



- NOTAS
- A LOCAÇÃO DA OBRA DEVERÁ SER FEITA PELO PROJETO ESTRUTURAL;
 - AS FUNDAÇÕES DEVERÃO SER CENTRADAS NO CENTRO DE GRAVIDADE DE SUAS RESPECTIVAS COLUNAS;
 - CONTER MEDIDAS COM PROJETO DE ARQUITETURA;
 - ANTES DA EXECUÇÃO, ESTE PROJETO DEVERÁ SER VERIFICADO EM RELAÇÃO A ÚLTIMA REVISÃO DOS RESPECTIVOS ELEMENTOS DE REFERÊNCIA;
 - MANter COBRIMENTO DA ARMADURA COM ESPACADOR PLÁSTICO;
 - PREVER LASTRO DE CONCRETO MAGRO DE 3 cm SOB AS ESTRUTURAS E EM CONCRETO;
 - CONCRETO CLASSE C40 (R_{ck} = 24 MPa) - CLASSE DE AGRESSIVIDADE AMBIENTAL II, FRACA FACE A REVESTIMENTO E CONTROLE TÉCNICO DO CONCRETO CONFORME NBR-6118, MÓDULO DE ELASTICIDADE E_c = 21000 MPa, RESISTÊNCIA À TRAÇÃO f_{ctd} = 2,3 MPa, ABATIMENTO > 12cm, CIMENTO POZOLÂNICO CP-V;
 - COBRIMENTO DA ARMADURA:
 - COBRIMENTO MÁXIMO CARACTERÍSTICO DO AGRADADO GRÁDUO = 19mm;
 - COBRIMENTO MÁXIMO CARACTERÍSTICO DO AGRADADO GRAU = 27mm;
 - COBRIMENTO PILAR EXTERNO = 3,0cm;
 - COBRIMENTO VIGA EXTERNA = 3,0cm;
 - COBRIMENTO LAJES = 2,0cm;
 - MEDIDAS EM m e ELIAÇÕES EM cm. EXCETO ONDE INDICADO;
 - O CONCRETO DEVERÁ SER VIBRADO MECÂNICAMENTE;
 - DIÂMETRO MÁXIMO CARACTERÍSTICO DO AGRADADO GRÁDUO = 19mm;
 - ACC. ESTRUTURAL, CADENÇADA - F1000MPA - F1000MPA, MARCA GERAL, ARCORLORMITAL ou SIMILAR;
 - APÓS A VERIFICAÇÃO DO INÍCIO DA PEGA DO CONCRETO, AS PEÇAS DEVERÃO ESTAR SEMPRE MOLHADAS;
 - NÃO USAR ADITIVOS A BASE DE CLORETO;
 - TODO O TERRENO DEVERÁ SER APLICADO SATISFATORIAMENTE ANTES DA APLICAÇÃO DO CONCRETO MAGRO;
 - AS FORMAS DE MADEIRA DEVERÃO SER MOLHADAS ATÉ O ENCHACAMENTO INSTANTES ANTES DA CONCRETAGEM;
 - PARA CONCRETO FORNECIDO POR ULMA, DEVERÁ CONSTAR OBRIGATORIAMENTE NA NOTA FISCAL:
 - MÓDULO DE ELASTICIDADE
 - RESISTÊNCIA CARACTERÍSTICA DO CONCRETO (R_{ck})
 - CONSUMO DE CIMENTO POR m³
 - ESPECIFICAÇÕES DO TIPO DE CIMENTO E FABRICANTE;
 - ABATIMENTO (SLUMP)
 - MARCA E DOSAGEM DOS ADITIVOS PARA CONCRETOS
 - RELAÇÃO AGUAMENTO
 - DIMENSÃO MÁXIMA CARACTERÍSTICA DA BRITA
 - NO PREPARO, CONTROLE E RECEBIMENTO DO CONCRETO DEVERÁ SER OBEDECIDO O DISPOSTO NA NBR 2654:2015;
 - NO CONTROLE TECNOLÓGICO DOS MATERIAIS COMPONENTES DO CONCRETO DEVERÁ SER OBEDECIDO O DISPOSTO NA NBR 2654:1982;
 - O CONTROLE TECNOLÓGICO DO CONCRETO DEVERÁ SER DO TIPO RIGOROSO;
 - AS FORMAS E ESCORAMENTOS DEVERÃO SER DIMENSIONADAS E EXECUTADAS DE ACORDO COM AS PRESCRIÇÕES DA NBR-11 e NBR-14, DE MODO QUE NÃO SOFRAM DEFORMAÇÕES PREJUDICIAIS, QUER SOB A AÇÃO DOS FATORES AMBIENTAIS, QUER SOB A CARGA, ESPECIALMENTE A DO CONCRETO ANTES DO INÍCIO DO TEMPO DE PEGA;
 - CASO SE UTILIZE DESMOLDANTES, ESTES DEVERÃO SER APLICADOS ANTES DA DISPOSIÇÃO DAS ARMADURAS;
 - NO LANÇAMENTO DO CONCRETO NAS FORMAS, DEVE-SE TOMAR AS PRECAUÇÕES NECESSÁRIAS PARA QUE NÃO HAJA SEGREGAÇÃO DO MESMO, RECOMENDANDO-SE QUE A ALTURA DE QUEDA LIVRE NÃO ULTRAPASSE 2 METROS;
 - SE NENHUMA HECHICE O LANÇAMENTO DO CONCRETO PODERÁ SER FEITO APÓS O INÍCIO DA PEGA;
 - CASO SEJA NECESSÁRIO A REALIZAÇÃO DE JUNTA DE CONCRETAGEM POR INTERRUÇÃO DE LANÇAMENTO, DEVE-SE PROCEDER O TRATAMENTO DA SUPERFÍCIE COM ESCOVAÇÃO DA MATA SUPERFICIAL E LAVAGEM DO PO RESULTANTE DA OPERAÇÃO. CASO ESTA OPERAÇÃO SEJA EXECUTADA COM INTENÇÃO SUPERIOR A 14 DIAS CORRIDOS, DEVE-SE UTILIZAR AREDEVO;
 - NÃO EXECUTAR FURROS PARA PASSAGEM DE TUBULAÇÃO SUPERIORES A 75mm SEM A CONSULTA PRÉVIA DO PROJETISTA, O ESPACAMENTO DA TUBULAÇÃO DEVERÁ SER NO MÍNIMO DE 16cm ENTRE AS FASES;
 - A EXECUÇÃO DEVERÁ SER ACOMPANHADA DOS DESENHOS DE ARQUITETURA E ESTRUTURA;
 - OS ENCHIMENTOS DEVERÃO SER EXECUTADOS COM CONCRETO LIVRE OU MATERIAL INERTE DE PÉSSIMO ESPECÍFICO EQUIVALENTE;
 - NENHUMA ALTERAÇÃO NO PROJETO ESTRUTURAL PODERÁ SER FEITADA SEM A AUTORIZAÇÃO DO PROJETA.
 - ALTERAÇÕES NA DESTINAÇÃO DA ESTRUTURA OU PARTE DA MESMA DEVEM SER CONSULTADAS PRÉVIAMENTE AO PROJETA.



RELAÇÃO DO AÇO

CA	N	DIAM	QUANT	C. UNIT	C. TOTAL
(cm)				(cm)	(cm)
CA50	1	5,0	19	71	1349
	2	5,0	101	117	14017
	3	5,0	127	97	12319
	4	5,0	147	81	11917
	5	5,0	143	572	8147
	6	5,0	145	460	6650
	7	5,0	154	616	9346
	8	5,0	154	616	9346
	9	5,0	149	689	10264
	10	6,3	1	69	69
	11	6,3	1	69	69
	12	10,0	4	124	496
	13	10,0	4	160	640
	14	10,0	4	944	3776
	15	10,0	4	710	2840
	16	10,0	2	298	596
	17	10,0	2	364	728
	18	10,0	2	933	1866
	19	10,0	2	933	1866
	20	10,0	2	370	740
	21	10,0	2	313	626
	22	10,0	2	377	754
	23	10,0	2	1054	2108
	24	10,0	2	1054	2108
	25	10,0	2	1054	2108
	26	10,0	2	495	990
	27	10,0	2	534	1068
	28	10,0	2	534	1068
	29	10,0	2	130	1100
	30	10,0	2	130	1100
	31	10,0	2	404	808
	32	10,0	2	404	808
	33	10,0	2	628	1256
	34	10,0	2	1186	2372
	35	10,0	2	464	928
	36	10,0	2	464	928
	37	10,0	2	1300	2600
	38	10,0	2	1300	2600
	39	10,0	2	1142	2284
	40	10,0	2	2226	4452
	41	10,0	2	1450	2900
	42	10,0	2	1160	2320
	43	10,0	2	1450	2900
	44	10,0	2	681	1362
	45	10,0	2	745	1490
	46	10,0	2	1120	2240
	47	10,0	2	887	1774
	48	10,0	2	1020	2040
	49	10,0	2	571	1142
	50	10,0	2	131	262
	51	10,0	2	131	262
	52	10,0	2	300	600
	53	10,0	2	364	728
	54	10,0	2	147	294
	55	10,0	2	147	294
	56	10,0	2	105	1050
	57	10,0	2	105	1050
	58	10,0	2	605	1210
	59	10,0	2	362	724
	60	10,0	2	362	724
	61	10,0	2	1024	2048
	62	10,0	2	637	1274
	63	10,0	2	805	1610
	64	10,0	2	805	1610
	65	10,0	2	363	726
	66	10,0	2	363	726
	67	10,0	4	655	2620
	68	10,0	4	1716	6864
	69	10,0	4	352	1408
	70	10,0	4	2312	9248
	71	10,0	2	284	568
	72	10,0	2	284	568
	73	10,0	2	284	568
	74	10,0	2	284	568
	75	10,0	2	301	602
	76	10,0	2	301	602
	77	10,0	2	301	602
	78	10,0	2	333	666
	79	10,0	2	333	666
	80	10,0	2	607	1214
	81	10,0	2	607	1214
	82	10,0	2	905	1810
	83	10,0	2	905	1810
	84	10,0	2	116	1160
	85	10,0	2	116	1160
	86	10,0	2	116	1160
	87	10,0	2	116	1160
	88	10,0	2	116	1160
	89	10,0	2	116	1160
	90	10,0	2	116	1160
	91	12,5	8	1197	9576
	92	12,5	8	1197	9576
	93	12,5	2	489	978
	94	12,5	2	489	978

RESUMO DO AÇO

CA	DIAM	C. TOTAL	PESO = 0%
(cm)	(cm)	(cm)	(kg)
CA50	5,0	1188,4	73,3
	6,3	97,7	6,1
	10,0	1584,9	244,3
	12,5	161,5	10,1
	15,0	28,5	1,8
	19,0	18,0	1,1
	21,0	18,0	1,1
	25,0	18,0	1,1
	28,0	18,0	1,1
	32,0	18,0	1,1
	36,0	18,0	1,1
	40,0	18,0	1,1
	45,0	18,0	1,1
	50,0	18,0	1,1
	56,0	18,0	1,1
	63,0	18,0	1,1
	70,0	18,0	1,1
	78,0	18,0	1,1
	86,0	18,0	1,1
	94,0	18,0	1,1
	102,0	18,0	1,1
	110,0	18,0	1,1
	118,0	18,0	1,1
	126,0	18,0	1,1
	134,0	18,0	1,1
	142,0	18,0	1,1
	150,0	18,0	1,1
	158,0	18,0	1,1
	166,0	18,0	1,1
	174,0	18,0	1,1
	182,0	18,0	1,1
	190,0	18,0	1,1
	198,0	18,0	1,1
	206,0	18,0	1,1
	214,0	18,0	1,1
	222,0	18,0	1,1
	230,0	18,0	1,1
	238,0	18,0	1,1
	246,0	18,0	1,1
	254,0	18,0	1,1
	262,0	18,0	1,1
	270,0	18,0	1,1
	278,0	18,0	1,1
	286,0	18,0	1,1
	294,0	18,0	1,1
	302,0	18,0	1,1
	310,0	18,0	1,1
	318,0	18,0	1,1
	326,0	18,0	1,1
	334,0	18,0	1,1
	342,0	18,0	1,1
	350,0	18,0	1,1
	358,0	18,0	1,1
	366,0	18,0	1,1
	374,0	18,0	1,1
	382,0	18,0	1,1
	390,0	18,0	1,1
	398,0	18,0	1,1
	406,0	18,0	1,1
	414,0	18,0	1,1
	422,0	18,0	1,1
	430,0	18,0	1,1
	438,0	18,0	1,1
	446,0	18,0	1,1
	454,0	18,0	1,1
	462,0	18,0	1,1
	470,0	18,0	1,1
	478,0	18,0	1,1
	486,0	18,0	1,1
	494,0	18,0	1,1
	502,0	18,0	1,1
	510,0	18,0	1,1
	518,0	18,0	1,1
	526,0	18,0	1,1
	534,0	18,0	1,1
	542,0	18,0	1,1
	550,0	18,0	1,1
	558,0	18,0	1,1
	566,0	18,0	1,1
	574,0	18,0	1,1
	582,0	18,0	1,1
	590,0	18,0	1,1
	598,0	18,0	1,1
	606,0	18,0	1,1
	614,0	18,0	1,1
	622,0	18,0	1,1
	630,0	18,0	1,1
	638,0	18,0	1,1
	646,0	18,0	1,1
	654,0	18,0	1,1
	662,0	18,0	1,1
	670,0	18,0	1,1
	678,0	18,0	1,1
	686,0	18,0	1,1
	694,0	18,0	1,1
	702,0	18,0	1,1
	710,0	18,0	1,1
	718,0	18,0	1,1
	726,0	18,0	1,1
	734,0	18,0	1,1
	742,0	18,0	1,1
	750,0	18,0	1,1
	758,0	18,0	1,1
	766,0	18,0	1,1
	774,0	18,0	1,1
	782,0	18,0	1,1
	790,0	18,0	1,1
	798,0	18,0	1,1
	806,0	18,0	1,1
	814,0	18,0	1,1
	822,0	18,0	1,1
	830,0	18,0	1,1
	838,0	18,0	1,1
	846,0	18,0	1,1
	854,0	18,0	1,1
	862,0	18,0	1,1
	870,0	18,0	1,1
	878,0	18,0	1,1
	886,0	18,0	1,1
	894,0	18,0	1,1
	902,0	18,0	1,1
	910,0	18,0	1,1
	918,0	18,0	1,1
	926,0	18,0	1,1
	934,0	18,0	1,1
	942,0	18,0	1,1
	950,0	18,0	1,1
	958,0	18,0	1,1
	966,0	18,0	1,1
	974,0	18,0	1,1
	982,0	18,0	1,1
	990,0	18,0	1,1
	998,0	18,0	1,1
	1006,0	18,0	1,1
	1014,0	18,0	1,1
	1022,0	18,0	1,1
	1030,0	18,0	1,1
	1038,0	18,0	1,1
	1046,0	18,0	1,1
	1054,0	18,0	1,1
	1062,0	18,0	1,1
	1070,0	18,0	1,1
	1078,0	18,0	1,1
	1086,0	18,0	1,1
	1094,0	18,0	1,1
	1102,0	18,0	1,1
	1110,0	18,0	1,1
	1118,0	18,0	1,1
	1126,0	18,0	1,1
	1134,0	18,0	1,1
	1142,0	18,0	1,1
	1150,0	18,0	1,1
	1158,0	18,0	1,1
	1166,0	18,0	1,1
	1174,0	18,0	1,1
	1182,0	18,0	1,1
	1190,0	18,0	1,1
	1198,0	18,0	1,1
	1206,0	18,0	1,1
	1214,0	18,0	1,1
	1222,0	18,0	1,1
	1230,0		