2+S+Q+A+D2	19.08	-299.73	-2242.12	-5.34	0.00	31.66
G1+G2+S+Q+A+D3	19.08	-330.33	-2210.20	-5.26	0.08	31.75
G1+G2+S+Q+A+D4	19.08	-269.11	-2210.22	-5.26	-0.08	31.65
G1+G2+S+Q+D1	5.88	-656.91	-2176.00	-5.18	0.00	31.79
G1+G2+S+Q+D2	5.88	-656.93	-2239.82	-5.34	0.00	31.71
G1+G2+S+Q+D3	5.88	-687.53	-2207.90	-5.26	0.08	31.80
G1+G2+S+Q+D4	5.88	-626.31	-2207.92	-5.26	-0.08	31.70

**Fundação E17**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.91	-44.52	-2.95	0.00	0.00	-0.06
Adicional (G2)	0.20	-0.92	-0.24	0.00	0.00	0.00
Solo (S)	2.19	-600.85	-2205.14	-5.26	0.00	30.91
Acidental (Q)	0.59	-2.75	-0.71	0.00	0.00	-0.01
Água (A)	13.10	354.66	-22.06	0.00	0.00	-0.27
Vento X+ (V1)	0.00	-0.04	10.92	0.03	0.00	-0.14
Vento X- (V2)	0.00	0.04	-10.92	-0.03	0.00	0.14
Vento Y+ (V3)	0.00	-39.07	-0.15	0.00	0.09	-42.75
Vento Y- (V4)	0.00	39.07	0.15	0.00	-0.09	42.75
Desaprumo X+ (D1)	0.00	-0.03	31.55	0.08	0.00	0.04
Desaprumo X- (D2)	0.00	0.03	-31.55	-0.08	0.00	-0.04
Desaprumo Y+ (D3)	0.00	-30.40	0.01	0.00	0.08	-0.06
Desaprumo Y- (D4)	0.00	30.40	-0.01	0.00	-0.08	0.06
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	5.71	-648.26	-2170.72	-5.17	0.00	30.80
G1+G2+S+0.7Q+0.6V2+D2	5.71	-648.16	-2246.93	-5.35	0.00	30.88
G1+G2+S+0.7Q+0.6V3+D3	5.71	-702.05	-2208.91	-5.26	0.13	5.13
G1+G2+S+0.7Q+0.6V4+D4	5.72	-594.37	-2208.74	-5.26	-0.13	56.55

G1+G2+S+0.7Q+A+0.6V1+0.6D1	18.81	-293.59	-2205.40	-5.20	0.00	30.51
G1+G2+S+0.7Q+A+0.6V1+D1	18.81	-293.60	-2192.78	-5.17	0.00	30.53
G1+G2+S+0.7Q+A+0.6V2+0.6D2	18.81	-293.52	-2256.37	-5.32	0.00	30.62
G1+G2+S+0.7Q+A+0.6V2+D2	18.81	-293.50	-2268.99	-5.35	0.00	30.61
G1+G2+S+0.7Q+A+0.6V3+0.6D3	18.81	-335.24	-2230.97	-5.26	0.10	4.88
G1+G2+S+0.7Q+A+0.6V3+D3	18.81	-347.40	-2230.97	-5.26	0.13	4.86
G1+G2+S+0.7Q+A+0.6V4+0.6D4	18.81	-251.87	-2230.80	-5.26	-0.10	56.25
G1+G2+S+0.7Q+A+0.6V4+D4	18.81	-239.71	-2230.80	-5.26	-0.13	56.28
G1+G2+S+0.7Q+A+D1	18.81	-293.58	-2199.33	-5.18	0.00	30.61
G1+G2+S+0.7Q+A+D2	18.81	-293.53	-2262.44	-5.34	0.00	30.53
G1+G2+S+0.7Q+A+D3	18.81	-323.95	-2230.88	-5.26	0.08	30.51
G1+G2+S+0.7Q+A+D4	18.81	-263.16	-2230.89	-5.26	-0.08	30.63
G1+G2+S+0.7Q+A+V1+0.6D1	18.81	-293.61	-2201.03	-5.19	0.00	30.46
G1+G2+S+0.7Q+A+V2+0.6D2	18.81	-293.50	-2260.73	-5.33	0.00	30.68
G1+G2+S+0.7Q+A+V3+0.6D3	18.81	-350.87	-2231.03	-5.26	0.14	-12.22
G1+G2+S+0.7Q+A+V4+0.6D4	18.82	-236.24	-2230.73	-5.26	-0.14	73.36
G1+G2+S+0.7Q+V1+0.6D1	5.71	-648.26	-2178.98	-5.19	0.00	30.73
G1+G2+S+0.7Q+V2+0.6D2	5.71	-648.16	-2238.68	-5.33	0.00	30.95
G1+G2+S+0.7Q+V3+0.6D3	5.71	-705.52	-2208.98	-5.26	0.14	-11.95
G1+G2+S+0.7Q+V4+0.6D4	5.72	-590.90	-2208.68	-5.26	-0.14	73.63
G1+G2+S+A+0.6V1+0.6D1	18.40	-291.67	-2204.90	-5.20	0.00	30.51
G1+G2+S+A+0.6V1+D1	18.40	-291.68	-2192.28	-5.17	0.00	30.53
G1+G2+S+A+0.6V2+0.6D2	18.40	-291.59	-2255.87	-5.32	0.00	30.63
G1+G2+S+A+0.6V2+D2	18.40	-291.58	-2268.49	-5.35	0.00	30.61
G1+G2+S+A+0.6V3+0.6D3	18.39	-333.31	-2230.47	-5.26	0.10	4.88
G1+G2+S+A+0.6V3+D3	18.39	-345.47	-2230.47	-5.26	0.13	4.86
G1+G2+S+A+0.6V4+0.6D4	18.40	-249.95	-2230.30	-5.26	-0.10	56.26
G1+G2+S+A+0.6V4+D4	18.40	-237.79	-2230.30	-5.26	-0.13	56.28
G1+G2+S+A+D1	18.40	-291.66	-2198.83	-5.18	0.00	30.61
G1+G2+S+A+D2	18.40	-291.60	-2261.94	-5.34	0.00	30.53
G1+G2+S+A+D3	18.39	-322.03	-2230.38	-5.26	0.08	30.51
G1+G2+S+A+D4	18.40	-261.23	-2230.39	-5.26	-0.08	30.63
G1+G2+S+A+V1+0.6D1	18.40	-291.69	-2200.54	-5.19	0.00	30.46
G1+G2+S+A+V2+0.6D2	18.40	-291.58	-2260.23	-5.33	0.00	30.68
G1+G2+S+A+V3+0.6D3	18.39	-348.94	-2230.53	-5.26	0.14	-12.22
G1+G2+S+A+V4+0.6D4	18.40	-234.32	-2230.23	-5.26	-0.14	73.36
G1+G2+S+D1	5.30	-646.31	-2176.78	-5.18	0.00	30.88
G1+G2+S+D2	5.30	-646.26	-2239.88	-5.34	0.00	30.80
G1+G2+S+D3	5.30	-676.68	-2208.32	-5.26	0.08	30.78
G1+G2+S+D4	5.30	-615.89	-2208.34	-5.26	-0.08	30.90
G1+G2+S+Q+0.6V1+0.6D1	5.89	-649.07	-2183.56	-5.20	0.00	30.78
G1+G2+S+Q+0.6V2+0.6D2	5.89	-649.00	-2234.52	-5.32	0.00	30.89
G1+G2+S+Q+0.6V3+0.6D3	5.89	-690.72	-2209.13	-5.26	0.10	5.15
G1+G2+S+Q+0.6V4+0.6D4	5.90	-607.35	-2208.95	-5.26	-0.10	56.53
G1+G2+S+Q+A+0.6V1+0.6D1	18.99	-294.42	-2205.62	-5.20	0.00	30.51
G1+G2+S+Q+A+0.6V2+0.6D2	18.99	-294.34	-2256.58	-5.32	0.00	30.62
G1+G2+S+Q+A+0.6V3+0.6D3	18.98	-336.06	-2231.19	-5.26	0.10	4.88
G1+G2+S+Q+A+0.6V4+0.6D4	18.99	-252.70	-2231.01	-5.26	-0.10	56.25
G1+G2+S+Q+A+D1	18.99	-294.41	-2199.55	-5.18	0.00	30.60
G1+G2+S+Q+A+D2	18.99	-294.35	-2262.65	-5.34	0.00	30.53
G1+G2+S+Q+A+D3	18.99	-324.78	-2231.09	-5.26	0.08	30.51
G1+G2+S+Q+A+D4	18.99	-263.98	-2231.10	-5.26	-0.08	30.62
G1+G2+S+Q+D1	5.89	-649.06	-2177.49	-5.18	0.00	30.88
G1+G2+S+Q+D2	5.89	-649.01	-2240.59	-5.34	0.00	30.80
G1+G2+S+Q+D3	5.89	-679.43	-2209.03	-5.26	0.08	30.78
G1+G2+S+Q+D4	5.89	-618.64	-2209.05	-5.26	-0.08	30.90



Fundação E18						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.30	-67.87	17.06	0.00	0.00	0.20
Adicional (G2)	0.21	-2.74	-2.59	0.00	0.00	0.00
Solo (S)	3.70	-317.42	-1820.32	-5.26	0.00	29.90
Acidental (Q)	0.64	-8.21	-7.78	0.00	0.00	0.00
Água (A)	12.66	95.42	-592.97	0.00	0.00	-0.56
Vento X+ (V1)	0.00	-0.46	11.53	0.03	0.00	-0.11
Vento X- (V2)	0.00	0.46	-11.53	-0.03	0.00	0.11
Vento Y+ (V3)	0.01	-41.88	2.20	0.00	0.10	-43.13
Vento Y- (V4)	-0.01	41.88	-2.20	0.00	-0.10	43.13
Desaprumo X+ (D1)	0.00	-0.34	31.77	0.08	0.00	0.05
Desaprumo X- (D2)	0.00	0.34	-31.77	-0.08	0.00	-0.05
Desaprumo Y+ (D3)	0.00	-32.25	0.51	0.00	0.08	-0.17
Desaprumo Y- (D4)	0.00	32.25	-0.51	0.00	-0.08	0.17
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	7.66	-394.38	-1772.62	-5.17	0.00	30.08
G1+G2+S+0.7Q+0.6V2+D2	7.66	-393.16	-1849.99	-5.35	0.00	30.12
G1+G2+S+0.7Q+0.6V3+D3	7.67	-451.15	-1809.47	-5.26	0.13	4.05
G1+G2+S+0.7Q+0.6V4+D4	7.65	-336.40	-1813.13	-5.26	-0.14	56.15
G1+G2+S+0.7Q+A+0.6V1+0.6D1	20.32	-298.83	-2378.30	-5.20	0.00	29.50
G1+G2+S+0.7Q+A+0.6V1+D1	20.31	-298.96	-2365.59	-5.17	0.00	29.52
G1+G2+S+0.7Q+A+0.6V2+0.6D2	20.31	-297.88	-2430.25	-5.32	0.00	29.57
G1+G2+S+0.7Q+A+0.6V2+D2	20.31	-297.74	-2442.96	-5.35	0.00	29.56
G1+G2+S+0.7Q+A+0.6V3+0.6D3	20.32	-342.83	-2402.65	-5.26	0.10	3.55
G1+G2+S+0.7Q+A+0.6V3+D3	20.32	-355.73	-2402.44	-5.26	0.13	3.48
G1+G2+S+0.7Q+A+0.6V4+0.6D4	20.31	-253.87	-2405.90	-5.26	-0.10	55.52
G1+G2+S+0.7Q+A+0.6V4+D4	20.30	-240.98	-2406.11	-5.26	-0.13	55.59
G1+G2+S+0.7Q+A+D1	20.31	-298.69	-2372.51	-5.18	0.00	29.58
G1+G2+S+0.7Q+A+D2	20.31	-298.02	-2436.04	-5.34	0.00	29.49
G1+G2+S+0.7Q+A+D3	20.32	-330.60	-2403.76	-5.26	0.08	29.36
G1+G2+S+0.7Q+A+D4	20.31	-266.11	-2404.79	-5.26	-0.08	29.71
G1+G2+S+0.7Q+A+V1+0.6D1	20.32	-299.01	-2373.69	-5.19	0.00	29.46
G1+G2+S+0.7Q+A+V2+0.6D2	20.31	-297.69	-2434.86	-5.33	0.00	29.62
G1+G2+S+0.7Q+A+V3+0.6D3	20.33	-359.58	-2401.77	-5.26	0.14	-13.70
G1+G2+S+0.7Q+A+V4+0.6D4	20.30	-237.12	-2406.78	-5.26	-0.14	72.77
G1+G2+S+0.7Q+V1+0.6D1	7.66	-394.43	-1780.71	-5.19	0.00	30.02
G1+G2+S+0.7Q+V2+0.6D2	7.66	-393.12	-1841.89	-5.33	0.00	30.18
G1+G2+S+0.7Q+V3+0.6D3	7.67	-455.00	-1808.80	-5.26	0.14	-13.14
G1+G2+S+0.7Q+V4+0.6D4	7.65	-332.54	-1813.80	-5.26	-0.14	73.34
G1+G2+S+A+0.6V1+0.6D1	19.86	-293.08	-2372.85	-5.20	0.00	29.50
G1+G2+S+A+0.6V1+D1	19.86	-293.22	-2360.14	-5.17	0.00	29.52
G1+G2+S+A+0.6V2+0.6D2	19.86	-292.13	-2424.80	-5.32	0.00	29.58
G1+G2+S+A+0.6V2+D2	19.86	-292.00	-2437.51	-5.35	0.00	29.56
G1+G2+S+A+0.6V3+0.6D3	19.87	-337.08	-2397.20	-5.26	0.10	3.55
G1+G2+S+A+0.6V3+D3	19.87	-349.98	-2397.00	-5.26	0.13	3.48
G1+G2+S+A+0.6V4+0.6D4	19.86	-248.13	-2400.45	-5.26	-0.10	55.52
G1+G2+S+A+0.6V4+D4	19.85	-235.23	-2400.66	-5.26	-0.13	55.59
G1+G2+S+A+D1	19.86	-292.94	-2367.06	-5.18	0.00	29.58
G1+G2+S+A+D2	19.86	-292.27	-2430.59	-5.34	0.00	29.49
G1+G2+S+A+D3	19.87	-324.85	-2398.31	-5.26	0.08	29.36
G1+G2+S+A+D4	19.86	-260.36	-2399.34	-5.26	-0.08	29.71
G1+G2+S+A+V1+0.6D1	19.87	-293.26	-2368.24	-5.19	0.00	29.46
G1+G2+S+A+V2+0.6D2	19.86	-291.95	-2429.42	-5.33	0.00	29.62

G1+G2+S+A+V3+0.6D3	19.88	-353.84	-2396.32	-5.26	0.14	-13.70
G1+G2+S+A+V4+0.6D4	19.85	-231.37	-2401.33	-5.26	-0.14	72.77
G1+G2+S+D1	7.21	-388.36	-1774.08	-5.18	0.00	30.15
G1+G2+S+D2	7.21	-387.69	-1837.62	-5.34	0.00	30.05
G1+G2+S+D3	7.21	-420.27	-1805.34	-5.26	0.08	29.93
G1+G2+S+D4	7.21	-355.78	-1806.36	-5.26	-0.08	30.27
G1+G2+S+Q+0.6V1+0.6D1	7.85	-396.71	-1787.66	-5.20	0.00	30.06
G1+G2+S+Q+0.6V2+0.6D2	7.85	-395.76	-1839.61	-5.32	0.00	30.14
G1+G2+S+Q+0.6V3+0.6D3	7.86	-440.71	-1812.01	-5.26	0.10	4.11
G1+G2+S+Q+0.6V4+0.6D4	7.84	-351.76	-1815.26	-5.26	-0.10	56.08
G1+G2+S+Q+A+0.6V1+0.6D1	20.51	-301.29	-2380.63	-5.20	0.00	29.50
G1+G2+S+Q+A+0.6V2+0.6D2	20.51	-300.34	-2432.59	-5.32	0.00	29.57
G1+G2+S+Q+A+0.6V3+0.6D3	20.52	-345.29	-2404.98	-5.26	0.10	3.55
G1+G2+S+Q+A+0.6V4+0.6D4	20.50	-256.34	-2408.24	-5.26	-0.10	55.52
G1+G2+S+Q+A+D1	20.51	-301.15	-2374.84	-5.18	0.00	29.58
G1+G2+S+Q+A+D2	20.51	-300.48	-2438.38	-5.34	0.00	29.49
G1+G2+S+Q+A+D3	20.51	-333.06	-2406.10	-5.26	0.08	29.36
G1+G2+S+Q+A+D4	20.50	-268.57	-2407.12	-5.26	-0.08	29.71
G1+G2+S+Q+D1	7.85	-396.57	-1781.87	-5.18	0.00	30.15
G1+G2+S+Q+D2	7.85	-395.90	-1845.40	-5.34	0.00	30.05
G1+G2+S+Q+D3	7.85	-428.48	-1813.12	-5.26	0.08	29.93
G1+G2+S+Q+D4	7.85	-363.99	-1814.15	-5.26	-0.08	30.27

**Fundação E19**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.93	44.51	-1.01	0.00	0.00	-0.02
Adicional (G2)	0.20	0.94	-0.03	0.00	0.00	0.00
Solo (S)	2.16	607.98	-2206.96	-5.26	0.00	36.13
Acidental (Q)	0.60	2.81	-0.08	0.00	0.00	0.00
Água (A)	13.20	-357.21	-2.28	0.00	0.00	0.00
Vento X+ (V1)	0.00	-0.03	10.93	0.03	0.00	-0.20
Vento X- (V2)	0.00	0.03	-10.93	-0.03	0.00	0.20
Vento Y+ (V3)	0.00	-38.87	0.09	0.00	0.09	-42.40
Vento Y- (V4)	0.00	38.87	-0.09	0.00	-0.09	42.40
Desaprumo X+ (D1)	0.00	-0.01	31.91	0.08	0.00	-0.04
Desaprumo X- (D2)	0.00	0.01	-31.91	-0.08	0.00	0.04
Desaprumo Y+ (D3)	0.00	-30.62	-0.01	0.00	0.08	0.05
Desaprumo Y- (D4)	0.00	30.62	0.01	0.00	-0.08	-0.05
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	5.70	655.38	-2169.59	-5.17	0.00	35.95
G1+G2+S+0.7Q+0.6V2+D2	5.70	655.43	-2246.52	-5.35	0.00	36.26
G1+G2+S+0.7Q+0.6V3+D3	5.70	601.47	-2208.01	-5.26	0.13	10.72
G1+G2+S+0.7Q+0.6V4+D4	5.70	709.34	-2208.10	-5.26	-0.13	61.50
G1+G2+S+0.7Q+A+0.6V1+0.6D1	18.90	298.18	-2184.63	-5.20	0.00	35.96
G1+G2+S+0.7Q+A+0.6V1+D1	18.90	298.17	-2171.87	-5.17	0.00	35.95
G1+G2+S+0.7Q+A+0.6V2+0.6D2	18.90	298.22	-2236.04	-5.32	0.00	36.25
G1+G2+S+0.7Q+A+0.6V2+D2	18.90	298.22	-2248.80	-5.35	0.00	36.26
G1+G2+S+0.7Q+A+0.6V3+0.6D3	18.90	256.51	-2210.29	-5.26	0.10	10.69
G1+G2+S+0.7Q+A+0.6V3+D3	18.90	244.26	-2210.29	-5.26	0.13	10.72
G1+G2+S+0.7Q+A+0.6V4+0.6D4	18.90	339.89	-2210.38	-5.26	-0.10	61.52
G1+G2+S+0.7Q+A+0.6V4+D4	18.89	352.13	-2210.38	-5.26	-0.13	61.49
G1+G2+S+0.7Q+A+D1	18.90	298.19	-2178.43	-5.18	0.00	36.07
G1+G2+S+0.7Q+A+D2	18.90	298.21	-2242.24	-5.34	0.00	36.14
G1+G2+S+0.7Q+A+D3	18.90	267.58	-2210.34	-5.26	0.08	36.16

G1+G2+S+0.7Q+A+D4	18.90	328.81	-2210.32	-5.26	-0.08	36.05
G1+G2+S+0.7Q+A+V1+0.6D1	18.90	298.17	-2180.26	-5.19	0.00	35.88
G1+G2+S+0.7Q+A+V2+0.6D2	18.90	298.23	-2240.41	-5.33	0.00	36.33
G1+G2+S+0.7Q+A+V3+0.6D3	18.90	240.96	-2210.25	-5.26	0.14	-6.27
G1+G2+S+0.7Q+A+V4+0.6D4	18.89	355.43	-2210.42	-5.26	-0.14	78.48
G1+G2+S+0.7Q+V1+0.6D1	5.70	655.38	-2177.98	-5.19	0.00	35.89
G1+G2+S+0.7Q+V2+0.6D2	5.70	655.44	-2238.13	-5.33	0.00	36.33
G1+G2+S+0.7Q+V3+0.6D3	5.70	598.17	-2207.97	-5.26	0.14	-6.26
G1+G2+S+0.7Q+V4+0.6D4	5.70	712.64	-2208.14	-5.26	-0.14	78.48
G1+G2+S+A+0.6V1+0.6D1	18.48	296.21	-2184.58	-5.20	0.00	35.96
G1+G2+S+A+0.6V1+D1	18.48	296.20	-2171.82	-5.17	0.00	35.95
G1+G2+S+A+0.6V2+0.6D2	18.48	296.25	-2235.98	-5.32	0.00	36.25
G1+G2+S+A+0.6V2+D2	18.48	296.25	-2248.74	-5.35	0.00	36.26
G1+G2+S+A+0.6V3+0.6D3	18.48	254.54	-2210.23	-5.26	0.10	10.70
G1+G2+S+A+0.6V3+D3	18.49	242.29	-2210.23	-5.26	0.13	10.72
G1+G2+S+A+0.6V4+0.6D4	18.48	337.92	-2210.33	-5.26	-0.10	61.52
G1+G2+S+A+0.6V4+D4	18.48	350.16	-2210.32	-5.26	-0.13	61.50
G1+G2+S+A+D1	18.48	296.22	-2178.37	-5.18	0.00	36.07
G1+G2+S+A+D2	18.48	296.24	-2242.19	-5.34	0.00	36.14
G1+G2+S+A+D3	18.48	265.61	-2210.29	-5.26	0.08	36.16
G1+G2+S+A+D4	18.48	326.84	-2210.27	-5.26	-0.08	36.05
G1+G2+S+A+V1+0.6D1	18.48	296.19	-2180.21	-5.19	0.00	35.89
G1+G2+S+A+V2+0.6D2	18.48	296.26	-2240.35	-5.33	0.00	36.33
G1+G2+S+A+V3+0.6D3	18.49	238.99	-2210.19	-5.26	0.14	-6.27
G1+G2+S+A+V4+0.6D4	18.48	353.46	-2210.37	-5.26	-0.14	78.48
G1+G2+S+D1	5.28	653.43	-2176.09	-5.18	0.00	36.07
G1+G2+S+D2	5.28	653.45	-2239.90	-5.34	0.00	36.15
G1+G2+S+D3	5.28	622.82	-2208.01	-5.26	0.08	36.16
G1+G2+S+D4	5.28	684.05	-2207.99	-5.26	-0.08	36.06
G1+G2+S+Q+0.6V1+0.6D1	5.88	656.23	-2182.38	-5.20	0.00	35.97
G1+G2+S+Q+0.6V2+0.6D2	5.88	656.28	-2233.78	-5.32	0.00	36.25
G1+G2+S+Q+0.6V3+0.6D3	5.88	614.56	-2208.03	-5.26	0.10	10.70
G1+G2+S+Q+0.6V4+0.6D4	5.88	697.94	-2208.13	-5.26	-0.10	61.52
G1+G2+S+Q+A+0.6V1+0.6D1	19.08	299.02	-2184.66	-5.20	0.00	35.96
G1+G2+S+Q+A+0.6V2+0.6D2	19.08	299.06	-2236.06	-5.32	0.00	36.25
G1+G2+S+Q+A+0.6V3+0.6D3	19.08	257.35	-2210.31	-5.26	0.10	10.69
G1+G2+S+Q+A+0.6V4+0.6D4	19.07	340.73	-2210.41	-5.26	-0.10	61.52
G1+G2+S+Q+A+D1	19.08	299.04	-2178.45	-5.18	0.00	36.07
G1+G2+S+Q+A+D2	19.08	299.05	-2242.26	-5.34	0.00	36.14
G1+G2+S+Q+A+D3	19.08	268.43	-2210.37	-5.26	0.08	36.16
G1+G2+S+Q+A+D4	19.08	329.66	-2210.35	-5.26	-0.08	36.05
G1+G2+S+Q+D1	5.88	656.25	-2176.17	-5.18	0.00	36.07
G1+G2+S+Q+D2	5.88	656.26	-2239.98	-5.34	0.00	36.14
G1+G2+S+Q+D3	5.88	625.64	-2208.09	-5.26	0.08	36.16
G1+G2+S+Q+D4	5.88	686.87	-2208.07	-5.26	-0.08	36.06

**Fundação E20**

Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	2.91	45.88	-2.89	0.00	0.00	0.07
Adicional (G2)	0.20	0.99	-0.24	0.00	0.00	0.00
Solo (S)	2.20	601.56	-2203.34	-5.26	0.00	36.83
Acidental (Q)	0.59	2.96	-0.72	0.00	0.00	0.01
Água (A)	13.09	-350.28	-23.34	0.00	0.00	0.21
Vento X+ (V1)	0.00	0.04	10.92	0.03	0.00	-0.20
Vento X- (V2)	0.00	-0.04	-10.92	-0.03	0.00	0.20
Vento Y+ (V3)	0.00	-39.07	0.14	0.00	0.09	-42.76
Vento Y- (V4)	0.00	39.07	-0.14	0.00	-0.09	42.76

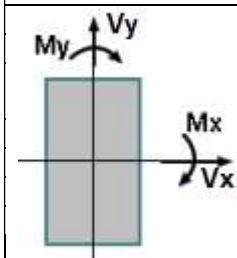
Desaprumo X+ (D1)	0.00	0.04	31.54	0.08	0.00	-0.04
Desaprumo X- (D2)	0.00	-0.04	-31.54	-0.08	0.00	0.04
Desaprumo Y+ (D3)	0.00	-30.38	0.00	0.00	0.08	-0.06
Desaprumo Y- (D4)	0.00	30.38	0.00	0.00	-0.08	0.06
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	5.72	650.57	-2168.88	-5.17	0.00	36.75
G1+G2+S+0.7Q+0.6V2+D2	5.72	650.44	-2245.06	-5.35	0.00	37.06
G1+G2+S+0.7Q+0.6V3+D3	5.73	596.69	-2206.88	-5.26	0.13	11.19
G1+G2+S+0.7Q+0.6V4+D4	5.72	704.33	-2207.05	-5.26	-0.13	62.62
G1+G2+S+0.7Q+A+0.6V1+0.6D1	18.81	300.28	-2204.83	-5.20	0.00	36.97
G1+G2+S+0.7Q+A+0.6V1+D1	18.81	300.29	-2192.22	-5.17	0.00	36.96
G1+G2+S+0.7Q+A+0.6V2+0.6D2	18.81	300.18	-2255.78	-5.32	0.00	37.26
G1+G2+S+0.7Q+A+0.6V2+D2	18.81	300.16	-2268.40	-5.35	0.00	37.28
G1+G2+S+0.7Q+A+0.6V3+0.6D3	18.82	258.56	-2230.22	-5.26	0.10	11.43
G1+G2+S+0.7Q+A+0.6V3+D3	18.82	246.41	-2230.22	-5.26	0.13	11.40
G1+G2+S+0.7Q+A+0.6V4+0.6D4	18.81	341.90	-2230.39	-5.26	-0.10	62.81
G1+G2+S+0.7Q+A+0.6V4+D4	18.81	354.05	-2230.39	-5.26	-0.13	62.83
G1+G2+S+0.7Q+A+D1	18.81	300.27	-2198.77	-5.18	0.00	37.08
G1+G2+S+0.7Q+A+D2	18.81	300.19	-2261.85	-5.34	0.00	37.16
G1+G2+S+0.7Q+A+D3	18.81	269.85	-2230.31	-5.26	0.08	37.06
G1+G2+S+0.7Q+A+D4	18.81	330.61	-2230.31	-5.26	-0.08	37.18
G1+G2+S+0.7Q+A+V1+0.6D1	18.81	300.30	-2200.47	-5.19	0.00	36.89
G1+G2+S+0.7Q+A+V2+0.6D2	18.81	300.16	-2260.15	-5.33	0.00	37.34
G1+G2+S+0.7Q+A+V3+0.6D3	18.82	242.93	-2230.17	-5.26	0.14	-5.68
G1+G2+S+0.7Q+A+V4+0.6D4	18.81	357.53	-2230.45	-5.26	-0.14	79.91
G1+G2+S+0.7Q+V1+0.6D1	5.72	650.57	-2177.12	-5.19	0.00	36.68
G1+G2+S+0.7Q+V2+0.6D2	5.72	650.44	-2236.81	-5.33	0.00	37.13
G1+G2+S+0.7Q+V3+0.6D3	5.73	593.21	-2206.83	-5.26	0.14	-5.89
G1+G2+S+0.7Q+V4+0.6D4	5.72	707.80	-2207.11	-5.26	-0.14	79.70
G1+G2+S+A+0.6V1+0.6D1	18.40	298.21	-2204.33	-5.20	0.00	36.97
G1+G2+S+A+0.6V1+D1	18.40	298.22	-2191.71	-5.17	0.00	36.95
G1+G2+S+A+0.6V2+0.6D2	18.40	298.11	-2255.28	-5.32	0.00	37.26
G1+G2+S+A+0.6V2+D2	18.40	298.09	-2267.90	-5.35	0.00	37.27
G1+G2+S+A+0.6V3+0.6D3	18.40	256.49	-2229.72	-5.26	0.10	11.42
G1+G2+S+A+0.6V3+D3	18.40	244.33	-2229.72	-5.26	0.13	11.40
G1+G2+S+A+0.6V4+0.6D4	18.39	339.83	-2229.89	-5.26	-0.10	62.80
G1+G2+S+A+0.6V4+D4	18.39	351.98	-2229.89	-5.26	-0.13	62.82
G1+G2+S+A+D1	18.40	298.19	-2198.27	-5.18	0.00	37.07
G1+G2+S+A+D2	18.40	298.12	-2261.35	-5.34	0.00	37.15
G1+G2+S+A+D3	18.40	267.78	-2229.81	-5.26	0.08	37.05
G1+G2+S+A+D4	18.39	328.54	-2229.81	-5.26	-0.08	37.17
G1+G2+S+A+V1+0.6D1	18.40	298.22	-2199.96	-5.19	0.00	36.89
G1+G2+S+A+V2+0.6D2	18.40	298.09	-2259.65	-5.33	0.00	37.34
G1+G2+S+A+V3+0.6D3	18.40	240.86	-2229.66	-5.26	0.14	-5.68
G1+G2+S+A+V4+0.6D4	18.39	355.45	-2229.95	-5.26	-0.14	79.90
G1+G2+S+D1	5.31	648.47	-2174.92	-5.18	0.00	36.86
G1+G2+S+D2	5.31	648.40	-2238.01	-5.34	0.00	36.94
G1+G2+S+D3	5.31	618.05	-2206.47	-5.26	0.08	36.84
G1+G2+S+D4	5.30	678.81	-2206.47	-5.26	-0.08	36.96
G1+G2+S+Q+0.6V1+0.6D1	5.90	651.44	-2181.71	-5.20	0.00	36.76
G1+G2+S+Q+0.6V2+0.6D2	5.90	651.35	-2232.66	-5.32	0.00	37.05
G1+G2+S+Q+0.6V3+0.6D3	5.90	609.73	-2207.10	-5.26	0.10	11.22
G1+G2+S+Q+0.6V4+0.6D4	5.89	693.06	-2207.27	-5.26	-0.10	62.60
G1+G2+S+Q+A+0.6V1+0.6D1	18.99	301.17	-2205.05	-5.20	0.00	36.97
G1+G2+S+Q+A+0.6V2+0.6D2	18.99	301.07	-2256.00	-5.32	0.00	37.26

G1+G2+S+Q+A+0.6V3+0.6D3	18.99	259.45	-2230.44	-5.26	0.10	11.43
G1+G2+S+Q+A+0.6V4+0.6D4	18.99	342.79	-2230.61	-5.26	-0.10	62.81
G1+G2+S+Q+A+D1	18.99	301.16	-2198.98	-5.18	0.00	37.08
G1+G2+S+Q+A+D2	18.99	301.08	-2262.06	-5.34	0.00	37.16
G1+G2+S+Q+A+D3	18.99	270.74	-2230.52	-5.26	0.08	37.06
G1+G2+S+Q+A+D4	18.99	331.50	-2230.52	-5.26	-0.08	37.18
G1+G2+S+Q+D1	5.90	651.43	-2175.64	-5.18	0.00	36.87
G1+G2+S+Q+D2	5.90	651.36	-2238.72	-5.34	0.00	36.95
G1+G2+S+Q+D3	5.90	621.02	-2207.18	-5.26	0.08	36.85
G1+G2+S+Q+D4	5.90	681.78	-2207.18	-5.26	-0.08	36.97

Fundação E21						
Combinação	N (tf)	Mx (kgf.m)	My (kgf.m)	Vx (tf)	Vy (tf)	Mt (kgf/m)
Peso próprio (G1)	3.30	69.01	17.05	0.00	0.00	-0.20
Adicional (G2)	0.21	2.79	-2.59	0.00	0.00	0.00
Solo (S)	3.70	319.57	-1821.56	-5.26	0.00	37.81
Acidental (Q)	0.64	8.38	-7.78	0.00	0.00	0.00
Água (A)	12.65	-91.75	-591.71	0.00	0.00	0.49
Vento X+ (V1)	0.00	0.45	11.52	0.03	0.00	-0.23
Vento X- (V2)	0.00	-0.45	-11.52	-0.03	0.00	0.23
Vento Y+ (V3)	-0.01	-41.86	-2.20	0.00	0.10	-43.14
Vento Y- (V4)	0.01	41.86	2.20	0.00	-0.10	43.14
Desaprumo X+ (D1)	0.00	0.33	31.75	0.08	0.00	-0.05
Desaprumo X- (D2)	0.00	-0.33	-31.75	-0.08	0.00	0.05
Desaprumo Y+ (D3)	0.00	-32.23	-0.52	0.00	0.08	-0.17
Desaprumo Y- (D4)	0.00	32.23	0.52	0.00	-0.08	0.17
Subpressão (AS)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00
Temperatura 2 (T2)	0.00	0.00	0.00	0.00	0.00	0.00
Retração (R)	0.00	0.00	0.00	0.00	0.00	0.00
G1+G2+S+0.7Q+0.6V1+D1	7.67	397.84	-1773.88	-5.17	0.00	37.43
G1+G2+S+0.7Q+0.6V2+D2	7.67	396.64	-1851.22	-5.35	0.00	37.79
G1+G2+S+0.7Q+0.6V3+D3	7.66	339.89	-1814.39	-5.26	0.13	11.55
G1+G2+S+0.7Q+0.6V4+D4	7.68	454.59	-1810.71	-5.26	-0.13	63.66
G1+G2+S+0.7Q+A+0.6V1+0.6D1	20.32	305.96	-2378.30	-5.20	0.00	37.94
G1+G2+S+0.7Q+A+0.6V1+D1	20.32	306.09	-2365.59	-5.17	0.00	37.92
G1+G2+S+0.7Q+A+0.6V2+0.6D2	20.32	305.02	-2430.23	-5.32	0.00	38.27
G1+G2+S+0.7Q+A+0.6V2+D2	20.32	304.89	-2442.93	-5.35	0.00	38.29
G1+G2+S+0.7Q+A+0.6V3+0.6D3	20.31	261.04	-2405.89	-5.26	0.10	12.12
G1+G2+S+0.7Q+A+0.6V3+D3	20.31	248.14	-2406.10	-5.26	0.13	12.05
G1+G2+S+0.7Q+A+0.6V4+0.6D4	20.33	349.95	-2402.63	-5.26	-0.10	64.09
G1+G2+S+0.7Q+A+0.6V4+D4	20.33	362.84	-2402.42	-5.26	-0.13	64.16
G1+G2+S+0.7Q+A+D1	20.32	305.82	-2372.51	-5.18	0.00	38.06
G1+G2+S+0.7Q+A+D2	20.32	305.16	-2436.02	-5.34	0.00	38.15
G1+G2+S+0.7Q+A+D3	20.32	273.26	-2404.78	-5.26	0.08	37.93
G1+G2+S+0.7Q+A+D4	20.32	337.72	-2403.74	-5.26	-0.08	38.28
G1+G2+S+0.7Q+A+V1+0.6D1	20.32	306.14	-2373.69	-5.19	0.00	37.85
G1+G2+S+0.7Q+A+V2+0.6D2	20.32	304.84	-2434.84	-5.33	0.00	38.36
G1+G2+S+0.7Q+A+V3+0.6D3	20.30	244.29	-2406.77	-5.26	0.14	-5.14
G1+G2+S+0.7Q+A+V4+0.6D4	20.33	366.69	-2401.75	-5.26	-0.14	81.34
G1+G2+S+0.7Q+V1+0.6D1	7.67	397.89	-1781.98	-5.19	0.00	37.35
G1+G2+S+0.7Q+V2+0.6D2	7.66	396.59	-1843.13	-5.33	0.00	37.86
G1+G2+S+0.7Q+V3+0.6D3	7.65	336.04	-1815.06	-5.26	0.14	-5.63
G1+G2+S+0.7Q+V4+0.6D4	7.68	458.44	-1810.04	-5.26	-0.14	80.85
G1+G2+S+A+0.6V1+0.6D1	19.87	300.09	-2372.85	-5.20	0.00	37.94
G1+G2+S+A+0.6V1+D1	19.87	300.22	-2360.15	-5.17	0.00	37.92
G1+G2+S+A+0.6V2+0.6D2	19.87	299.16	-2424.78	-5.32	0.00	38.27

G1+G2+S+A+0.6V2+D2	19.87	299.03	-2437.49	-5.35	0.00	38.28
G1+G2+S+A+0.6V3+0.6D3	19.86	255.17	-2400.45	-5.26	0.10	12.12
G1+G2+S+A+0.6V3+D3	19.86	242.28	-2400.66	-5.26	0.13	12.05
G1+G2+S+A+0.6V4+0.6D4	19.88	344.08	-2397.19	-5.26	-0.10	64.09
G1+G2+S+A+0.6V4+D4	19.88	356.97	-2396.98	-5.26	-0.13	64.16
G1+G2+S+A+D1	19.87	299.95	-2367.06	-5.18	0.00	38.06
G1+G2+S+A+D2	19.87	299.30	-2430.57	-5.34	0.00	38.15
G1+G2+S+A+D3	19.86	267.40	-2399.34	-5.26	0.08	37.93
G1+G2+S+A+D4	19.87	331.85	-2398.30	-5.26	-0.08	38.28
G1+G2+S+A+V1+0.6D1	19.87	300.27	-2368.24	-5.19	0.00	37.85
G1+G2+S+A+V2+0.6D2	19.86	298.98	-2429.39	-5.33	0.00	38.36
G1+G2+S+A+V3+0.6D3	19.85	238.42	-2401.33	-5.26	0.14	-5.14
G1+G2+S+A+V4+0.6D4	19.88	360.83	-2396.31	-5.26	-0.14	81.34
G1+G2+S+D1	7.22	391.70	-1775.35	-5.18	0.00	37.56
G1+G2+S+D2	7.22	391.05	-1838.86	-5.34	0.00	37.65
G1+G2+S+D3	7.21	359.15	-1807.63	-5.26	0.08	37.43
G1+G2+S+D4	7.22	423.60	-1806.59	-5.26	-0.08	37.78
G1+G2+S+Q+0.6V1+0.6D1	7.86	400.22	-1788.92	-5.20	0.00	37.44
G1+G2+S+Q+0.6V2+0.6D2	7.86	399.29	-1840.85	-5.32	0.00	37.77
G1+G2+S+Q+0.6V3+0.6D3	7.85	355.30	-1816.52	-5.26	0.10	11.62
G1+G2+S+Q+0.6V4+0.6D4	7.87	444.21	-1813.25	-5.26	-0.10	63.60
G1+G2+S+Q+A+0.6V1+0.6D1	20.51	308.47	-2380.63	-5.20	0.00	37.94
G1+G2+S+Q+A+0.6V2+0.6D2	20.51	307.54	-2432.56	-5.32	0.00	38.27
G1+G2+S+Q+A+0.6V3+0.6D3	20.50	263.55	-2408.23	-5.26	0.10	12.12
G1+G2+S+Q+A+0.6V4+0.6D4	20.52	352.46	-2404.96	-5.26	-0.10	64.09
G1+G2+S+Q+A+D1	20.51	308.33	-2374.84	-5.18	0.00	38.06
G1+G2+S+Q+A+D2	20.51	307.68	-2438.35	-5.34	0.00	38.15
G1+G2+S+Q+A+D3	20.51	275.78	-2407.12	-5.26	0.08	37.93
G1+G2+S+Q+A+D4	20.51	340.23	-2406.07	-5.26	-0.08	38.28
G1+G2+S+Q+D1	7.86	400.08	-1783.13	-5.18	0.00	37.56
G1+G2+S+Q+D2	7.86	399.43	-1846.64	-5.34	0.00	37.66
G1+G2+S+Q+D3	7.86	367.53	-1815.41	-5.26	0.08	37.43
G1+G2+S+Q+D4	7.86	431.98	-1814.36	-5.26	-0.08	37.78

**Legenda**

	- Caso: indica o caso de carregamento no qual serão apresentados os esforços atuantes;
	- Elemento: nome da fundação;
	- N: esforço axial na fundação (inclui o peso próprio do bloco caso sua seção tenha sido definida no lançamento);
	- Mx: momento fletor na fundação, atuante em torno do eixo X global;
	- My: momento fletor na fundação, atuante em torno do eixo Y global;
	- Vx: esforço cortante na fundação, atuante no plano paralelo à direção X global;
	- Vy: esforço cortante na fundação, atuante no plano paralelo à direção Y global;
	- Mt: momento de torção atuante.

## 8. Pavimento FUNDO

## 9. Resultado dos Blocos

<b>FUNDO</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 4.50 cm	

Blocos	ne Estaca	LB LH (cm)	hb (cm)	Principal (cm <sup>2</sup> )		Estribo (cm <sup>2</sup> )		Superior (cm <sup>2</sup> )		As dist. (cm <sup>2</sup> )
				X	Y	Hor.	Vert.	X	Y	
B1	1 C60-20m	90.00 90.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B2	1 C70-20m	100.00 100.00		-	-	5.50 (7 ø 10.0)	4.91 2x(2 ø 12.5)	-	-	-
B3	1 C70-20m	100.00 100.00		-	-	4.71 (6 ø 10.0)	4.02 2x(4 ø 8.0)	-	-	-
B4	1 C70-20m	100.00 100.00		-	-	4.71 (6 ø 10.0)	4.02 2x(4 ø 8.0)	-	-	-
B5	1 C60-20m	90.00 90.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B6	1 C50-20m	80.00 80.00		-	-	2.51 (5 ø 8.0)	2.01 2x(2 ø 8.0)	-	-	-
B7	1 C60-20m	90.00 90.00		-	-	4.71 (6 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B8	2 C60-20m	270.00 90.00	80.00	20.11 (10 ø 16.0)	-	2.51 (5 ø 8.0)	11.06 2x(11 ø 8.0)	3.93 (5 ø 10.0)	-	1.01 (ø 8.0 c/10)
B9	1 C70-20m	100.00 100.00		-	-	5.50 (7 ø 10.0)	4.91 2x(2 ø 12.5)	-	-	-
B10	1 C70-20m	100.00 100.00		-	-	5.50 (7 ø 10.0)	4.91 2x(2 ø 12.5)	-	-	-
B11	1 C70-20m	100.00 100.00		-	-	5.50 (7 ø 10.0)	4.91 2x(2 ø 12.5)	-	-	-
B12	1 C60-20m	90.00 90.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B13	1 C50-20m	80.00 80.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B14	1 C70-20m	100.00 100.00		-	-	5.50 (7 ø 10.0)	4.91 2x(2 ø 12.5)	-	-	-
B15	1 C70-20m	100.00 100.00		-	-	4.71	4.02 2x(4 ø 8.0)	-	-	-

						(6 ø 10.0)				
B16	1 C70-20m	100.00 100.00		-	-	4.71 (6 ø 10.0)	4.02 2x(4 ø 8.0)	-	-	-
B17	1 C60-20m	90.00 90.00		-	-	3.93 (5 ø 10.0)	3.14 2x(2 ø 10.0)	-	-	-
B18	1 C50-20m	80.00 80.00		-	-	2.51 (5 ø 8.0)	2.01 2x(2 ø 8.0)	-	-	-
E1	1 C50-20m	- -	-	-	-	-	-	-	-	-
E2	1 C50-20m	- -	-	-	-	-	-	-	-	-
E3	1 C50-20m	- -	-	-	-	-	-	-	-	-
E4	1 C50-20m	- -	-	-	-	-	-	-	-	-
E5	1 C50-20m	- -	-	-	-	-	-	-	-	-
E6	1 C50-20m	- -	-	-	-	-	-	-	-	-
E7	1 C50-20m	- -	-	-	-	-	-	-	-	-
E8	1 C50-20m	- -	-	-	-	-	-	-	-	-
E9	1 C50-20m	- -	-	-	-	-	-	-	-	-
E10	1 C50-20m	- -	-	-	-	-	-	-	-	-
E11	1 C50-20m	- -	-	-	-	-	-	-	-	-
E12	1 C50-20m	- -	-	-	-	-	-	-	-	-
E13	1 C50-20m	- -	-	-	-	-	-	-	-	-
E14	1 C50-20m	- -	-	-	-	-	-	-	-	-
E15	1 C50-20m	- -	-	-	-	-	-	-	-	-
E16	1 C50-20m	- -	-	-	-	-	-	-	-	-
E17	1 C50-20m	- -	-	-	-	-	-	-	-	-
E18	1 C50-20m	- -	-	-	-	-	-	-	-	-
E19	1 C50-20m	- -	-	-	-	-	-	-	-	-
E20	1 C50-20m	- -	-	-	-	-	-	-	-	-
E21	1 C50-20m	- -	-	-	-	-	-	-	-	-

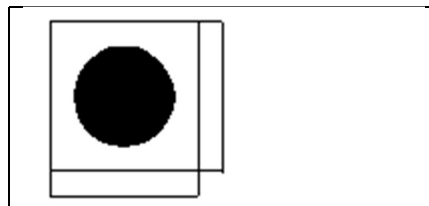


## Cálculo do Bloco B1

pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	$f_{ck} = 300 \text{ kgf/cm}^2$ $E_{cs} = 268384 \text{ kgf/cm}^2$ Peso específico = 2500 $\text{kgf/m}^3$

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	75.00	<b>LB</b>	90.00
<b>Seção</b>	60.00	<b>Total</b>	90.00	<b>LH</b>	90.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	3.24 m <sup>2</sup>
<b>Volume concreto</b>	0.69 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.72	36.88	0.00	38.59

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	90x90	90	1.72	38.59	29.76	3773	5.38
Limites					50.00	-2.50	8000	8.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E1-1	38.59	29.76	3773	5.38

### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	12.48	19.11	-

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

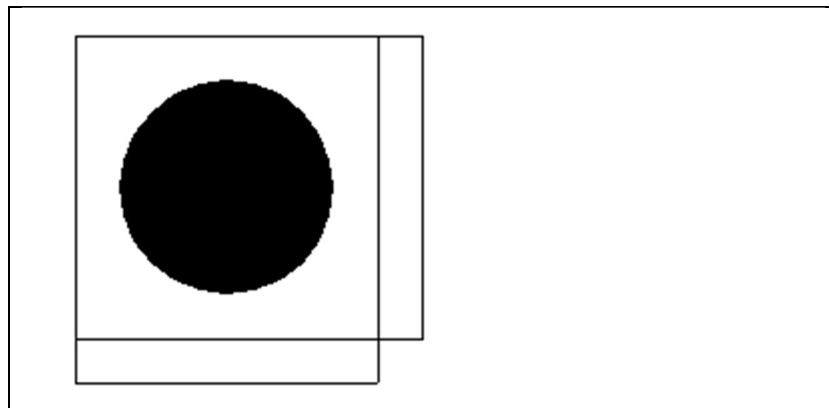
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.25	3.23	5 ø 10.0
Estribo vertical	1.25	2.51	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B2

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	85.00	LB	100.00
Seção	70.00	Total	100.00	LH	100.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	4.00 m <sup>2</sup>
Volume concreto	0.94 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	60.73	0.00	63.08

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	63.08	40.88	4589	5.48
Limites					70.00	-3.50	10000	10.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E2-1	63.08	40.88	4589	5.48

### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

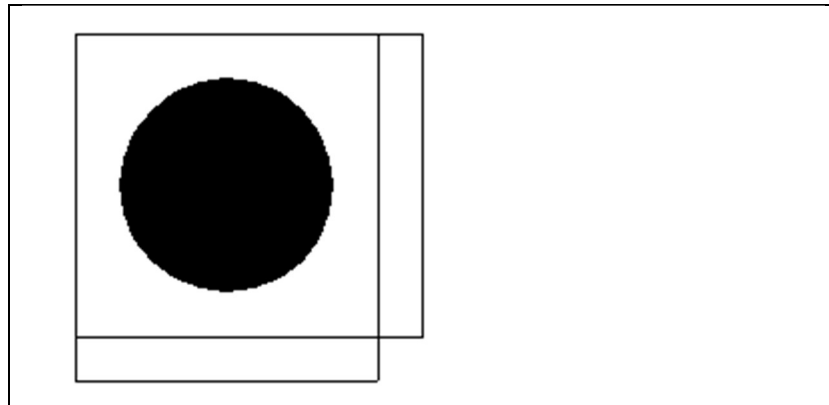
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	2.09	5.38	7 ø 10.0
Estribo vertical	2.09	4.10	4 ø 12.5 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B3

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	85.00	<b>LB</b>	100.00
<b>Seção</b>	70.00	<b>Total</b>	100.00	<b>LH</b>	100.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	4.00 m <sup>2</sup>
<b>Volume concreto</b>	0.94 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	50.12	0.00	52.47

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	52.47	33.12	5415	5.46
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E3-1	52.47	33.12	5415	5.46

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

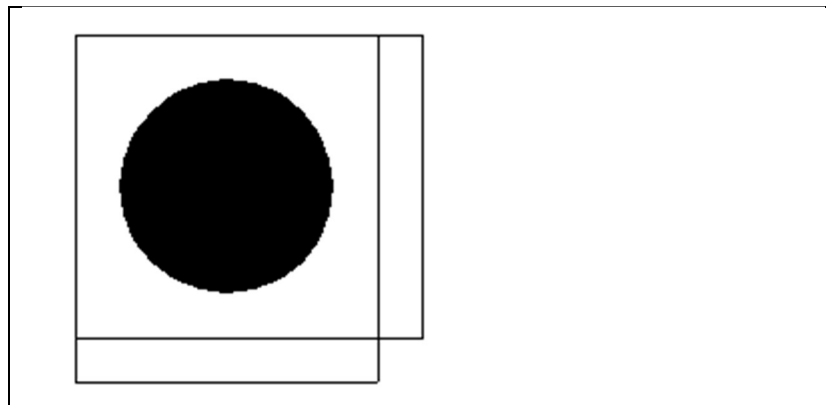
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.74	4.47	6 ø 10.0
Estribo vertical	1.74	3.41	8 ø 8.0 (4 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B4

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1	fck = 300 kgf/cm <sup>2</sup>
Cobrimento=	Ecs = 268384 kgf/cm <sup>2</sup>
4.50 cm	Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	85.00	LB	100.00
Seção	70.00	Total	100.00	LH	100.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	4.00 m <sup>2</sup>
Volume concreto	0.94 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	49.35	0.00	51.70

#### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	51.70	32.20	5512	5.46
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E4-1	51.70	32.20	5512	5.46

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.71	4.41	6 ø 10.0
Estribo vertical	1.71	3.36	8 ø 8.0 (4 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

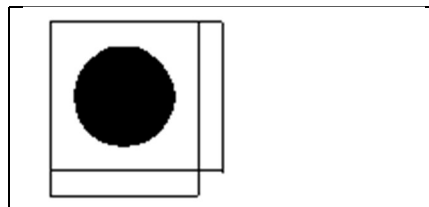


## Cálculo do Bloco B5

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	75.00	LB	90.00
Seção	60.00	Total	90.00	LH	90.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	3.24 m <sup>2</sup>
Volume concreto	0.69 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.72	45.69	0.00	47.40

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	90x90	90	1.72	47.40	28.86	5044	5.45
Limites					50.00	-2.50	8000	8.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E5-1	47.40	28.86	5044	5.45

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	12.48	19.11	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

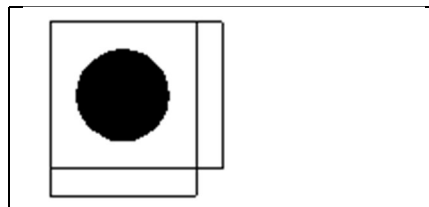
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.54	3.97	5 ø 10.0
Estribo vertical	1.54	3.08	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B6

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	60.00	LB	80.00
Seção	50.00	Total	75.00	LH	80.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	2.40 m <sup>2</sup>
Volume concreto	0.45 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.13	25.49	0.00	26.61

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	80x80	75	1.13	26.61	16.25	3458	5.39
Limites					38.00	-1.90	6500	6.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E6-1	26.61	16.25	3458	5.39

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	10.73	19.24	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

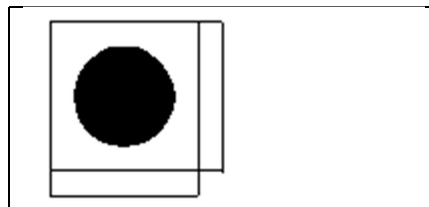
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.91	2.36	5 ø 8.0
Estribo vertical	0.91	1.73	4 ø 8.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B7

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	75.00	<b>LB</b>	90.00
<b>Seção</b>	60.00	<b>Total</b>	90.00	<b>LH</b>	90.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	3.24 m <sup>2</sup>
<b>Volume concreto</b>	0.69 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.72	47.86	0.00	49.58

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	90x90	90	1.72	49.58	31.82	7930	5.44
Limites					50.00	-2.50	8000	8.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E7-1	49.58	31.82	7930	5.44

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	12.48	19.11	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

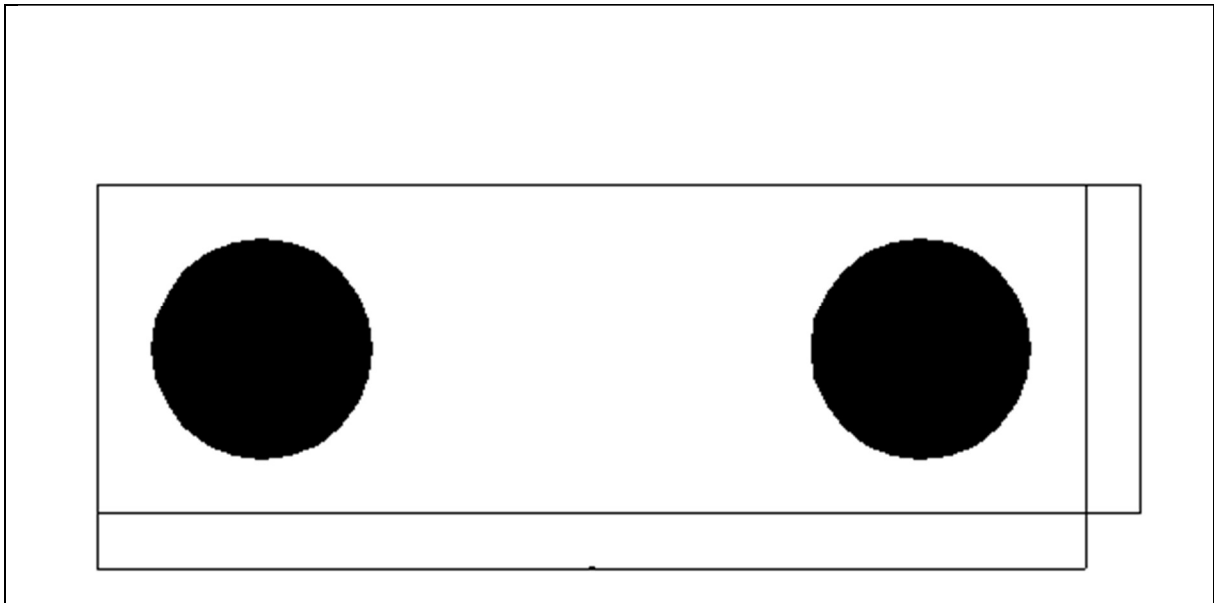
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.61	4.15	6 ø 10.0
Estribo vertical	1.61	3.23	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B8

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 2	$f_{ck} = 300 \text{ kgf/cm}^2$
Cobrimento=	$E_{cs} = 268384 \text{ kgf/cm}^2$
4.50 cm	Peso específico = 2500 $\text{kgf/m}^3$

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	65.00	LB	270.00
Seção	60.00	Total	80.00	LH	90.00
Espaçamento entre estacas (e)	180.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	5.76 m <sup>2</sup>
Volume concreto	1.86 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
4.65	75.55	0.13	80.33

### Verificação ao esmagamento da biela - Método de Blevot e Frémy

	Junto ao pilar	Junto à estaca
<b>Tensão solicitante (kgf/cm<sup>2</sup>)</b>	163.01	53.55
<b>Tensão admissível (kgf/cm<sup>2</sup>)</b>	224.40	135.77
<b>Condição</b>	Ok	Ok

#### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	90x90	90	1.72	77.26	44.50	655	1.21
2	2	270x90	80	4.65	40.16	23.65	267	0.61
Limites					50.00	-2.50	8000	8.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E8-1	40.15	23.66	267	0.61
E8-2	40.16	23.65	267	0.61

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.10	19.06	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
<b>Armadura principal na direção X</b>	53.76	20.18	10 ø 16.0
<b>Armadura principal na direção Y</b>	-	-	-
<b>Estribo horizontal</b>	6.72	2.52	5 ø 8.0
<b>Estribo vertical</b>	6.72	2.52	22 ø 8.0 (11 estribos)
<b>Armadura superior na direção X</b>	-	4.04	5 ø 10.0
<b>Armadura superior na direção Y</b>	-	-	-
<b>Armadura distribuição</b>	13.44	1.01	ø 8.0 c/10

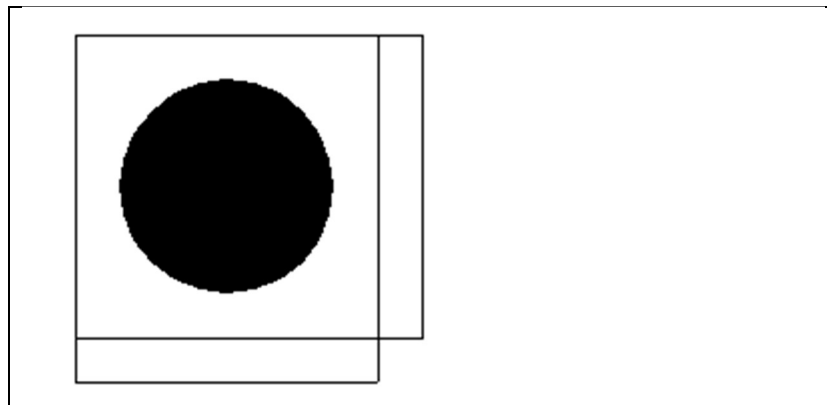


## Cálculo do Bloco B9

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	85.00	LB	100.00
Seção	70.00	Total	100.00	LH	100.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	4.00 m <sup>2</sup>
Volume concreto	0.94 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	63.91	0.00	66.26

#### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	66.26	44.73	524	0.82
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E9-1	66.26	44.73	524	0.82

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

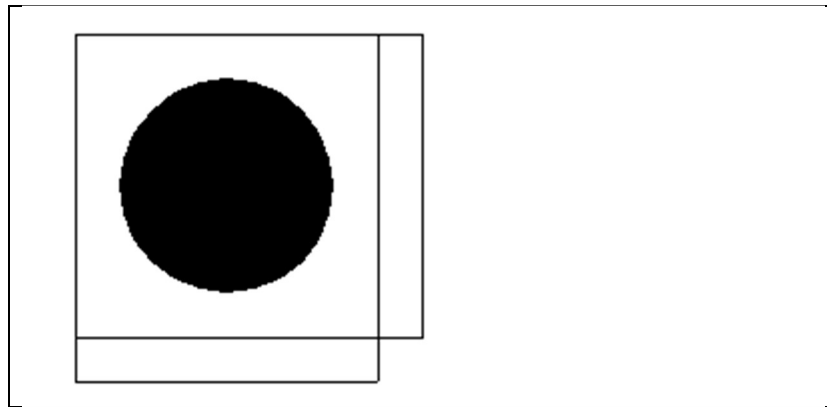
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	2.19	5.65	7 ø 10.0
Estribo vertical	2.19	4.31	4 ø 12.5 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

#### Cálculo do Bloco B10

**Pavimento FUNDO - Lance 1**

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

**Cálculo das dimensões do bloco**



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	85.00	<b>LB</b>	100.00
<b>Seção</b>	70.00	<b>Total</b>	100.00	<b>LH</b>	100.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	4.00 m <sup>2</sup>
<b>Volume concreto</b>	0.94 m <sup>3</sup>

**Estimativa da carga solicitante**

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	64.06	0.00	66.41

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

#### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	66.41	44.05	527	0.82
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E10-1	66.41	44.05	527	0.82

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

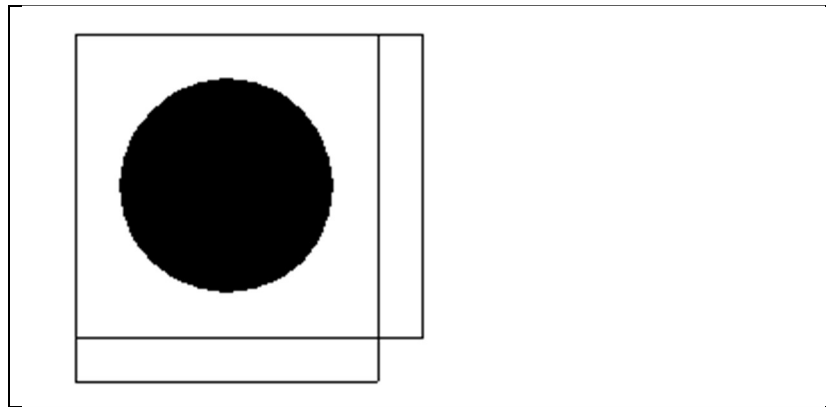
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	2.20	5.66	7 ø 10.0
Estribo vertical	2.20	4.32	4 ø 12.5 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

#### Cálculo do Bloco B11

**Pavimento FUNDO - Lance 1**

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

**Cálculo das dimensões do bloco**



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	85.00	<b>LB</b>	100.00
<b>Seção</b>	70.00	<b>Total</b>	100.00	<b>LH</b>	100.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	4.00 m <sup>2</sup>
<b>Volume concreto</b>	0.94 m <sup>3</sup>

**Estimativa da carga solicitante**

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	64.95	0.00	67.30

**Determinação do número de estacas**

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	67.30	43.19	533	0.83
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E11-1	67.30	43.19	533	0.83

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm²)
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

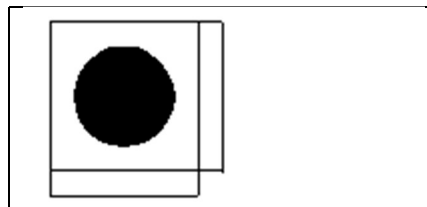
	Tensão (tf)	As (cm²)	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	2.23	5.74	7 ø 10.0
Estribo vertical	2.23	4.38	4 ø 12.5 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B12

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	75.00	<b>LB</b>	90.00
<b>Seção</b>	60.00	<b>Total</b>	90.00	<b>LH</b>	90.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	3.24 m <sup>2</sup>
<b>Volume concreto</b>	0.69 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.72	41.67	0.00	43.39

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	90x90	90	1.72	43.39	24.99	5709	5.44
Limites					50.00	-2.50	8000	8.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E12-1	43.39	24.99	5709	5.44

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	12.48	19.11	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.41	3.63	5 ø 10.0
Estribo vertical	1.41	2.82	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

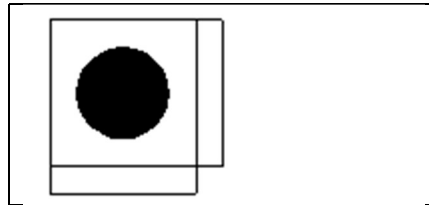


## Cálculo do Bloco B13

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	60.00	<b>LB</b>	80.00
<b>Seção</b>	50.00	<b>Total</b>	75.00	<b>LH</b>	80.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	2.40 m <sup>2</sup>
<b>Volume concreto</b>	0.45 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.13	36.28	0.00	37.40

### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	80x80	75	1.13	37.40	28.39	2970	5.38
Limites					38.00	-1.90	6500	6.00

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E13-1	37.40	28.39	2970	5.38

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	10.73	19.24	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

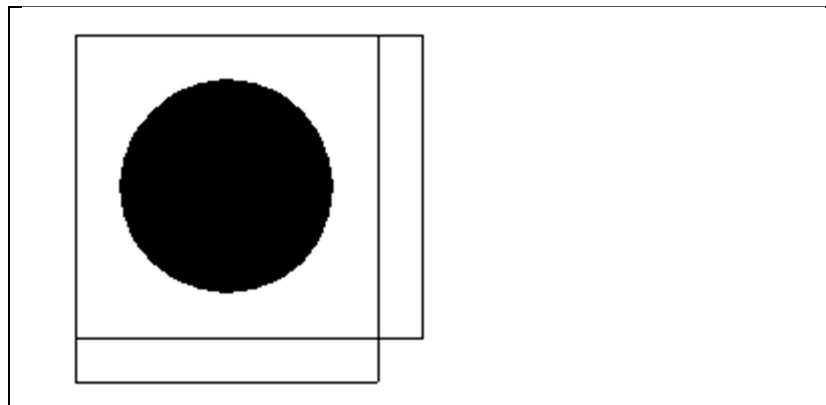
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.29	3.31	5 ø 10.0
Estribo vertical	1.29	2.43	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B14

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1	$f_{ck} = 300 \text{ kgf/cm}^2$
Cobrimento=	$E_{cs} = 268384 \text{ kgf/cm}^2$
4.50 cm	Peso específico = 2500 $\text{kgf/m}^3$

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	85.00	LB	100.00
Seção	70.00	Total	100.00	LH	100.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	4.00 m <sup>2</sup>
Volume concreto	0.94 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	60.37	0.00	62.73

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

#### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	62.73	40.26	4579	5.49
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E14-1	62.73	40.26	4579	5.49

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

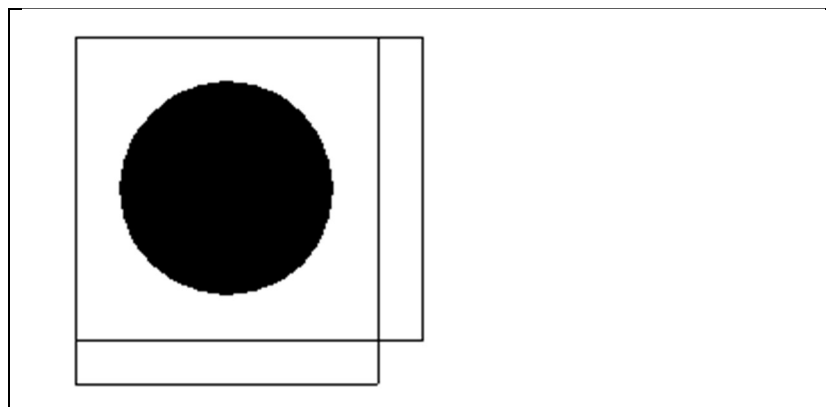
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	2.08	5.35	7 ø 10.0
Estribo vertical	2.08	4.08	4 ø 12.5 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B15

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1	$f_{ck} = 300 \text{ kgf/cm}^2$
Cobrimento=	$E_{cs} = 268384 \text{ kgf/cm}^2$
4.50 cm	Peso específico = 2500 $\text{kgf/m}^3$

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	85.00	LB	100.00
Seção	70.00	Total	100.00	LH	100.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	4.00 m <sup>2</sup>
Volume concreto	0.94 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	50.00	0.00	52.36

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

#### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	52.36	32.98	5412	5.46
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E15-1	52.36	32.98	5412	5.46

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

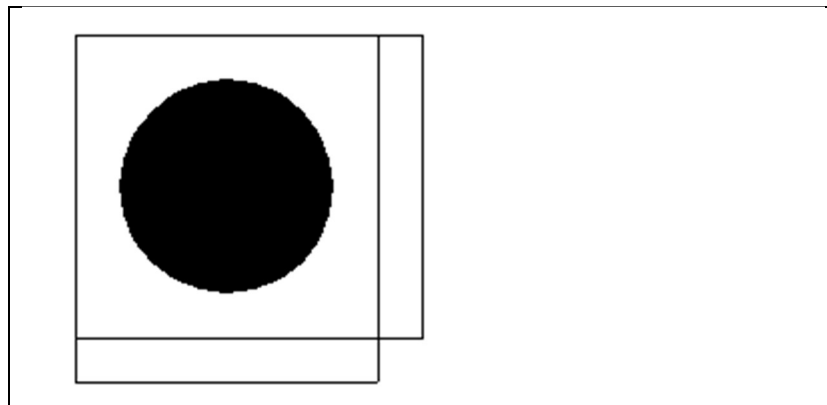
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.73	4.46	6 ø 10.0
Estribo vertical	1.73	3.41	8 ø 8.0 (4 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B16

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1	$f_{ck} = 300 \text{ kgf/cm}^2$
Cobrimento=	$E_{cs} = 268384 \text{ kgf/cm}^2$
4.50 cm	Peso específico = 2500 $\text{kgf/m}^3$

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	85.00	LB	100.00
Seção	70.00	Total	100.00	LH	100.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	4.00 m <sup>2</sup>
Volume concreto	0.94 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
2.36	49.42	0.00	51.77

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

#### Determinação do número de estacas

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	100x100	100	2.36	51.77	32.25	5516	5.46
Limites					70.00	-3.50	10000	10.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E16-1	51.77	32.25	5516	5.46

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	13.76	19.01	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.71	4.41	6 ø 10.0
Estribo vertical	1.71	3.37	8 ø 8.0 (4 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

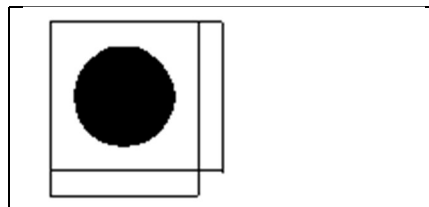


## Cálculo do Bloco B17

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
Tipo	circular	Útil	75.00	LB	90.00
Seção	60.00	Total	90.00	LH	90.00
Espaçamento entre estacas (e)	0.00	Cobrimento do bloco na estaca	15.00	Cobrimento do bloco (CB)	15.00

Área de forma	3.24 m <sup>2</sup>
Volume concreto	0.69 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.72	45.86	0.00	47.58

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	90x90	90	1.72	47.58	28.97	5053	5.45
Limites					50.00	-2.50	8000	8.00

#### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E17-1	47.58	28.97	5053	5.45

#### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm <sup>2</sup> )
Estribo horizontal	Lento	12.48	19.11	-

#### Dimensionamento da armadura

##### Método de cálculo: biela-tirante

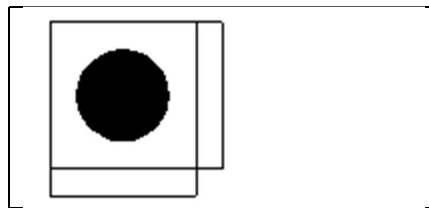
	Tensão (tf)	As (cm <sup>2</sup> )	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	1.55	3.98	5 ø 10.0
Estribo vertical	1.55	3.10	4 ø 10.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## Cálculo do Bloco B18

### Pavimento FUNDO - Lance 1

Dados gerais	Dados do concreto
Tipo do bloco: 1 Cobrimento= 4.50 cm	fck = 300 kgf/cm <sup>2</sup> Ecs = 268384 kgf/cm <sup>2</sup> Peso específico = 2500 kgf/m <sup>3</sup>

### Cálculo das dimensões do bloco



Estaca (cm)		Altura do bloco (cm)		Seção do bloco (cm)	
<b>Tipo</b>	circular	<b>Útil</b>	60.00	<b>LB</b>	80.00
<b>Seção</b>	50.00	<b>Total</b>	75.00	<b>LH</b>	80.00
<b>Espaçamento entre estacas (e)</b>	0.00	<b>Cobrimento do bloco na estaca</b>	15.00	<b>Cobrimento do bloco (CB)</b>	15.00

<b>Área de forma</b>	2.40 m <sup>2</sup>
<b>Volume concreto</b>	0.45 m <sup>3</sup>

### Estimativa da carga solicitante

Peso próprio (tf)	Nmax (tf)	Carga momento (tf)	Carga total (tf)
1.13	25.71	0.00	26.84

### Determinação do número de estacas

	<b>CINNANTI ARQUITETURA E ENGENHARIA LTDA</b>	
	SECRETARIA DE ESTADO DE EDUCAÇÃO DO DISTRITO FEDERAL SEEDF	29/12/2022

Modelo	NE	Dimensões (cm)	Altura (cm)	Peso próprio (tf)	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
1	1	80x80	75	1.13	26.84	16.45	3459	5.39
Limites					38.00	-1.90	6500	6.00

### Estimativa dos esforços nas estacas

Estaca	Carga máx. (tf)	Carga mín. (tf)	Momento (kgf.m)	Força horiz. (tf)
E18-1	26.84	16.45	3459	5.39

### Dimensionamento da armadura de retração

	Tipo de endurecimento	Delta T (°C)	Delta Tcr (°C)	As (cm²)
Estribo horizontal	Lento	10.73	19.24	-

### Dimensionamento da armadura

#### Método de cálculo: biela-tirante

	Tensão (tf)	As (cm²)	Armaduras
Armadura principal na direção X	-	-	-
Armadura principal na direção Y	-	-	-
Estribo horizontal	0.92	2.38	5 ø 8.0
Estribo vertical	0.92	1.75	4 ø 8.0 (2 estribos)
Armadura superior na direção X	-	-	-
Armadura superior na direção Y	-	-	-
Armadura distribuição	-	-	-

## 10. Cálculo dos Pilares

<b>FUNDO</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 1</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	25.00 X 70.00	RR 2.91 RR 1.04	48.67 27.91	1233 1371	5591 6216	4.53	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P2	25.00 X 70.00	RR 2.91 RR 1.04	78.76 38.38	1721 2105	7352 8993	4.27	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P3	25.00 X 70.00	RR 2.91 RR 1.04	64.64 30.67	3247 1940	6188 3697	1.91	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P4	25.00 X 70.00	RR 2.91 RR 1.04	63.55 29.74	3327 2057	6089 3765	1.83	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P5	25.00 X 70.00	RR 2.91 RR 1.04	58.62 27.05	3204 2152	5795 3893	1.81	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P6	25.00 X 70.00	RR 2.91 RR 1.04	32.39 14.95	1734 909	4752 2493	2.74	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P7	25.00 X 70.00	RR 2.91 RR 1.04	62.01 30.00	6660 2214	7862 2613	1.18	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P8	25.00 X 70.00	RR 2.91 RR 1.04	97.37 42.69	2191 77	10344 365	4.72	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P9	25.00 X 70.00	RR 2.91 RR 1.04	83.97 42.28	1889 240	9484 1205	5.02	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P10	25.00 X 70.00	RR 2.91 RR 1.04	83.99 41.61	1890 242	9482 1213	5.02	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P11	25.00 X 70.00	RR 2.91 RR 1.04	84.89 40.74	1910 244	9525 1217	4.99	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P12	25.00 X 70.00	RR 2.91 RR	53.14 23.18	3888 1107	5758 1640	1.48	2.45 (2 ø 12.5) 3.68

		1.04					(3 ø 12.5)
P13	25.00 X 70.00	RR					2.45
		2.91	47.78	1239	5553	4.48	(2 ø 12.5)
		RR	27.12	1331	5968		3.68
		1.04					(3 ø 12.5)
RR				2.45			
P14	25.00 X 70.00	2.91	78.20	1709	7370	4.31	(2 ø 12.5)
		RR	37.76	2042	8807		3.68
		1.04					(3 ø 12.5)
		RR					2.45
P15	25.00 X 70.00	2.91	64.48	3244	6175	1.90	(2 ø 12.5)
		RR	30.52	1936	3685		3.68
		1.04					(3 ø 12.5)
		RR					2.45
P16	25.00 X 70.00	2.91	63.65	3324	6089	1.83	(2 ø 12.5)
		RR	29.79	2064	3781		3.68
		1.04					(3 ø 12.5)
		RR					2.45
P17	25.00 X 70.00	2.91	58.85	3218	5807	1.80	(2 ø 12.5)
		RR	27.16	2158	3893		3.68
		1.04					(3 ø 12.5)
		RR					2.45
P18	25.00 X 70.00	2.91	32.70	1737	4787	2.76	(2 ø 12.5)
		RR	15.15	878	2418		3.68
		1.04					(3 ø 12.5)
		RR					2.45

## 11. Quadro de Cargas e Taxa de Compressão Permanente nos Pilares

FUNDO						
Pilares	Seção (cm)	Nmáx (tf)	Nmin (tf)	Nperm (tf)	Taxa de compressão (bruta)	Taxa de compressão (homogeneizada)
P1	25x70	36.88	0.00	20.69	0.06	0.05
P2	25x70	60.73	0.00	33.62	0.09	0.08
P3	25x70	50.12	0.00	28.84	0.08	0.07
P4	25x70	49.35	0.00	29.05	0.08	0.07
P5	25x70	45.69	0.00	28.30	0.08	0.07
P6	25x70	25.49	0.00	22.73	0.06	0.06
P7	25x70	47.86	0.00	24.36	0.06	0.06
P8	25x70	75.55	0.00	34.88	0.09	0.09
P9	25x70	63.91	0.00	26.71	0.07	0.07
P10	25x70	64.06	0.00	27.29	0.07	0.07
P11	25x70	64.95	0.00	27.51	0.07	0.07
P12	25x70	41.67	0.00	26.30	0.07	0.07
P13	25x70	36.28	0.00	20.82	0.06	0.05
P14	25x70	60.37	0.00	33.52	0.09	0.08
P15	25x70	50.00	0.00	28.75	0.08	0.07
P16	25x70	49.42	0.00	29.04	0.08	0.07
P17	25x70	45.86	0.00	28.33	0.08	0.07
P18	25x70	25.71	0.00	22.75	0.06	0.06

## 12. Vigas do pavimento FUNDO

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	2221.06	4 ø 12.5		-5868.36	4 ø 12.5		Avisos 38, 82
	1043.05	4 ø 12.5		-1961.37	4 ø 12.5		
	826.35	4 ø 12.5		-4755.81	4 ø 12.5		
	915.83	4 ø 12.5		-2303.20	4 ø 12.5		
	740.19	4 ø 12.5		-2018.79	4 ø 12.5		
	949.17	4 ø 12.5		-2780.62	4 ø 12.5		
	665.27	4 ø 12.5		-1929.37	4 ø 12.5		
	1177.91	4 ø 12.5		-2724.04	4 ø 12.5		
	2399.15	4 ø 12.5		-2208.60	4 ø 12.5		
				-3385.90	4 ø 12.5		
VB2	1937.62	4 ø 12.5		-892.62	4 ø 12.5		Avisos 38, 82
	1003.74	4 ø 12.5		-1879.04	4 ø 12.5		
	1003.00	4 ø 12.5		-3362.79	4 ø 12.5		
	1939.53	4 ø 12.5		-1762.52	4 ø 12.5		
				-3363.72	4 ø 12.5		
VB3	1985.36	4 ø 12.5		-1877.43	4 ø 12.5		Avisos 38, 82
	1007.41	4 ø 12.5		-1934.12	4 ø 12.5		
	1007.52	4 ø 12.5		-3312.78	4 ø 12.5		
	1986.81	4 ø 12.5		-1778.33	4 ø 12.5		
				-3313.72	4 ø 12.5		
VB4	1904.83	4 ø 12.5		-1932.59	4 ø 12.5		Avisos 38, 82
	997.32	4 ø 12.5		-1924.98	4 ø 12.5		
	1032.30	4 ø 12.5		-3445.77	4 ø 12.5		
	1907.36	4 ø 12.5		-1770.35	4 ø 12.5		
				-3423.92	4 ø 12.5		
			-1891.28	4 ø 12.5			

## 13. Pavimento TAMPA

## 14. Cálculo dos Pilares

<b>TAMPA</b>	fck = 300.00 kgf/cm <sup>2</sup>	E = 268384 kgf/cm <sup>2</sup>	Peso Espec = 2500.00 kgf/m <sup>3</sup>
<b>Lance 2</b>		cobr = 3.00 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm <sup>2</sup> )
P1	25.00 X 70.00	RR 58.13 RR 20.76	29.46 -0.49	3275 1143	5610 1958	1.71	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P2	25.00 X 70.00	RR 58.13 RR 20.76	42.11 0.67	1973 1486	5211 3925	2.64	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P3	25.00 X 70.00	RR 58.13 RR 20.76	37.22 4.97	6351 408	6338 407	1.00	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P4	25.00 X 70.00	RR 58.13 RR 20.76	36.53 4.98	6384 457	6674 477	1.05	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P5	25.00 X 70.00	RR 58.13 RR 20.76	33.39 4.96	6156 433	6495 457	1.06	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P6	25.00 X 70.00	RR 58.13 RR 20.76	21.02 -0.31	1245 974	4650 3640	3.74	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P7	25.00 X 70.00	RR 58.13 RR 20.76	33.57 1.43	11107 25	11362 26	1.02	1.57 (2 ø 10.0) 11.78 (15 ø 10.0)
P8	25.00 X 70.00	RR 58.13 RR 20.76	51.63 3.25	5412 12	6130 14	1.13	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P9	25.00 X 70.00	RR 58.13 RR 20.76	58.95 36.87	2560 203	8097 642	3.16	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P10	25.00 X 70.00	RR 58.13 RR 20.76	59.46 36.85	2582 177	8142 559	3.15	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P11	25.00 X 70.00	RR 58.13 RR 20.76	59.39 36.49	2578 366	8029 1141	3.11	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P12	25.00 X 70.00	RR 58.13 RR 20.76	31.58 1.99	4607 12	5119 13	1.11	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P13	25.00 X 70.00	RR 58.13 RR 20.76	28.97 -0.49	3241 1159	5562 1988	1.72	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P14	25.00 X 70.00	RR 58.13 RR 20.76	41.78 0.67	1941 1471	5177 3922	2.67	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)



P15	25.00 X 70.00	RR 58.13 RR 20.76	37.12 4.99	6351 413	6329 412	1.00	2.45 (2 ø 12.5) 4.91 (4 ø 12.5)
P16	25.00 X 70.00	RR 58.13 RR 20.76	36.59 4.98	6386 459	6678 480	1.05	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P17	25.00 X 70.00	RR 58.13 RR 20.76	33.48 4.96	6158 436	6500 460	1.06	1.57 (2 ø 10.0) 5.50 (7 ø 10.0)
P18	25.00 X 70.00	RR 58.13 RR 20.76	21.20 -0.31	1210 967	4655 3721	3.85	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)

### 15. Quadro de Cargas e Taxa de Compressão Permanente nos Pilares

TAMPA						
Pilares	Seção (cm)	Nmáx (tf)	Nmin (tf)	Nperm (tf)	Taxa de compressão (bruta)	Taxa de compressão (homogeneizada)
P1	25x70	22.29	-0.37	12.81	0.03	0.03
P2	25x70	32.30	0.00	17.94	0.05	0.04
P3	25x70	28.65	0.00	17.28	0.05	0.04
P4	25x70	28.16	0.00	17.41	0.05	0.04
P5	25x70	25.83	0.00	16.93	0.05	0.04
P6	25x70	16.39	-0.25	14.04	0.04	0.04
P7	25x70	25.86	0.00	14.92	0.04	0.03
P8	25x70	39.75	0.00	19.41	0.05	0.05
P9	25x70	43.37	0.00	19.86	0.05	0.05
P10	25x70	43.81	0.00	20.28	0.05	0.05
P11	25x70	43.81	0.00	20.21	0.05	0.05
P12	25x70	24.52	0.00	15.88	0.04	0.04
P13	25x70	21.96	-0.37	12.90	0.03	0.03
P14	25x70	32.08	0.00	17.89	0.05	0.04
P15	25x70	28.58	0.00	17.22	0.05	0.04
P16	25x70	28.20	0.00	17.40	0.05	0.04
P17	25x70	25.89	0.00	16.93	0.05	0.04
P18	25x70	16.52	-0.25	14.05	0.04	0.04

### 16. Vigas do pavimento TAMPA

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
V1	6123.20 6109.43	4 ø 12.5 4 ø 12.5		-6136.71 -15215.90 -6122.66	4 ø 12.5 8 ø 12.5 4 ø 12.5		
V2	6273.42 6274.46	4 ø 12.5 4 ø 12.5		-6184.38 -15488.36 -6181.02	4 ø 12.5 9 ø 12.5 4 ø 12.5		
V3	6171.17 6172.20	4 ø 12.5 4 ø 12.5		-6082.77 -15334.12 -6080.06	4 ø 12.5 9 ø 12.5 4 ø 12.5		