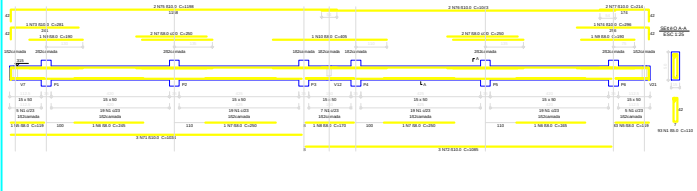
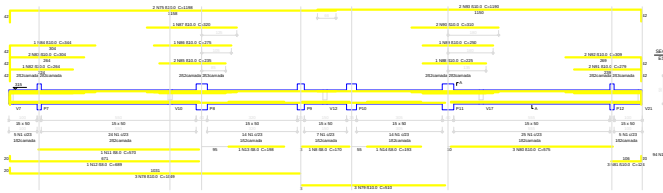
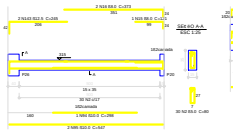
V1 (15 x 50)



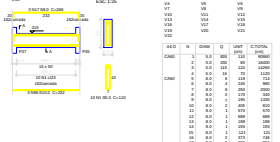
V2 (15 x 50)



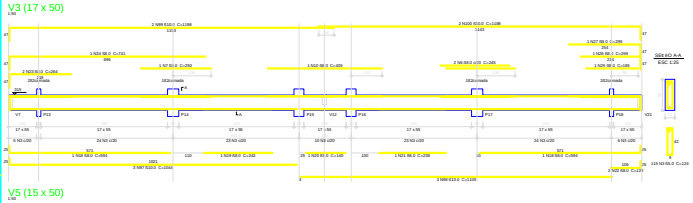
V9 (15 x 35)



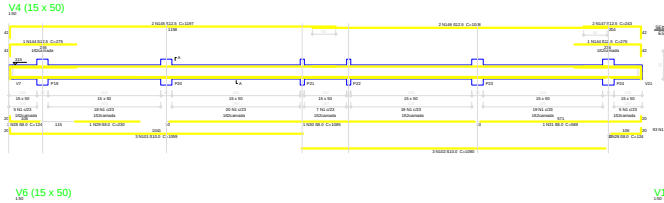
V14 (15 x 50)



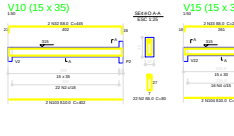
V3 (17 x 50)



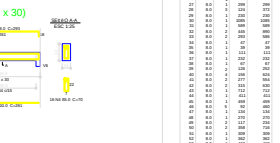
V4 (15 x 50)



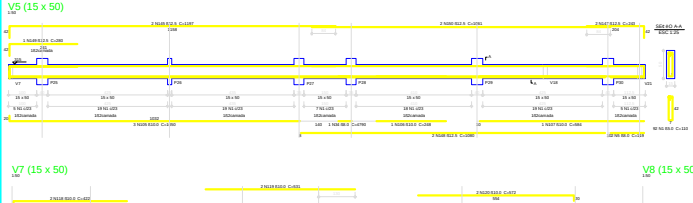
V10 (15 x 35)



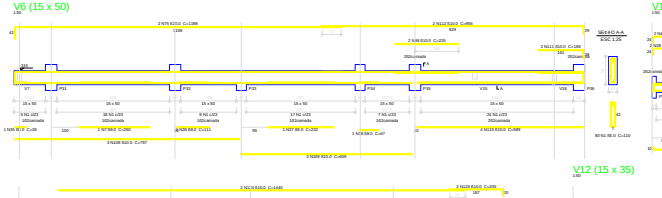
V15 (15 x 30)



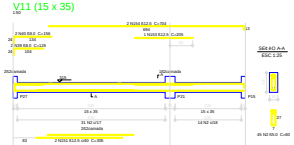
V5 (15 x 50)



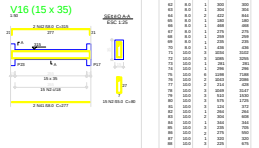
V6 (15 x 50)



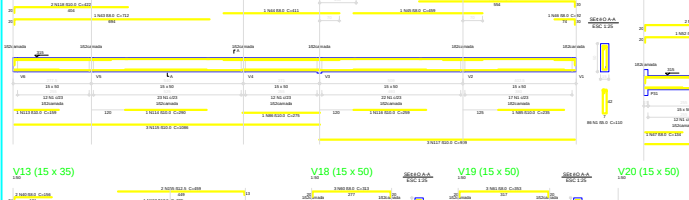
V11 (15 x 35)



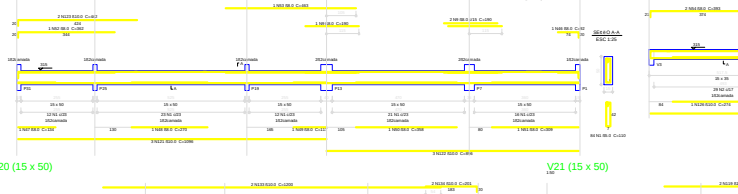
V16 (15 x 35)



V7 (15 x 50)

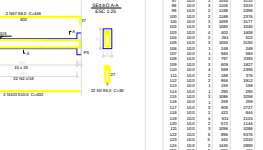


V8 (15 x 50)

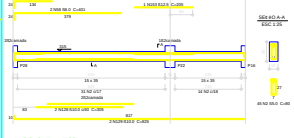


V12 (15 x 35)

V17 (15 x 35)

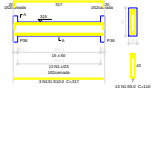


V13 (15 x 35)

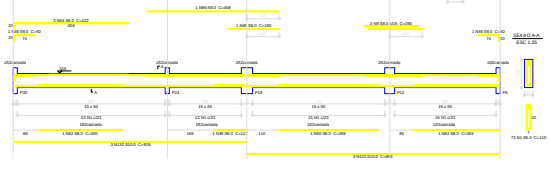


V18 (15 x 50)

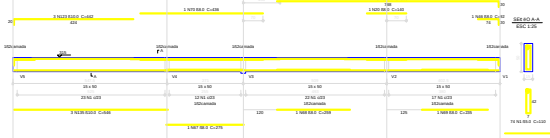
V19 (15 x 50)



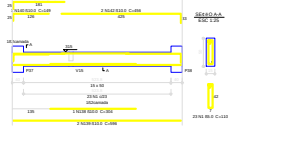
V20 (15 x 50)



V21 (15 x 50)



V22 (15 x 50)



Relação do aço

V1	V2	V3
V4	V5	V6
V7	V8	V9
V10	V11	V12
V13	V14	V15
V16	V17	V18
V19	V20	V21
V22		

AÇO	N	DIAM	Q	UNIT	C.TOTAL
	1	6.0	906	711	644.47
CA60	2	5.0	200	80	160.00
	3	5.0	115	1150	1322.50
	4	5.0	14	73	1120
CA50	5	8.0	1	1080	1080
	6	8.0	4	240	960
	7	8.0	8	250	2000
	8	8.0	2	175	350
	9	8.0	1	240	1330
	10	8.0	1	240	1330
	11	8.0	1	570	570
	12	8.0	1	688	688
	13	8.0	1	195	195
	14	8.0	1	195	195
	15	8.0	1	121	121
	16	8.0	1	373	746
	17	8.0	3	268	804
	18	8.0	2	268	536
	19	8.0	1	193	193
	20	8.0	2	140	280
	21	8.0	2	238	238
	22	8.0	2	129	258
	23	8.0	2	129	258
	24	8.0	1	741	741
	25	8.0	1	185	185
	26	8.0	1	296	296
	27	8.0	1	296	296
	28	8.0	3	124	372
	29	8.0	1	230	230
	30	8.0	1	1095	1095
	31	8.0	1	1095	1095
	32	8.0	1	880	880
	33	8.0	2	293	586
	34	8.0	1	47	47
	35	8.0	1	34	34
	36	8.0	1	154	154
	37	8.0	1	232	232
	38	8.0	1	67	67
	39	8.0	1	67	67
	40	8.0	1	186	186
	41	8.0	2	277	554
	42	8.0	2	315	630
	43	8.0	1	712	712
	44	8.0	1	699	699
	45	8.0	1	699	699
	46	8.0	6	92	552
	47	8.0	1	159	159
	48	8.0	1	270	270
	49	8.0	1	718	718
	50	8.0	1	718	718
	51	8.0	1	309	309
	52	8.0	1	309	309
	53	8.0	1	883	883
	54	8.0	2	393	786
	55	8.0	2	210	420
	56	8.0	2	568	1136
	57	8.0	2	568	1136
	58	8.0	2	401	802
	59	8.0	1	216	216
	60	8.0	1	216	216
	61	8.0	1	1050	1050
	62	8.0	1	300	300
	63	8.0	1	354	354
	64	8.0	2	422	844
	65	8.0	2	422	844
	66	8.0	1	680	680
	67	8.0	1	276	276
	68	8.0	1	269	269
	69	8.0	1	236	236
	70	8.0	1	1030	1030
	71	10.0	1	3016	3016
	72	10.0	1	3091	3091
	73	10.0	1	3091	3091
	74	10.0	1	2961	2961
	75	10.0	6	1188	7188
	76	10.0	2	1044	2088
	77	10.0	2	214	428
	78	10.0	1	1150	1150
	79	10.0	1	1150	1150
	80	10.0	3	575	1725
	81	10.0	1	372	372
	82	10.0	1	2961	2961
	83	10.0	1	2961	2961
	84	10.0	1	2276	2276
	85	10.0	3	1155	3465
	86	10.0	1	1155	1155
	87	10.0	1	787	2361
	88	10.0	3	609	1827
	89	10.0	2	1044	2088
	90	10.0	2	310	620
	91	10.0	2	310	620
	92	10.0	2	309	618
	93	10.0	2	1080	2160
	94	10.0	1	299	299
	95	10.0	2	547	1094
	96	10.0	2	547	1094
	97	10.0	2	1110	2220
	98	10.0	3	1105	3316
	99	10.0	3	1105	3316
	100	10.0	3	1088	3276
	101	10.0	3	1059	3177
	102	10.0	4	1040	4160
	103	10.0	4	402	1608
	104	10.0	4	1040	4160
	105	10.0	2	1650	3300
	106	10.0	1	348	348
	107	10.0	1	1044	1044
	108	10.0	2	787	1574
	109	10.0	3	609	1827
	110	10.0	2	1044	2088
	111	10.0	2	188	376
	112	10.0	2	188	376
	113	10.0	1	196	196
	114	10.0	1	280	280
	115	10.0	1	3056	3056
	116	10.0	1	299	299
	117	10.0	1	3056	3056
	118	10.0	1	299	299
	119	10.0	4	511	2124
	120	10.0	4	511	2124
	121	10.0	4	1096	4384
	122	10.0	6	896	5376
	123	10.0	2	610	2210
	124	10.0	2	1435	2880
	125	10.0	2	1435	2880
	126	10.0	1	270	270
	127	10.0	2	912	1824
	128	10.0	2	305	610
	129	10.0	2	825	1650
	130	10.0	2	825	1650
	131	10.0	1	991	991
	132	10.0	3	826	2478
	133	10.0	2	826	1652
	134	10.0	2	568	1136
	135	10.0	3	546	1638
	136	10.0	3	1040	3120
	137	10.0	2	806	1612
	138	10.0	2	305	610
	139	10.0	2	568	1136
	140	10.0	1	149	149
	141	10.0	2	200	400
	142	10.0	2	456	912
	143	12.5	2	1037	2074
	144	12.5	2	1037	2074
	145	12.5	4	1037	4788
	146	12.5	2	1037	2074
	147	12.5	2	1037	972
	148	12.5	2	1081	2160
	149	12.5	2	1081	2160
	150	12.5	2	1061	2122
	151	12.5	2	1061	2122
	152	12.5	2	815	1630
	153	12.5	2	205	410
	154	12.5	2	718	1436
	155	12.5	2	699	916

Resumo do a-o

AÇO	DIAM	C.TOTAL	PESO + 10 %
		240	240
CA50	8.0	511.1	168
	10.0	1118.8	736.8
	12.5	1914.6	1263.3
CA60	5.0	1536.6	213.9
PESO TOTAL			
CA50	1102.3		
CA60	213.9		

Vol. de concreto total (C-30) = 19.43 m
Cota de forma total = 296.3 m2

EMPROTEC
PROGRESSO E FUTURO

EMPRESA DE PROJETOS TÉCNICOS E CONSTRUÇÃO CIVIL

PROJETO DE FUNDAÇÕES E ESTRUTURAS DO LABORATÓRIO DE FITOTERAPIA

DETALHAMENTO DAS VIGAS DO PAVIMENTO SUPERIOR.