

PLANTA LOCAÇÃO FUNDAÇÃO

PLANTA VIGAS TERREO

Referencial	Dimensão (cm)	Área (cm²)	Armadura ref. X	Armadura ref. Y
P1	120x100	40	4B 12/500	4B 12/500
P2, P3 e P4	140x140	40	6B 12/500	6B 12/500
P5	120x100	35	6B 10/500	6B 10/500
P6 e P8	120x100	30	4B 10/500	4B 10/500
P7 e P9	170x100	50	6B 12/500	6B 12/500
P10	140x100	30	4B 10/500	4B 10/500
P11 e P17	100x200	45	10B 10/12	10B 10/12
P12	80x80	20	4B 10/500	4B 10/500
P13 e P19	120x100	35	6B 10/500	6B 10/500
P14, P15 e P20	130x130	40	4B 12/500	4B 12/500
P16	130x100	30	6B 10/500	6B 10/500
P18	120x100	30	7B 12/500	6B 12/500
P21	100x100	20	4B 10/500	4B 10/500
P22	100x100	35	6B 10/500	6B 10/500
P23	130x100	40	6B 12/500	4B 12/500
P24 e P25	130x100	40	6B 12/500	4B 12/500
P26 e P28	120x100	30	7B 12/500	6B 12/500
P29	140x100	30	10B 10/12	10B 10/12
P30	120x100	30	6B 10/500	6B 10/500
P31	100x100	20	4B 10/500	4B 10/500
P32	100x100	30	6B 10/500	6B 10/500
P34	180x100	40	6B 12/500	4B 12/500

Fundação:
Fundação
Concreto C30, em geral
Aço em fundações: CA-50 e CA-60
Escala: 1:50

Elemento	Superfície (m²)	Volumen (m³)	Peso (kg)
Vigas	175,00	33,75	12.870
Pilares	44,54	-	2.800
Total	-	33,75	15.670
Índice (kg/m²)	-	-	0,431
Superfície total	55,33 m²	-	-

PLANTA VIGAS PAV 1

PLANTA VIGAS COBERTURA

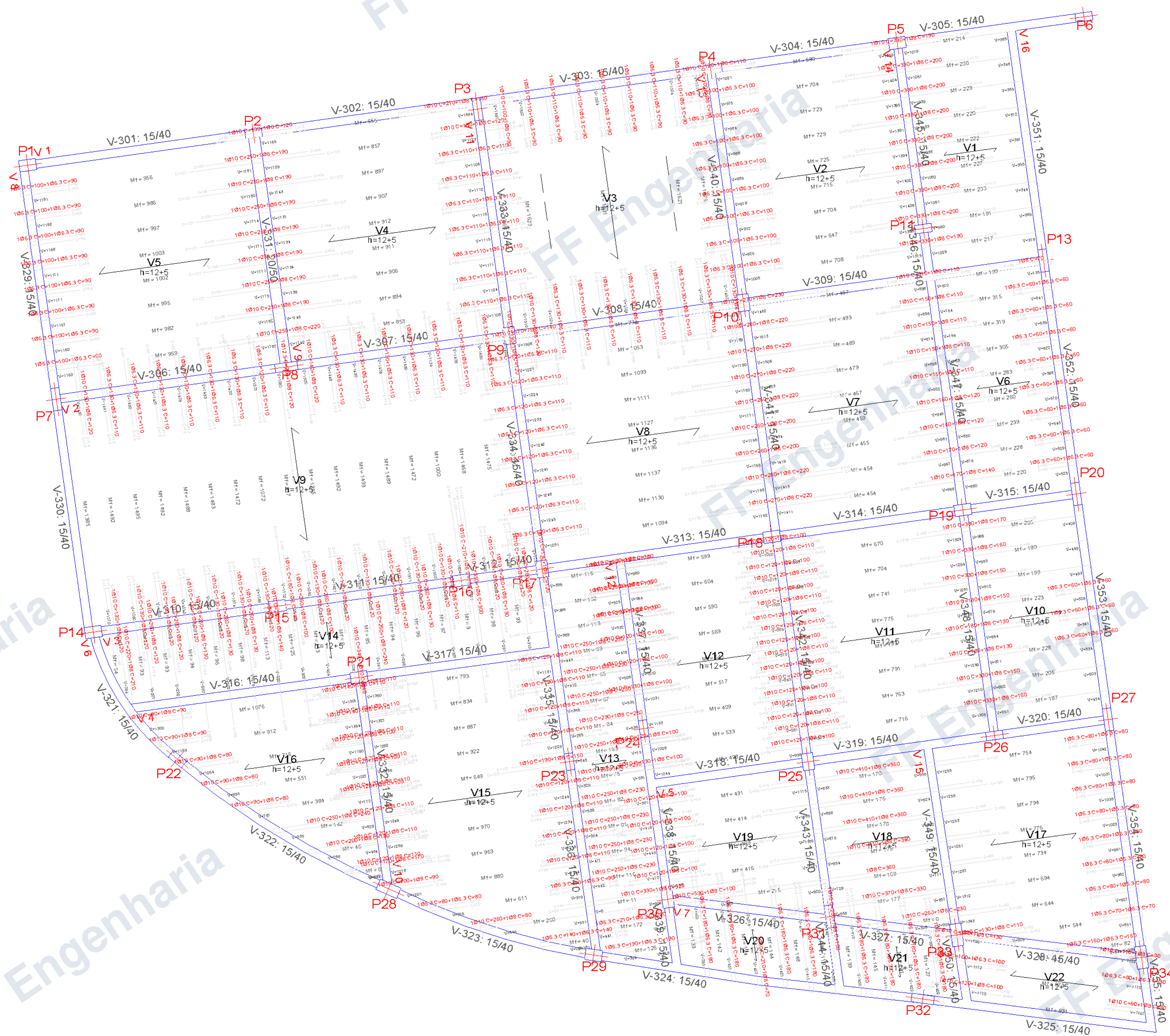
Elemento	Superfície (m²)	Volumen (m³)	Peso (kg)
Lajes de vigas	234,19	23,42	8.542
Vigas	108,08	21,62	7.920
Pilares	127,85	-	7.910
Escadas	24,82	4,96	1.793
Total	286,94	49,99	23.165
Índice (kg/m²)	-	-	0,173
Superfície total	252,00 m²	-	-

Tablão de características de lajes de vigas (Diagrama 2):
Laje de vigas: 12 cm
Espessura camada de compressão: 5 cm
Esp. total: 17 cm
Revestimento: De poliestireno
Largura de nervura: 12 cm
Volume de concreto: 0,008 m³/m²
Peso próprio: 0,22 kN/m² (concreto), 0,20 kN/m² (carga)
Nota: Cálculo em estado limite último, a partir dos dados de projeto, considerando a ação própria e as ações variáveis.

Elemento	Superfície (m²)	Volumen (m³)	Peso (kg)
Lajes de vigas	82,25	24,68	8.910
Vigas	106,36	-	6.080
Pilares	106,36	-	6.080
Total	295,00	30,76	21.070
Índice (kg/m²)	-	-	0,144
Superfície total	270,00 m²	-	-

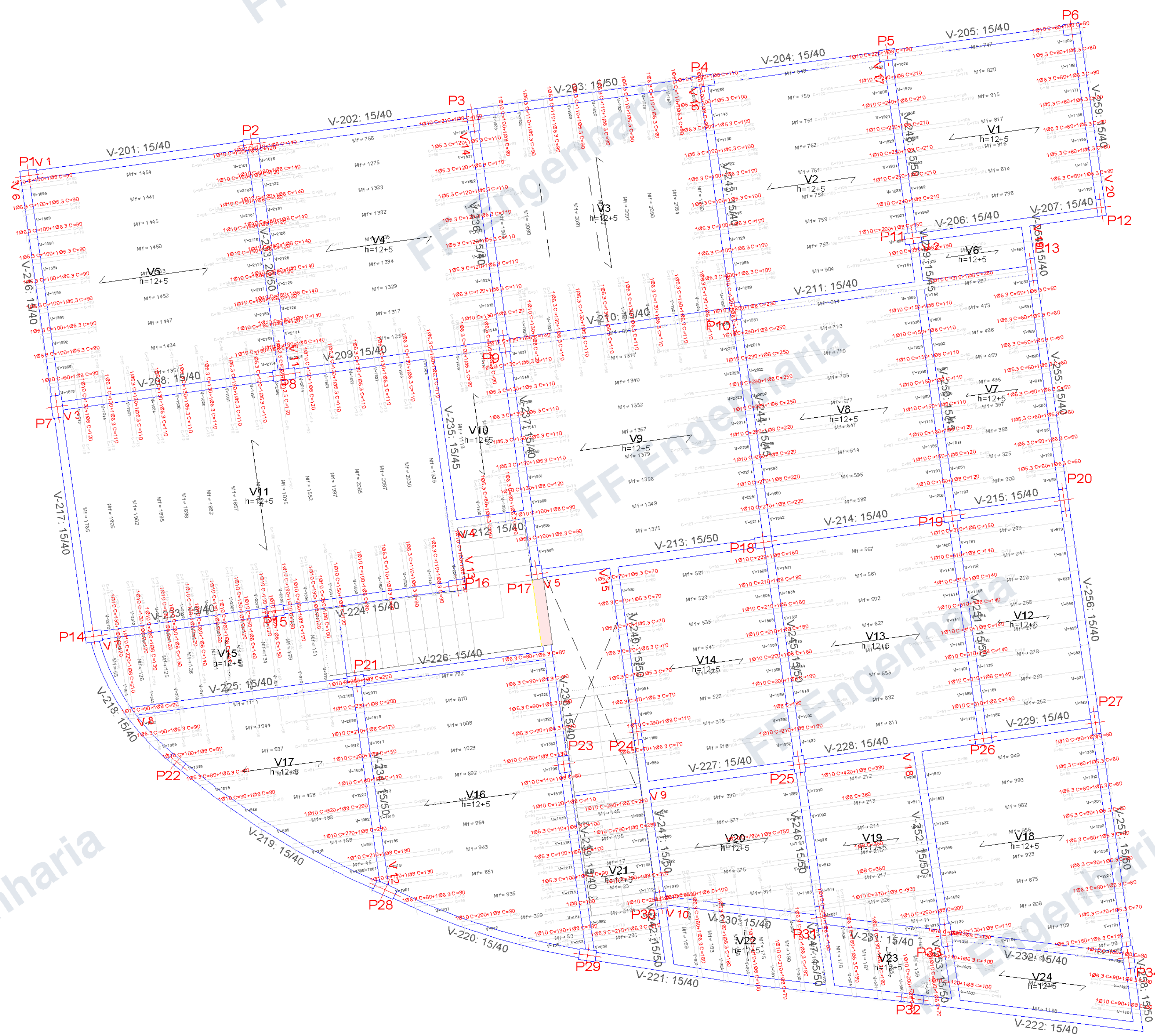
Tablão de características de lajes de vigas (Diagrama 2):
Laje de vigas: 12 cm
Espessura camada de compressão: 5 cm
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Revestimento: De poliestireno
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Nota: Cálculo em estado limite último, a partir dos dados de projeto, considerando a ação própria e as ações variáveis.

PLANTA LAJE COBERTURA PLANTA LAJE PAVIMENTO 1



Cobertura	
Fôrmas	
Concreto: C25, em geral	
Aços em lajes: CA-50 e CA-60	
Mf: Momento fletor de cálculo por metro de largura (kgf x mm)	
V: Esforço cortante de cálculo por metro de largura (kgf/mm)	
Escala: 1:50	

Tabela de características das lajes de vigotas (Grupo 3)	
LAJE DE VIGOTAS DE CONCRETO	
Altura do bloco/moldes: 12 cm	
Espessura camada de compressão: 5 cm	
Entre-eixos: 45 cm	
Bloco/Moldes: De poliestireno	
Largura da nervura: 12 cm	
Volume de concreto: 0,088 m³/m²	
Peso próprio: 0,23 tm/m² (Simplex), 0,29 tm/m² (Dupla)	
Nota: Consulte os detalhes referentes a unidades com lajes de estrutura principal e das zonas marcadas	

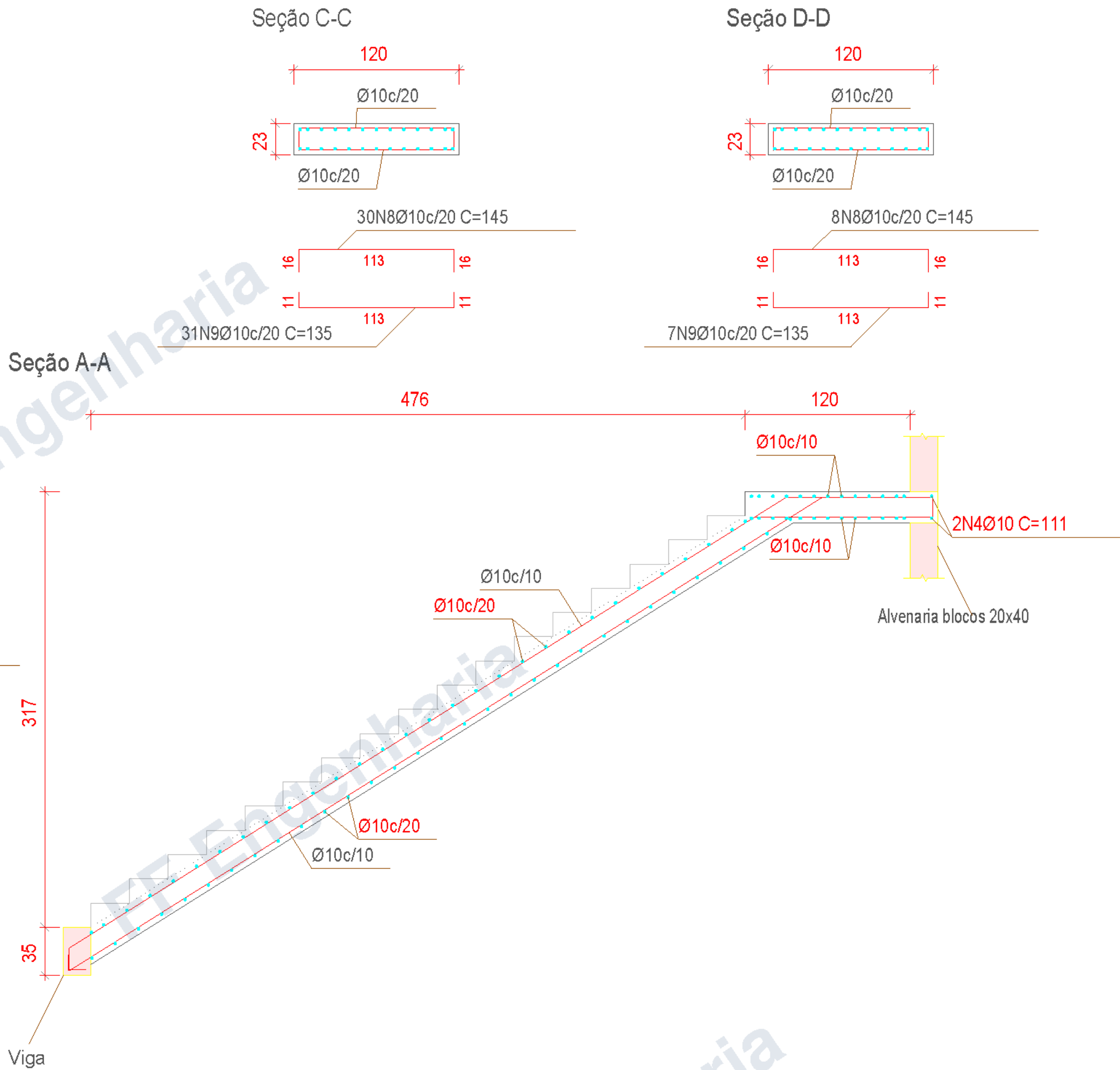
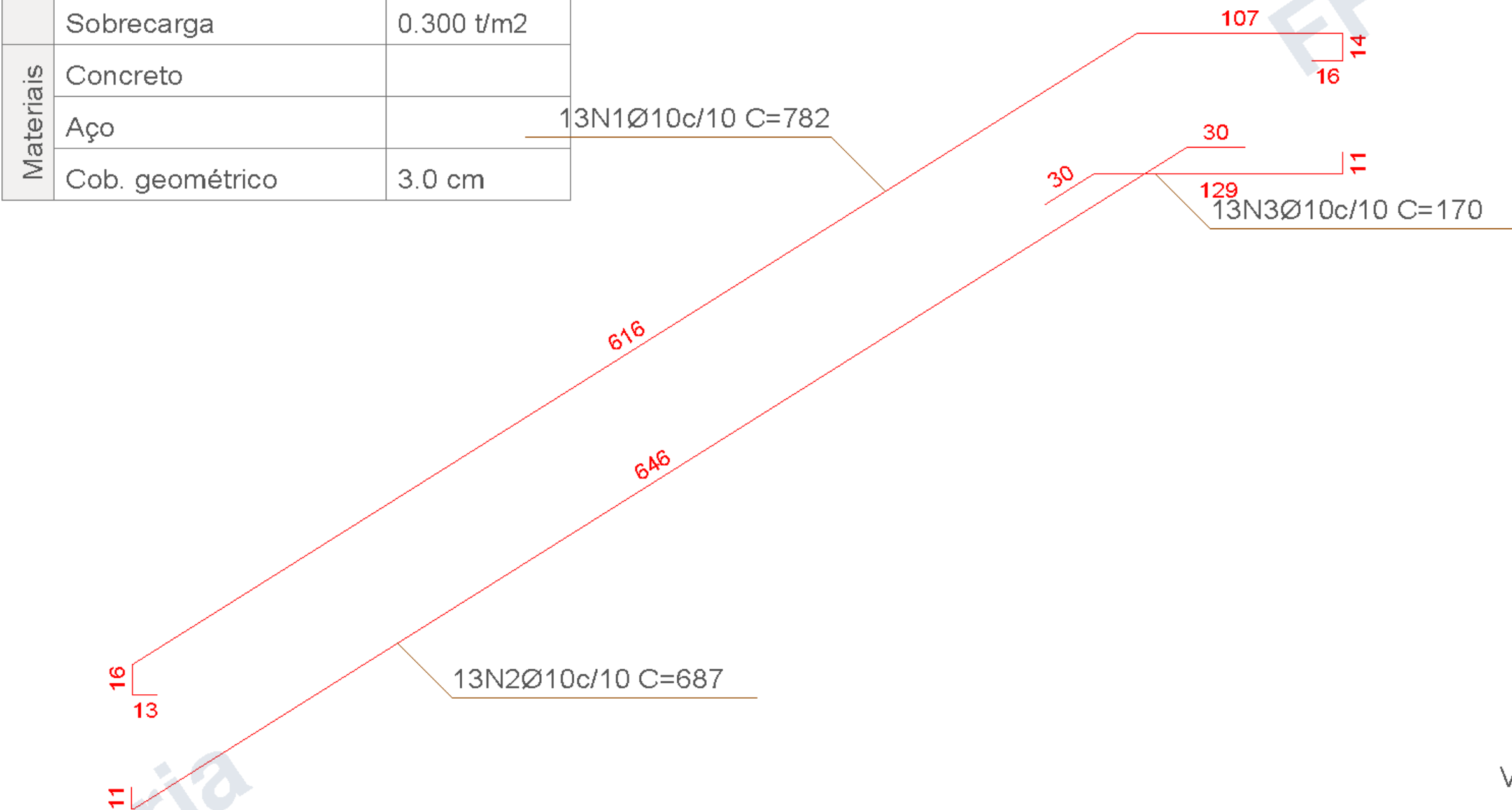


Pavimento 1	
Fôrmas	
Concreto: C25, em geral	
Aços em lajes: CA-50 e CA-60	
Mf: Momento fletor de cálculo por metro de largura (kgf x mm)	
V: Esforço cortante de cálculo por metro de largura (kgf/mm)	
Escala: 1:50	

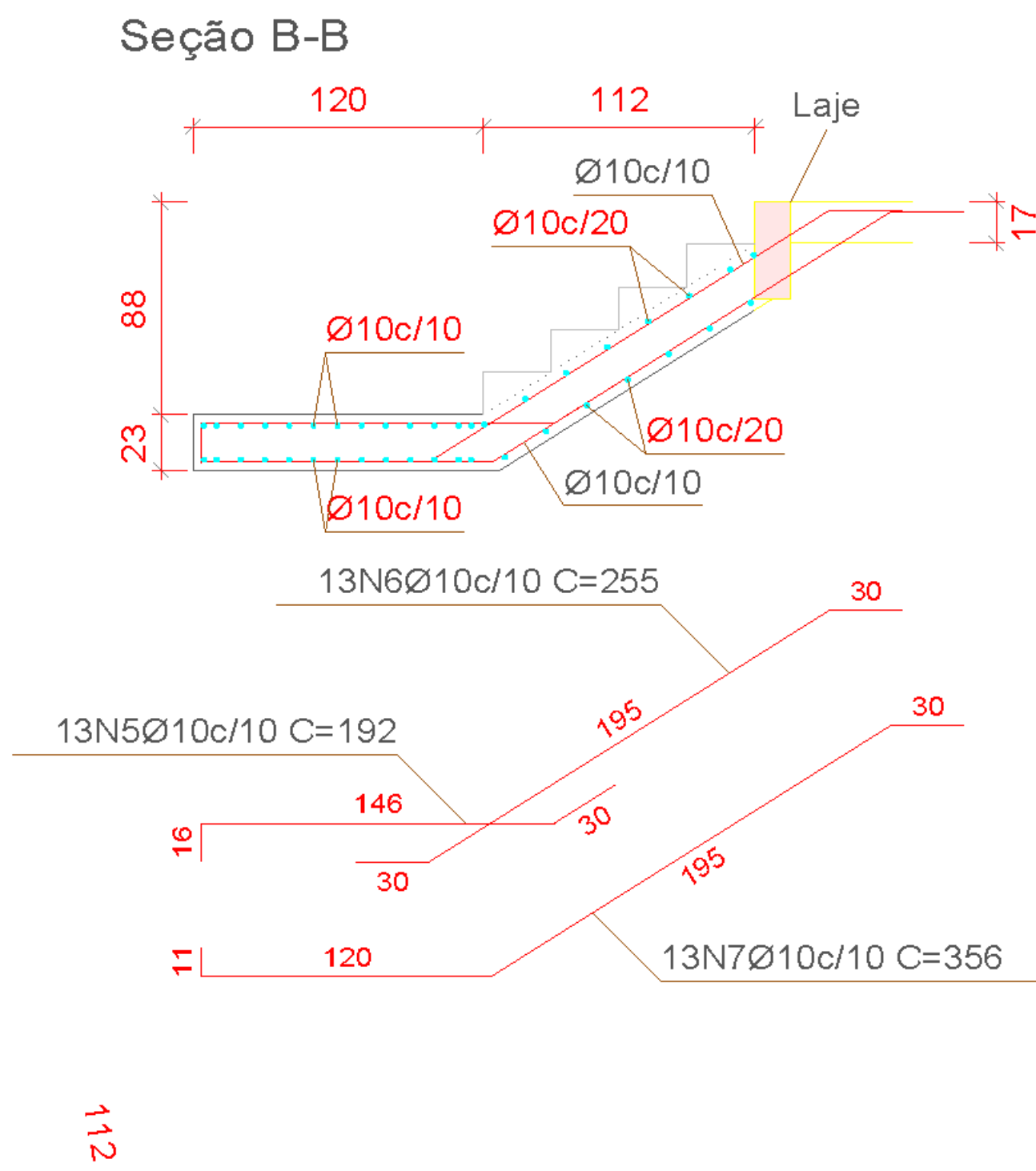
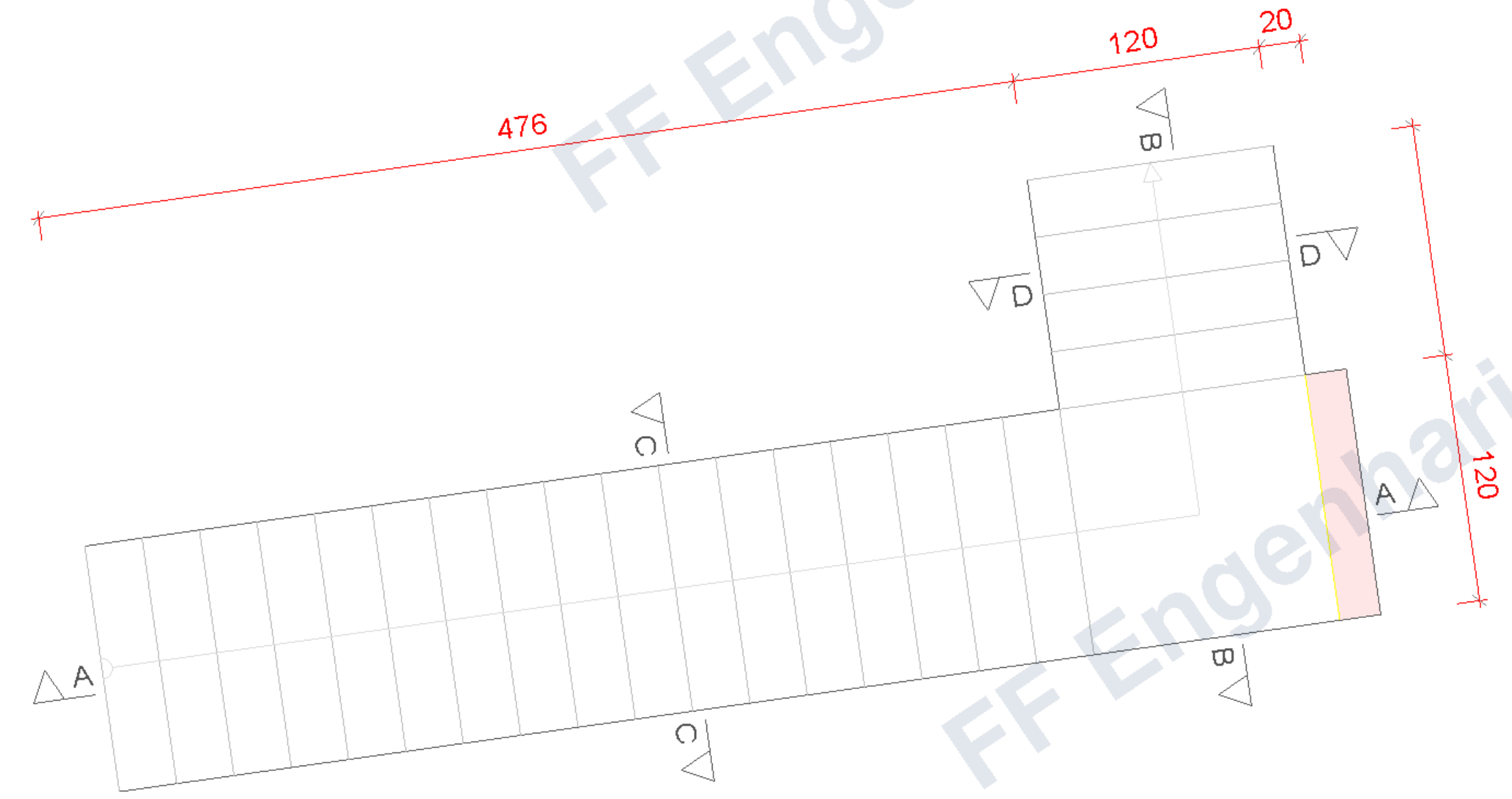
Tabela de características das lajes de vigotas (Grupo 2)	
LAJE DE VIGOTAS DE CONCRETO	
Altura do bloco/moldes: 12 cm	
Espessura camada de compressão: 5 cm	
Entre-eixos: 45 cm	
Bloco/Moldes: De poliestireno	
Largura da nervura: 12 cm	
Volume de concreto: 0,088 m³/m²	
Peso próprio: 0,23 tm/m² (Simplex), 0,29 tm/m² (Dupla)	
Nota: Consulte os detalhes referentes a unidades com lajes de estrutura principal e das zonas marcadas	

Escada salão

Tramo 1		
Geometria	Largura	1.200 m
	Espessura	0.23 m
	Piso	0.280 m
	Espelho	0.176 m
	Desnível que vence	4.05 m
Cargas	Nº de degraus	23
	Piso final	Pavimento 1
	Piso inicial	Terreo
	Peso próprio	0.575 t/m2
	Degraus (Concretado com a laje)	0.186 t/m2
Materiais	Revestimento	0.100 t/m2
	Guarda-corpos	0.300 t/m
	Sobrecarga	0.300 t/m2
Materiais	Concreto	
	Aço	13N1Ø10c/10 C=782
	Cob. geométrico	3.0 cm

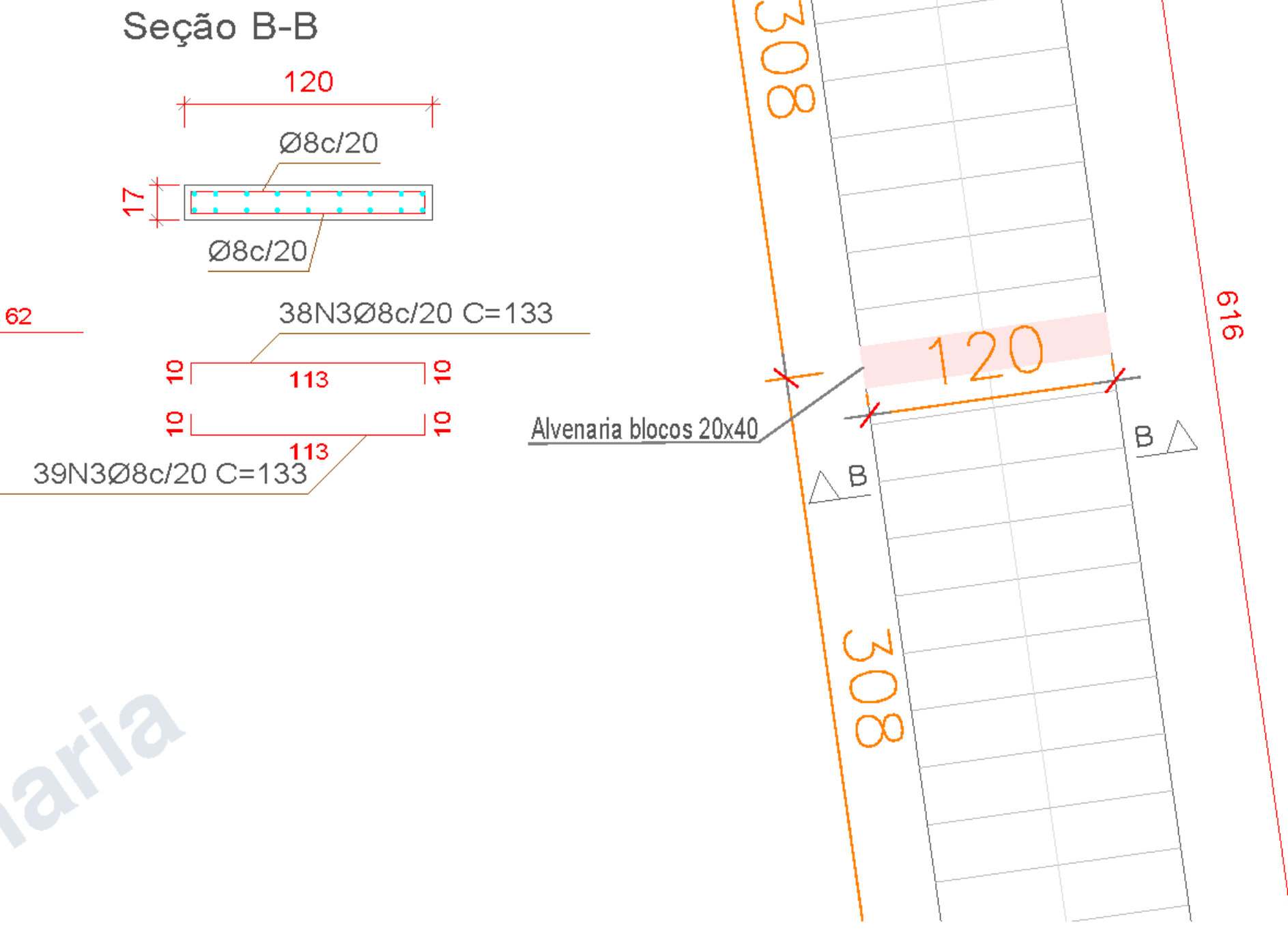
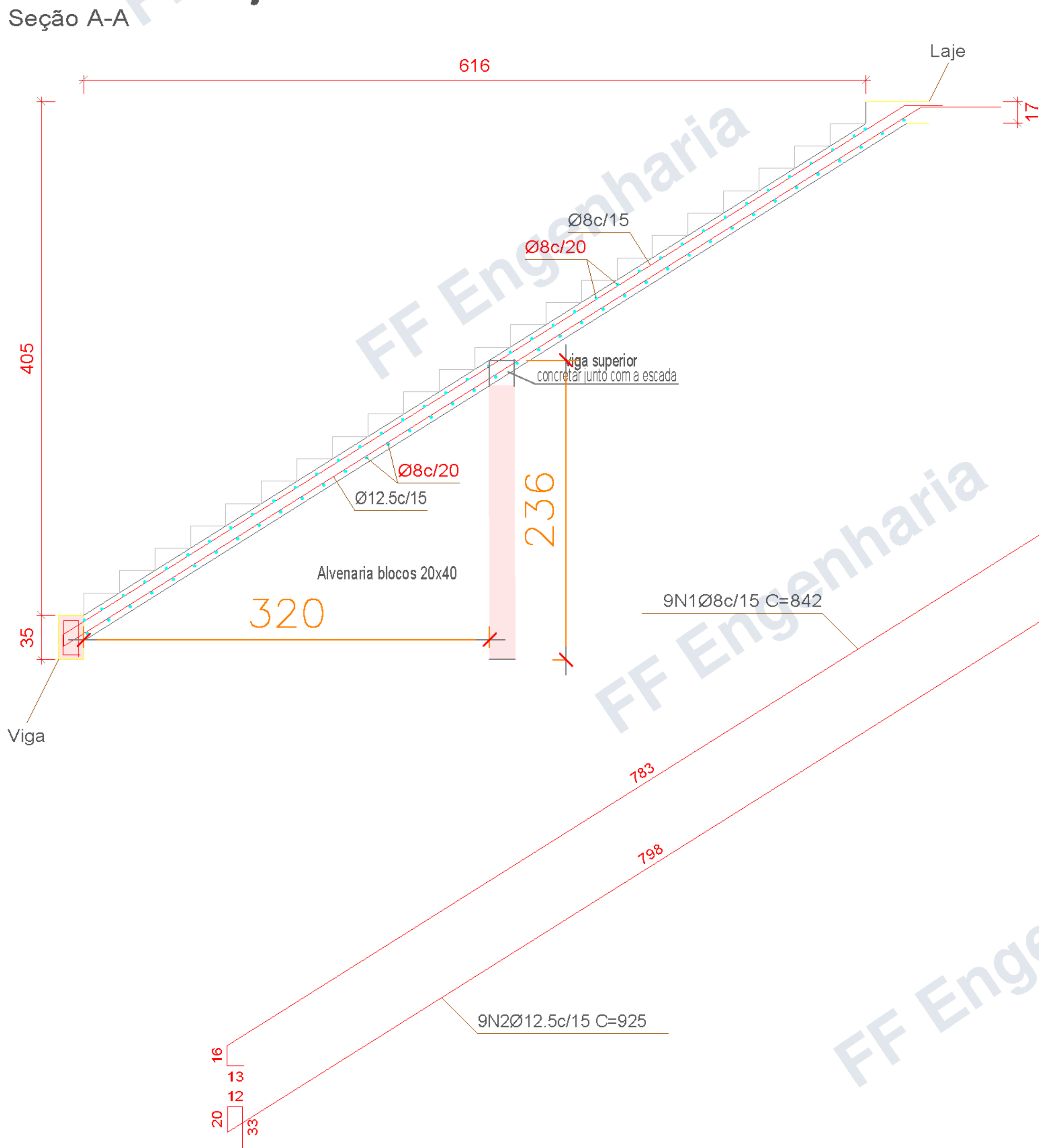
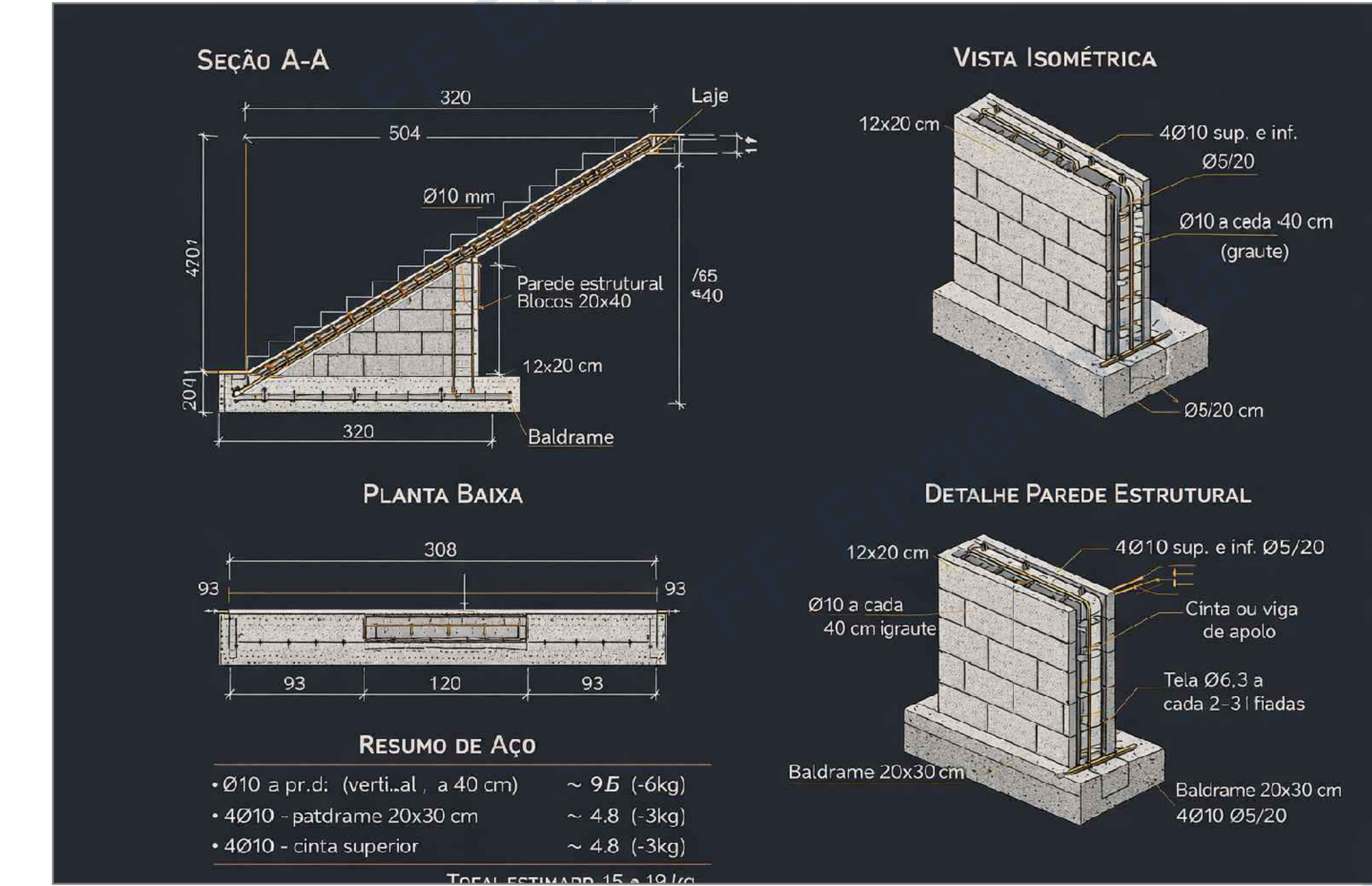


Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
Escada 4-Tramo 1										
	1	Ø10	13	782		782	10166	62.6		
	2	Ø10	13	687		687	8931	55.0		
	3	Ø10	13	170		170	2210	13.6		
	4	Ø10	2	111		111	222	1.4		
	5	Ø10	13	192		192	2496	15.4		
	6	Ø10	13	255		255	3315	20.4		
	7	Ø10	13	356		356	4628	28.5		
	8	Ø10	38	145		145	5510	34.0		
	9	Ø10	38	135		135	5130	31.6		
Total+10%:									288.6	0.0
Ø10:									288.6	0.0
Total:									288.6	0.0
Resumo Aço Escada 4			Comp. total (m)		Peso+10% (kg)		Total			
CA-50 Ø10			426.1		289					

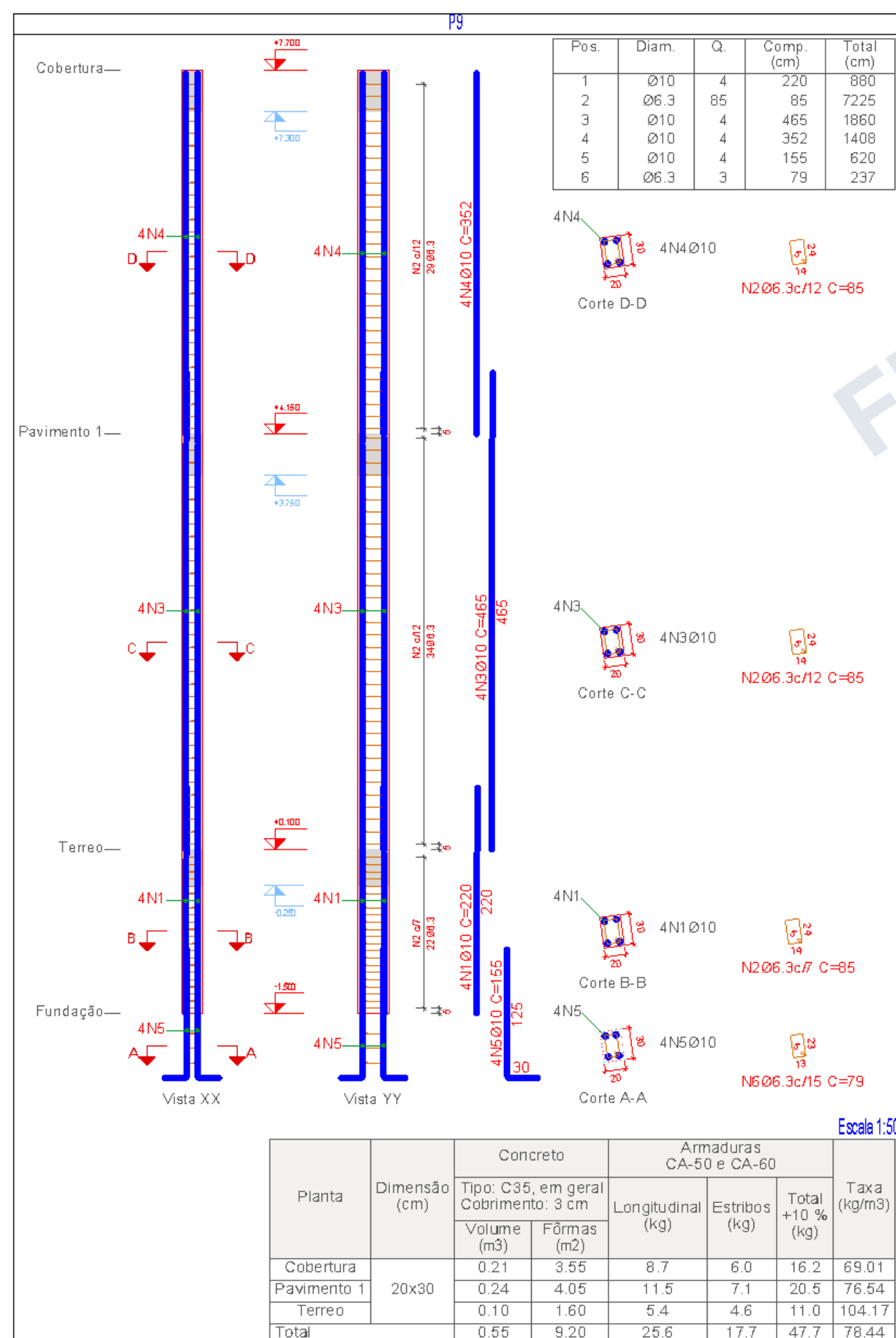
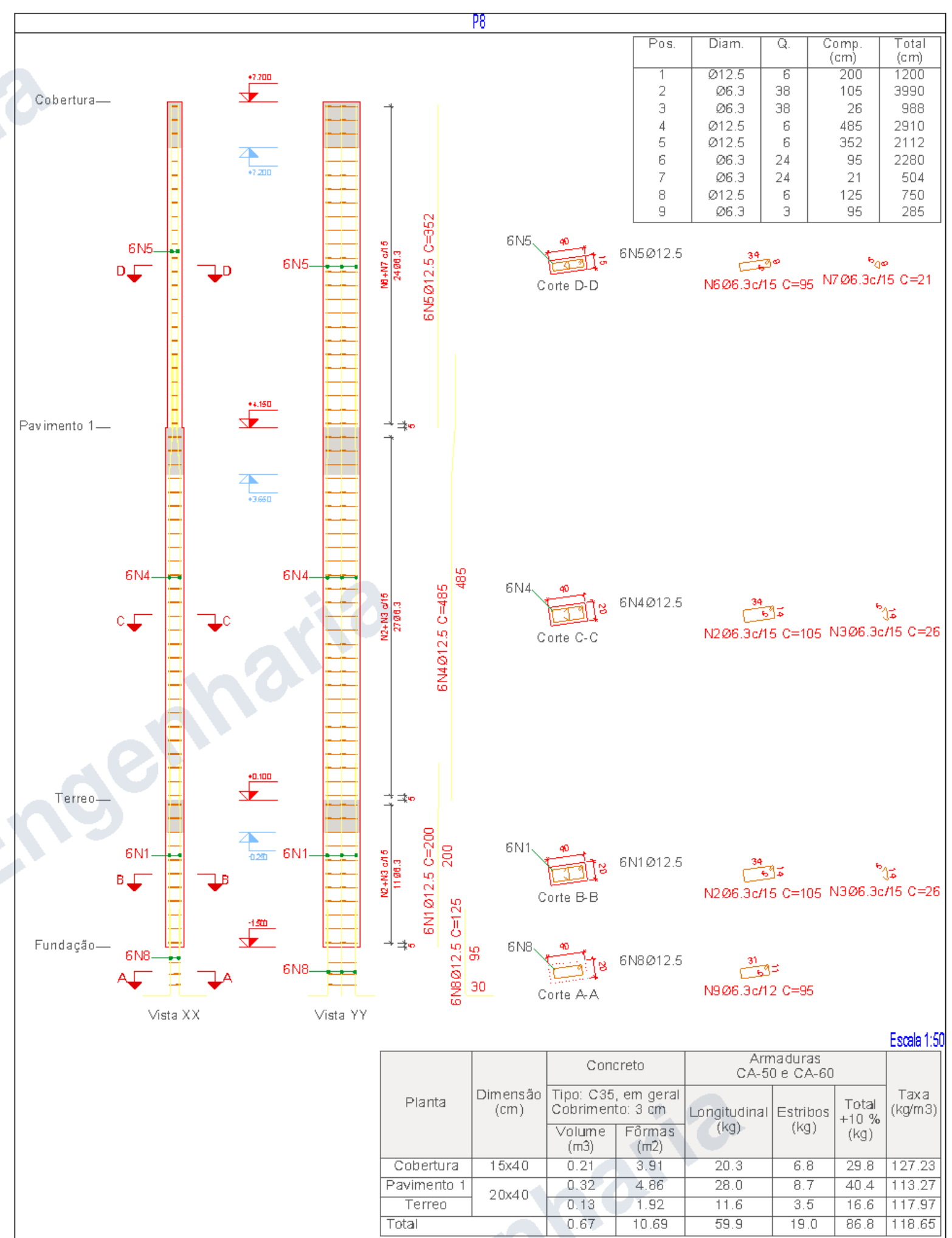
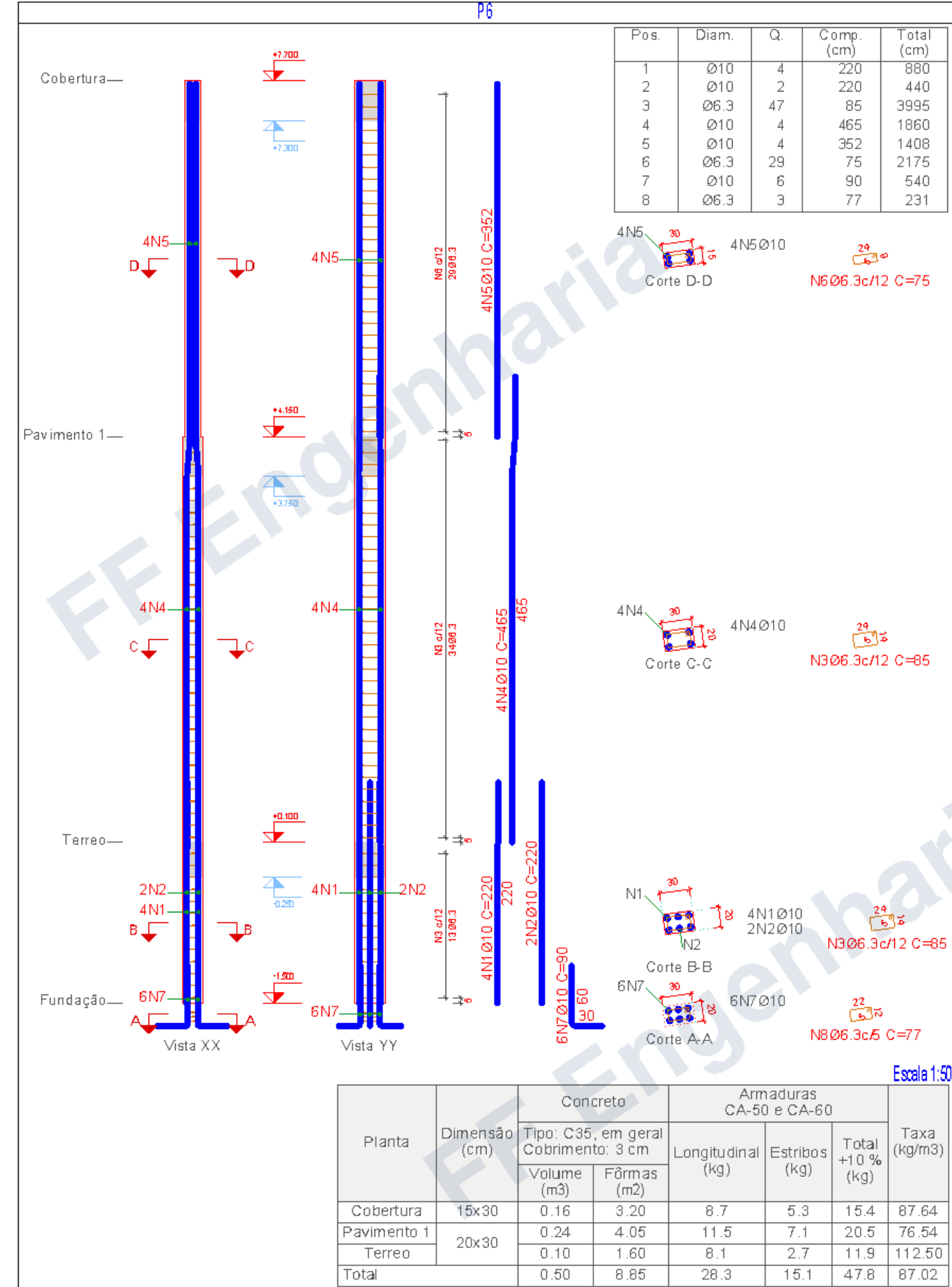
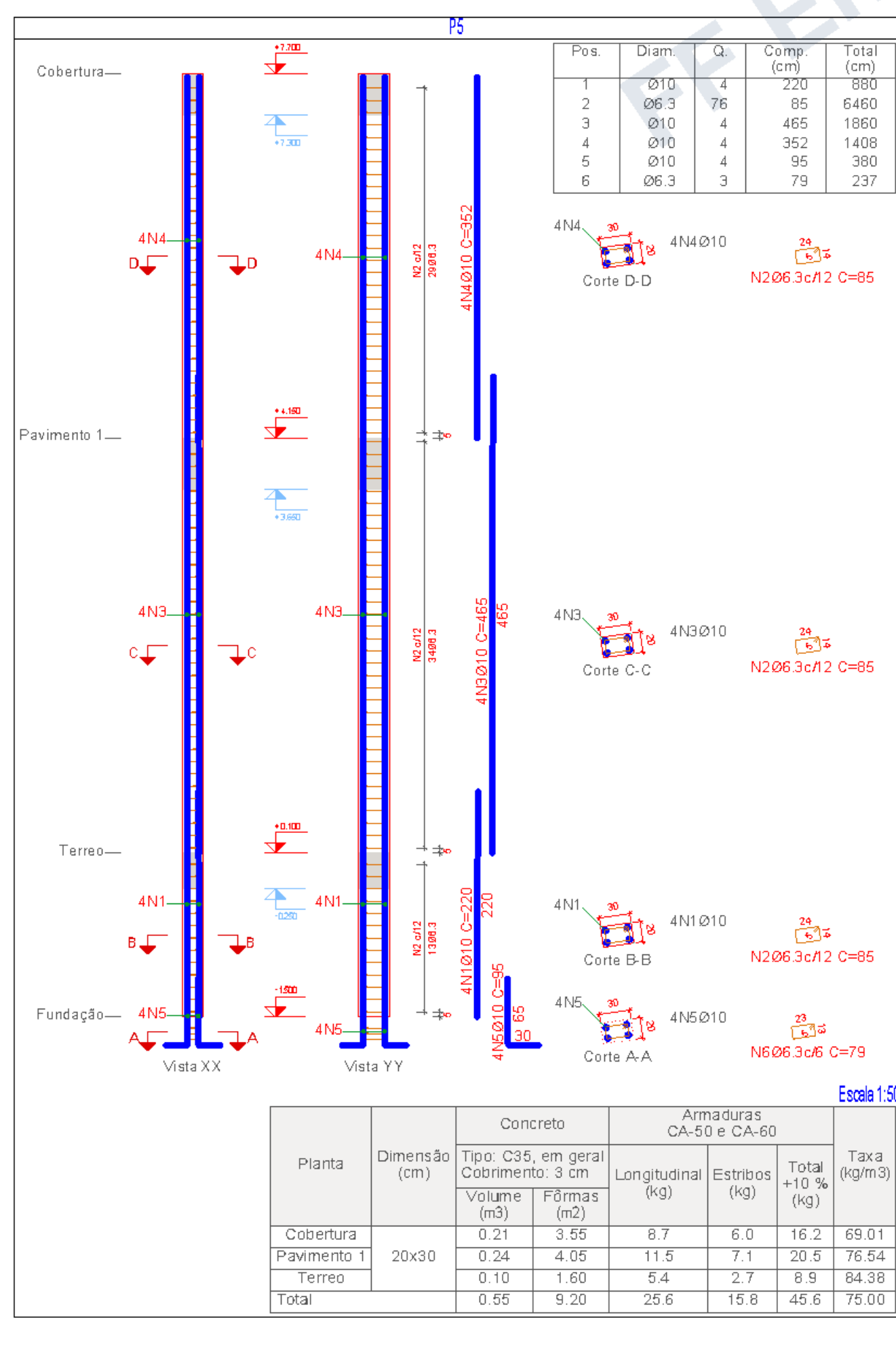
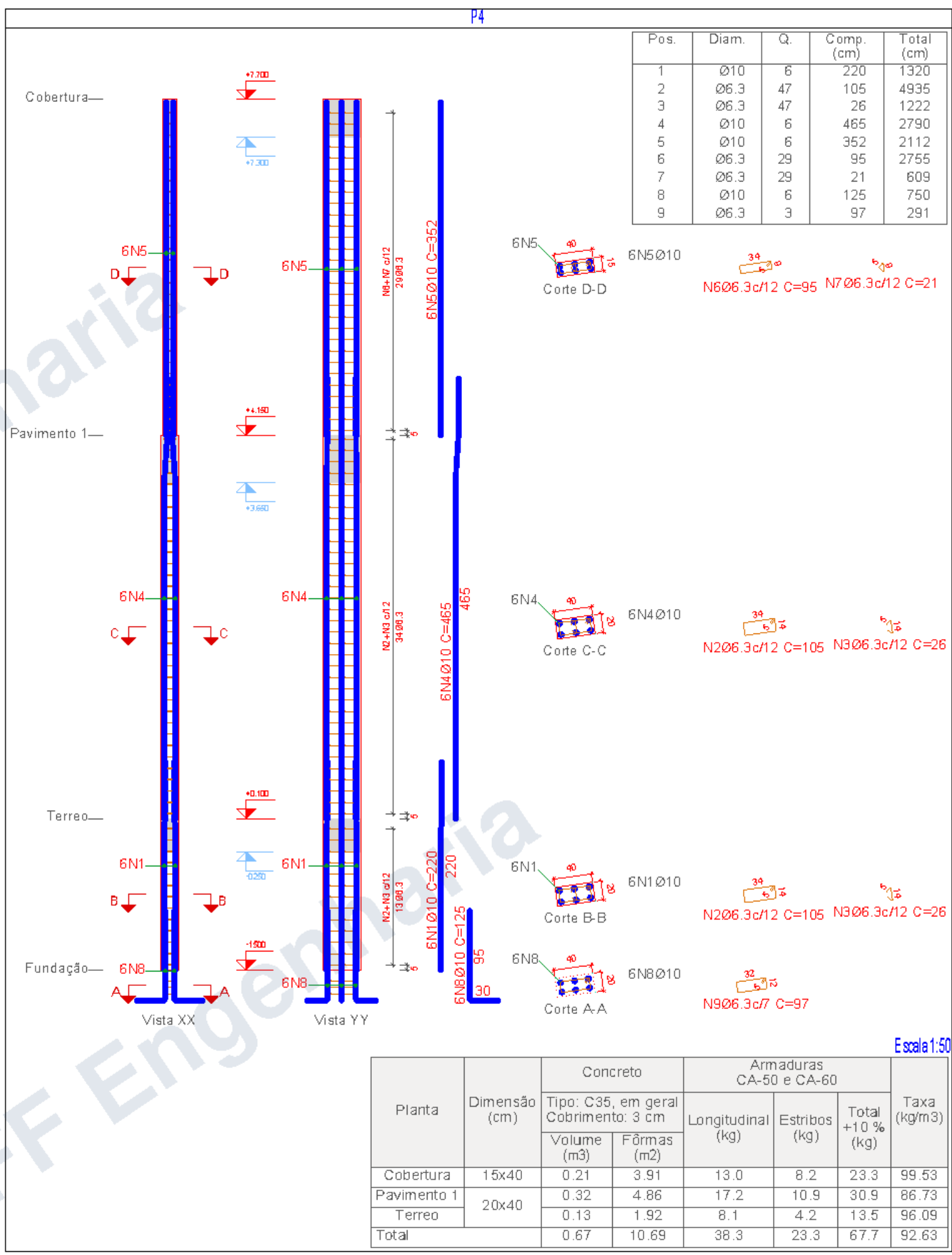
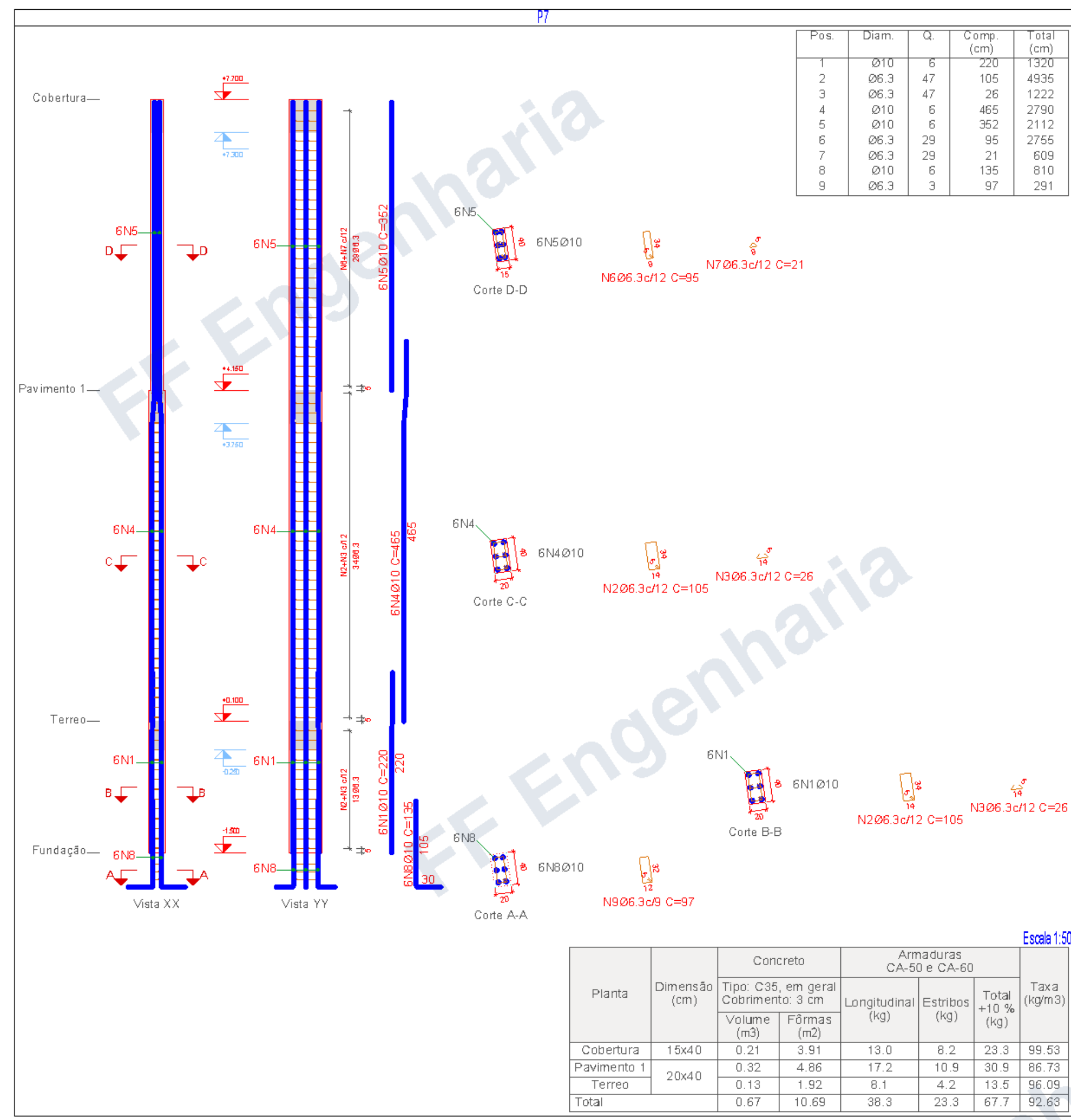
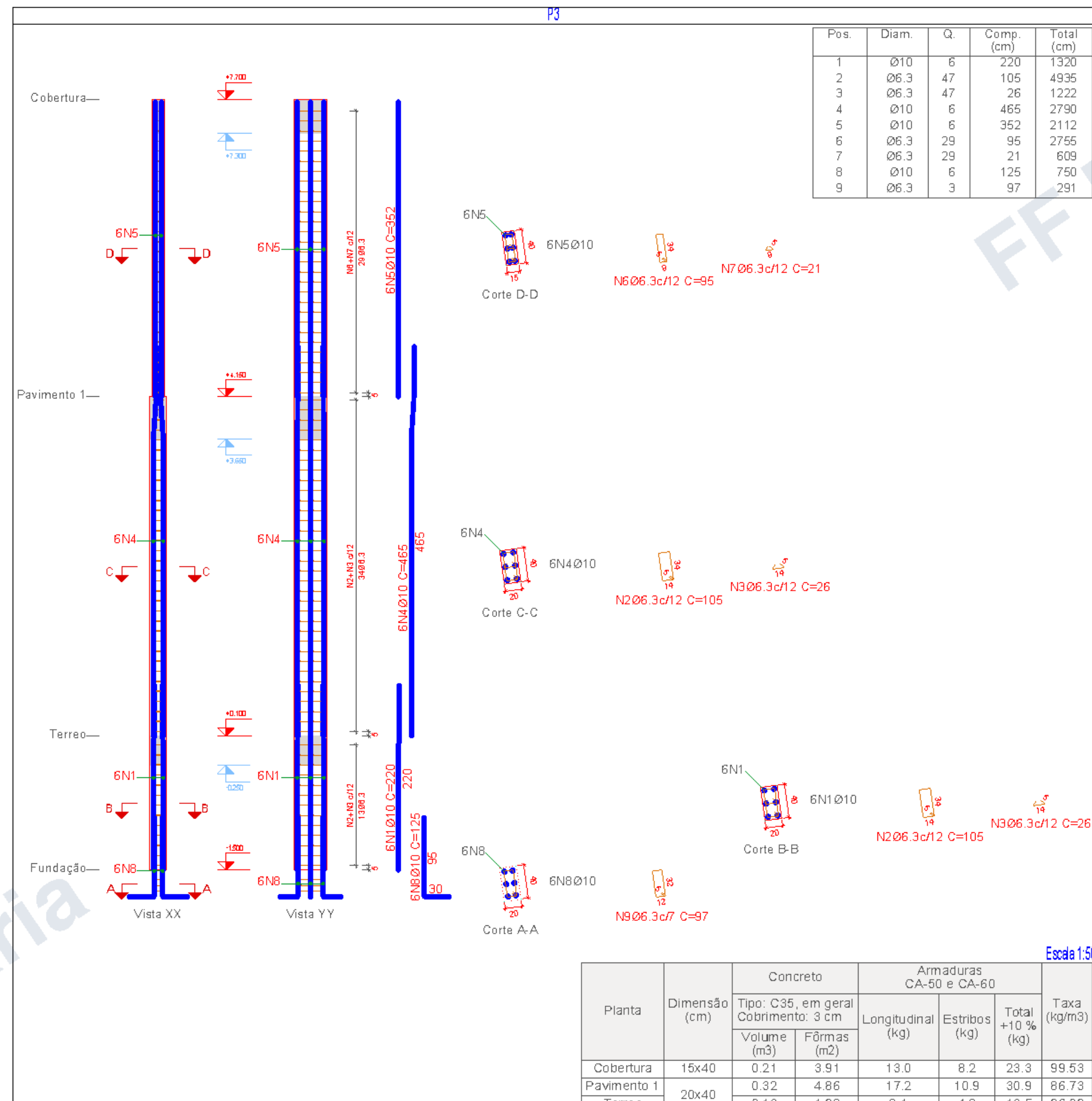
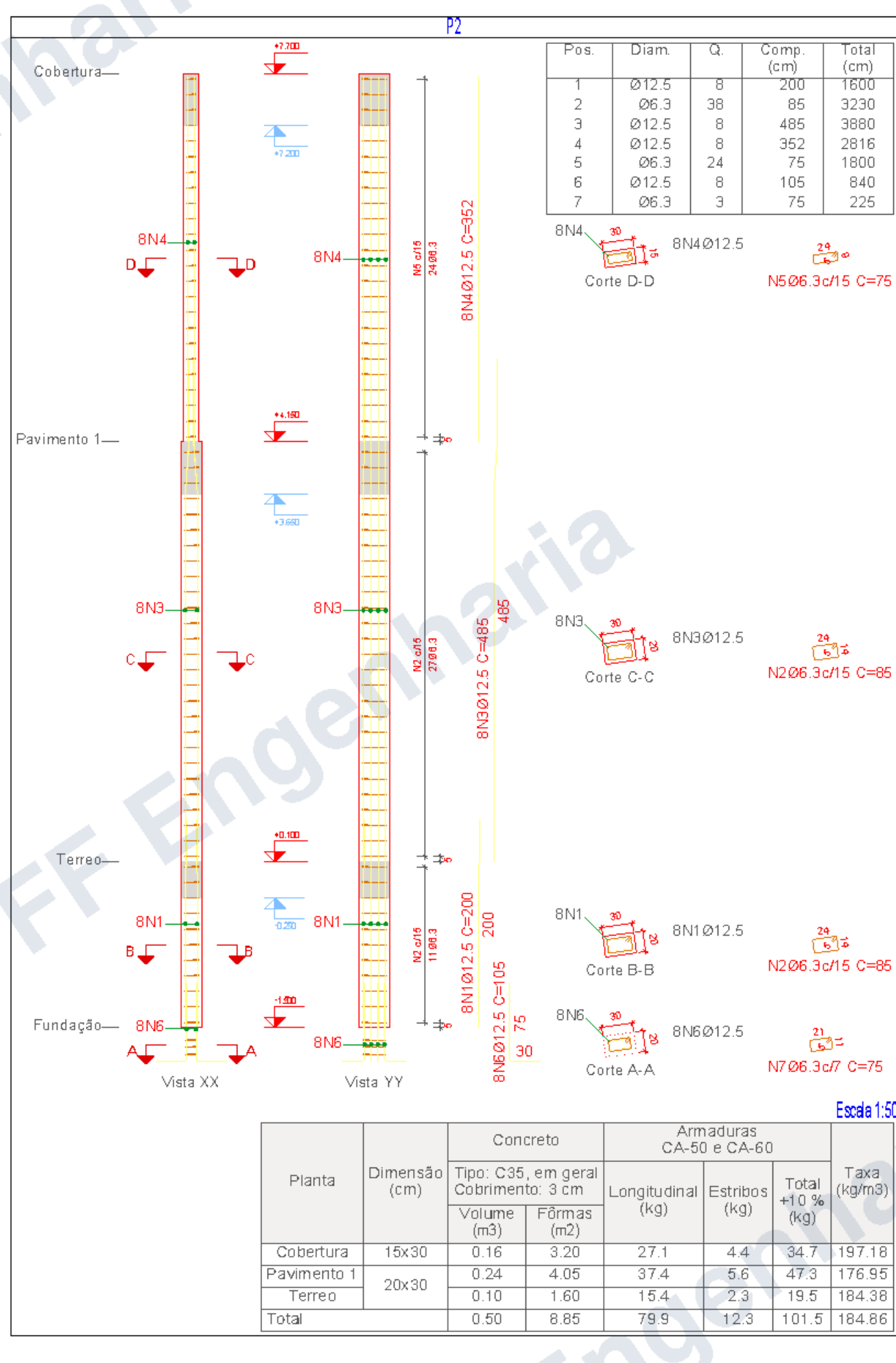
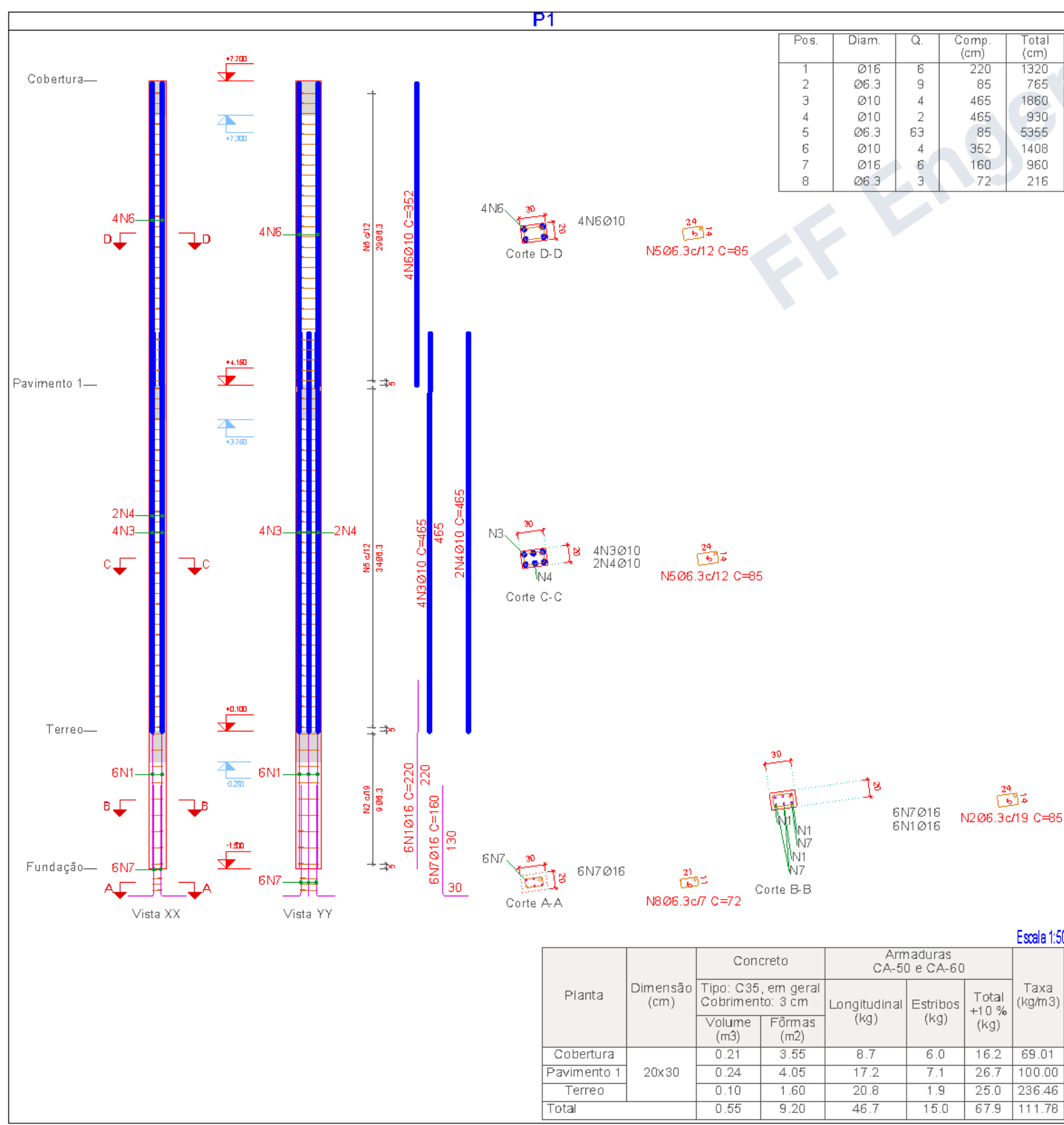


Escada Lojas

Tramo 1		
Geometria	Largura	1.200 m
	Espessura	0.17 m
	Piso	0.280 m
	Espelho	0.176 m
	Desnível que vence	4.05 m
Cargas	Nº de degraus	23
	Piso final	Pavimento 1
	Piso inicial	Terreo
	Peso próprio	0.425 t/m2
	Degraus (Realizado com tijolos)	0.119 t/m2
Materiais	Revestimento	0.100 t/m2
	Guarda-corpos	0.200 t/m
	Sobrecarga	0.250 t/m2
Materiais	Concreto	
	Aço	
	Cob. geométrico	3.0 cm

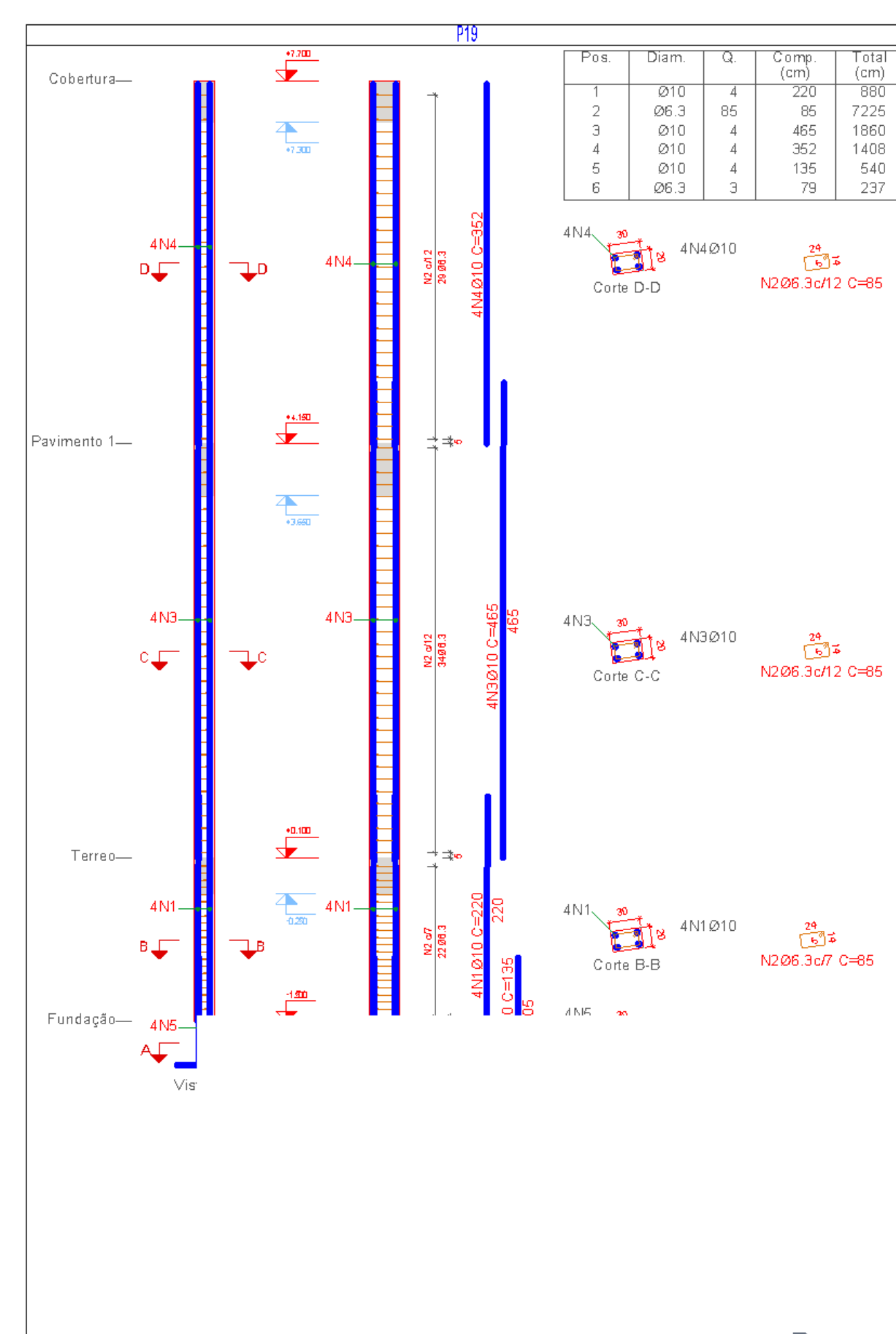
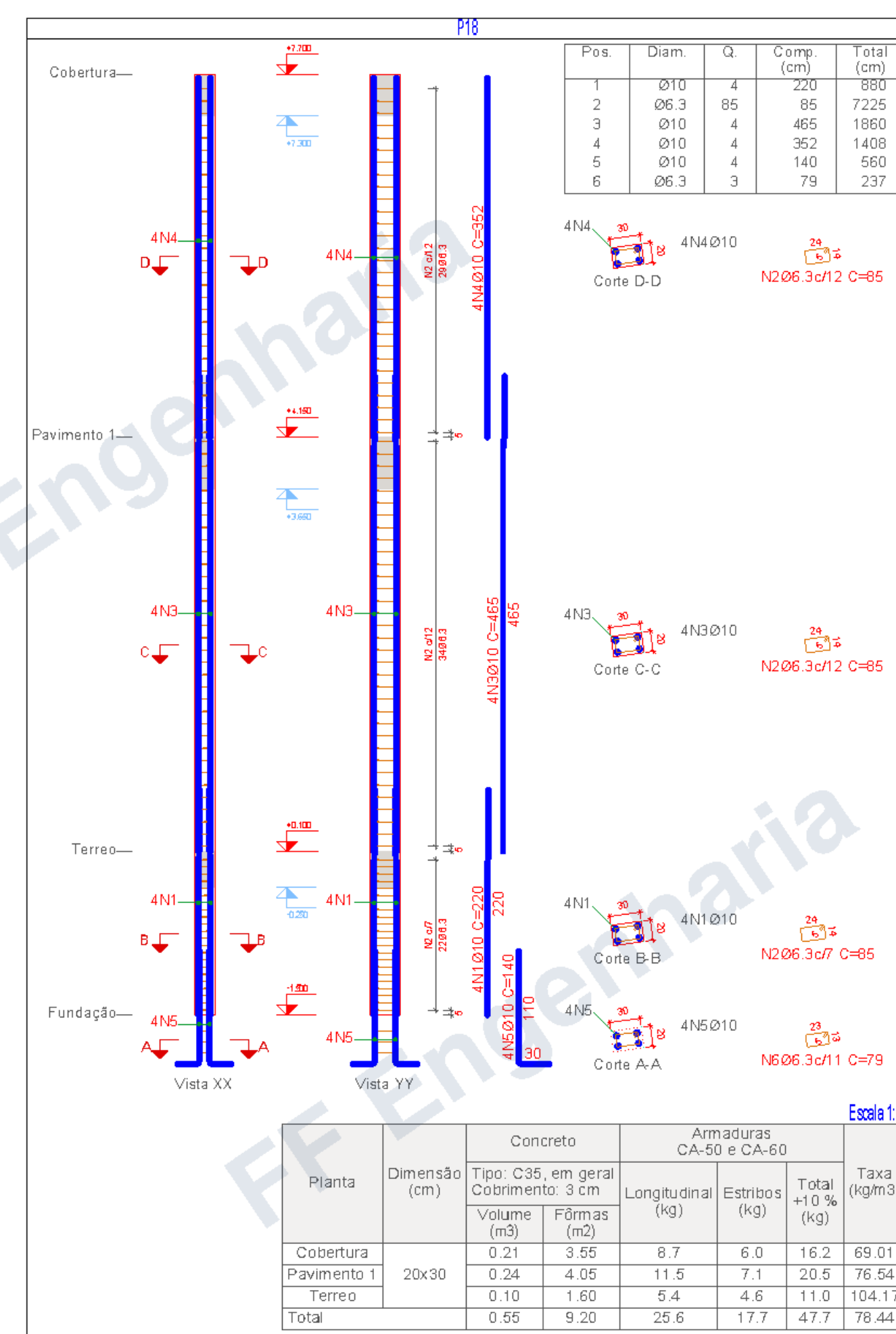
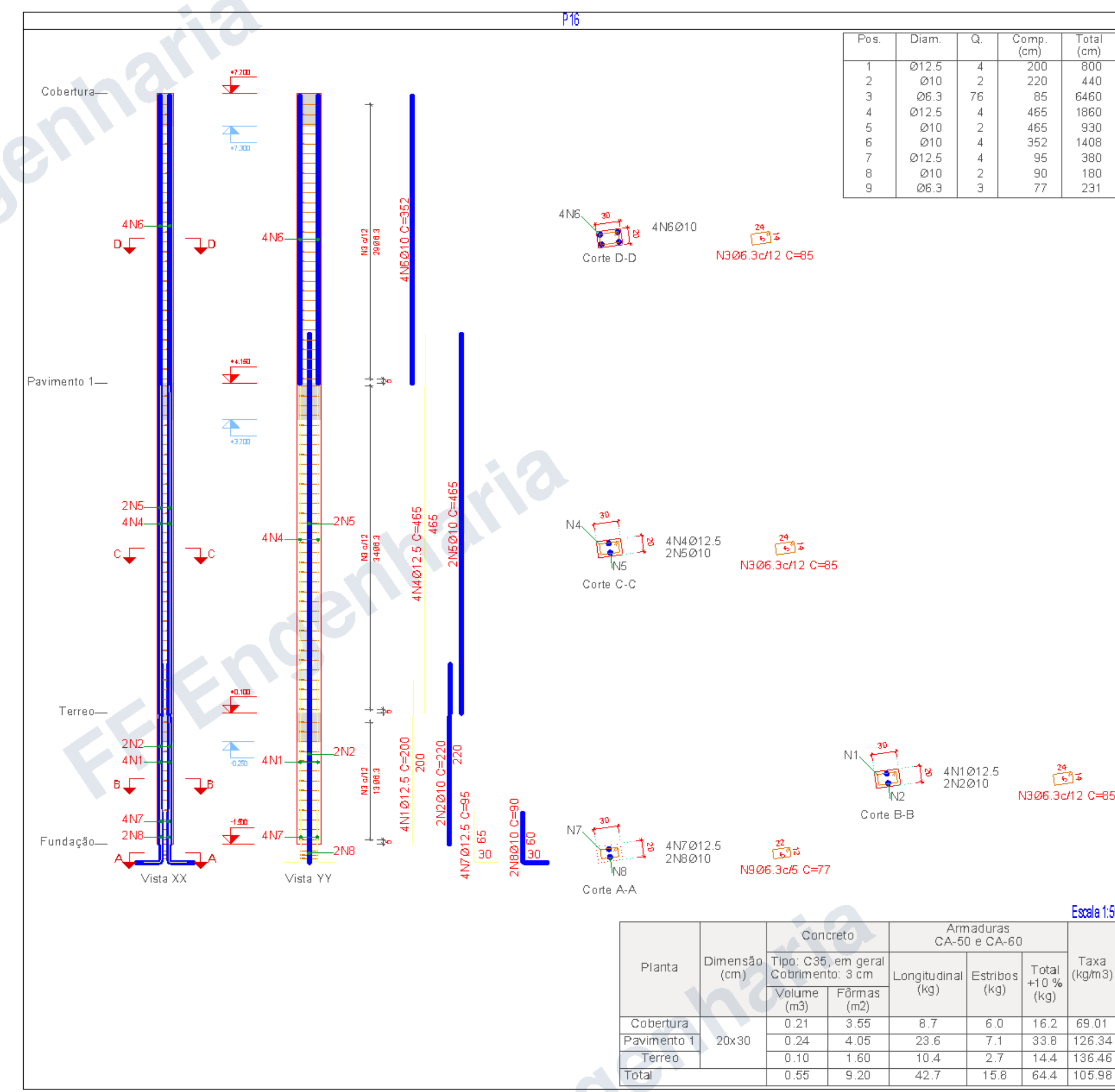
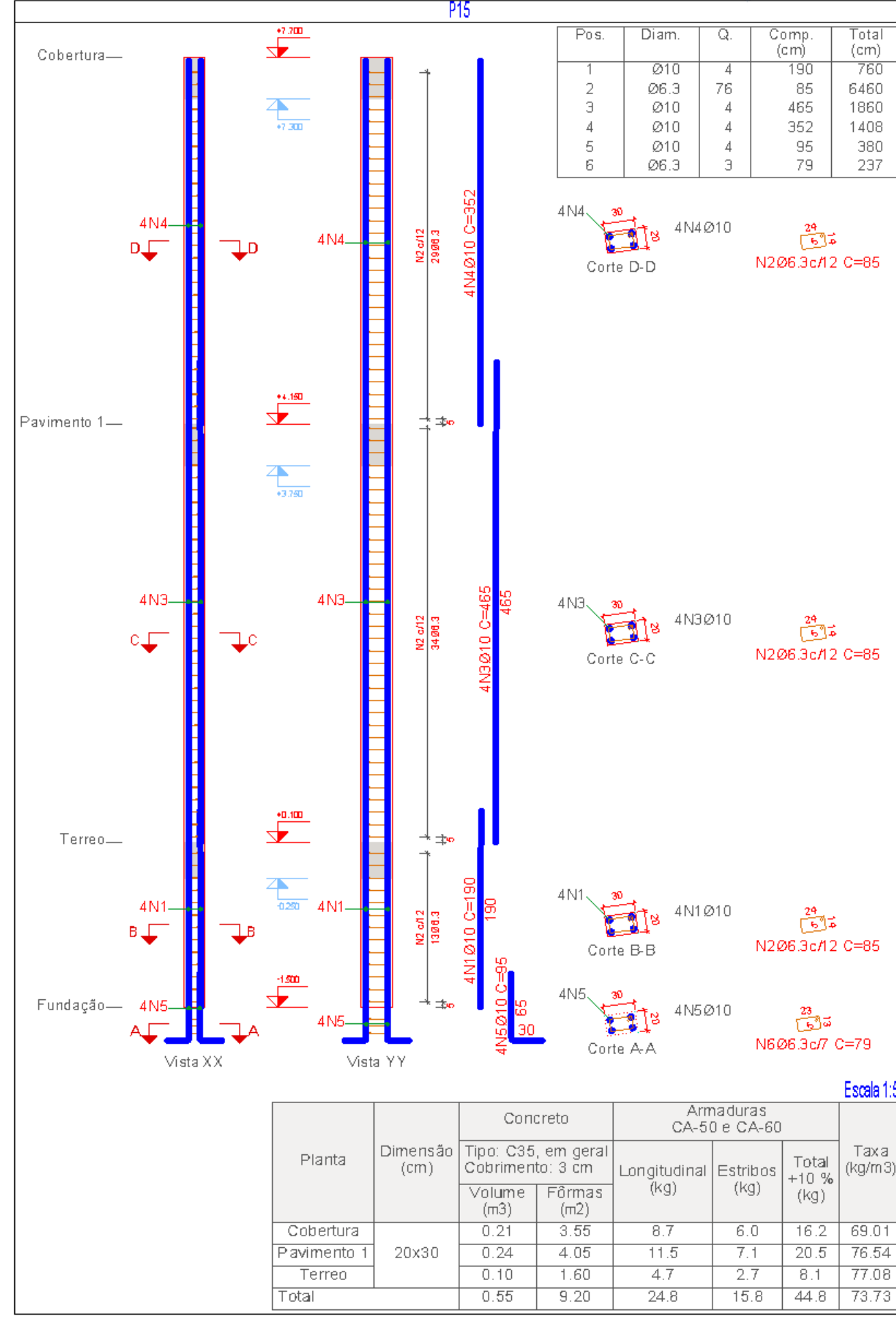
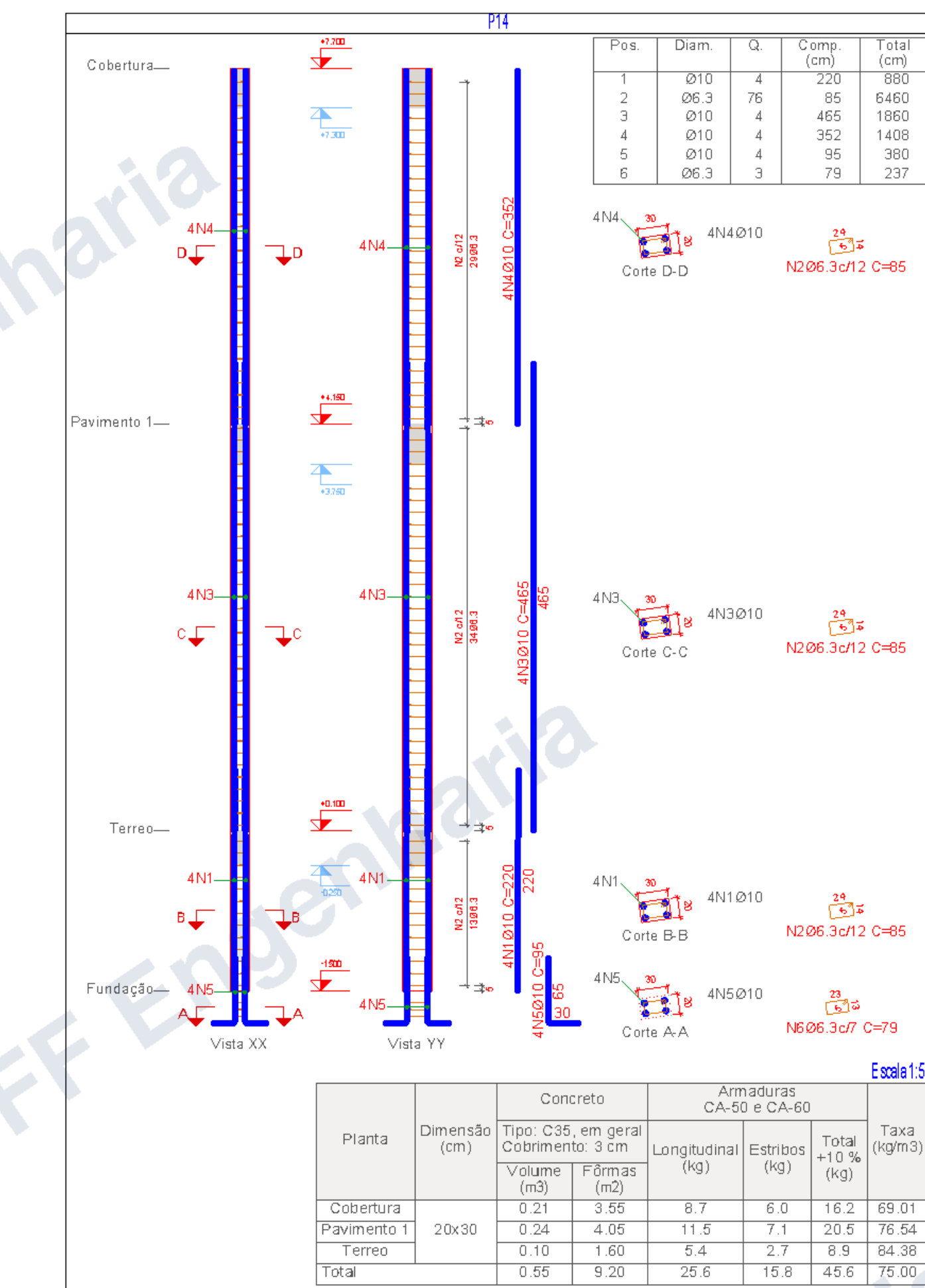
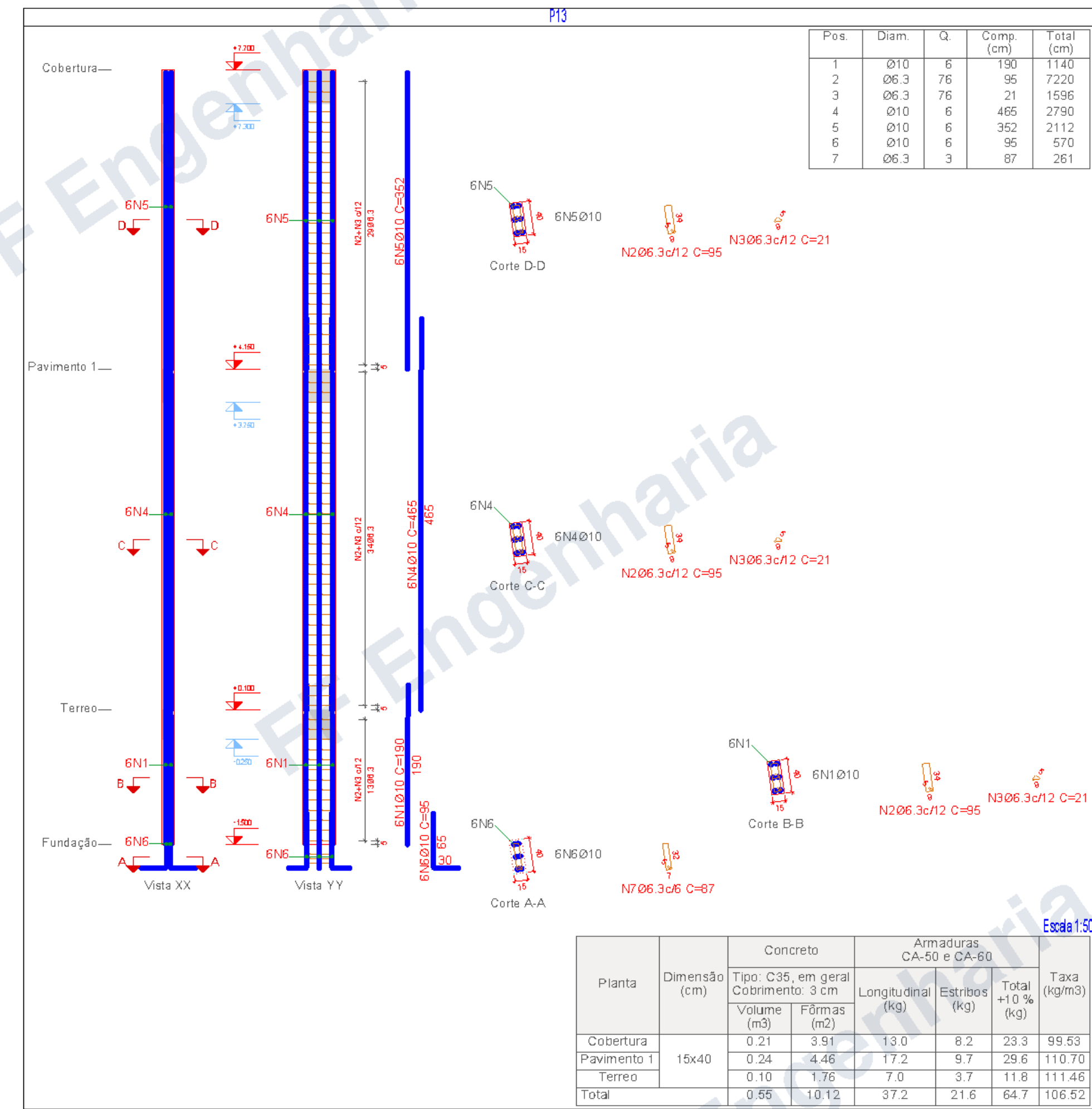
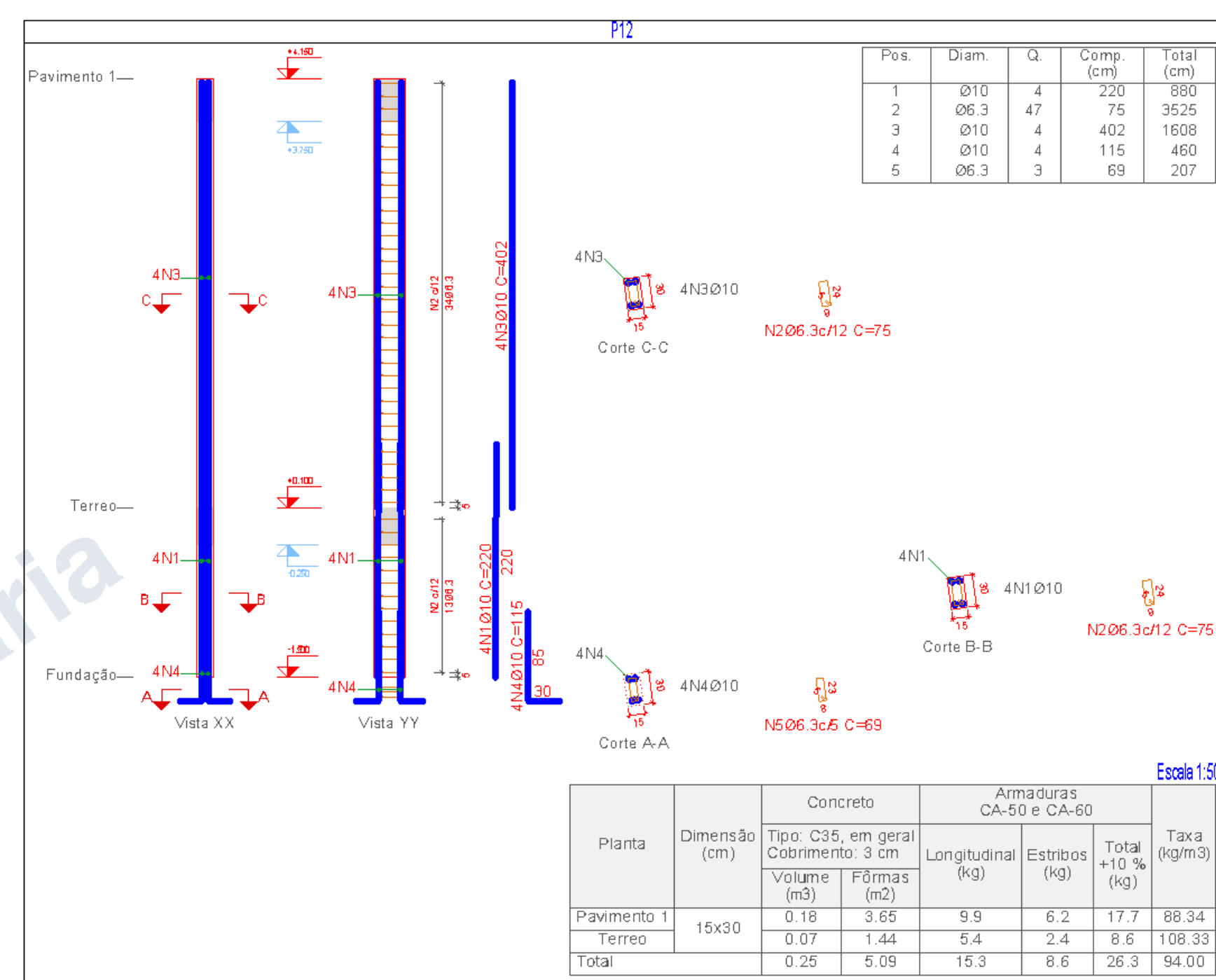
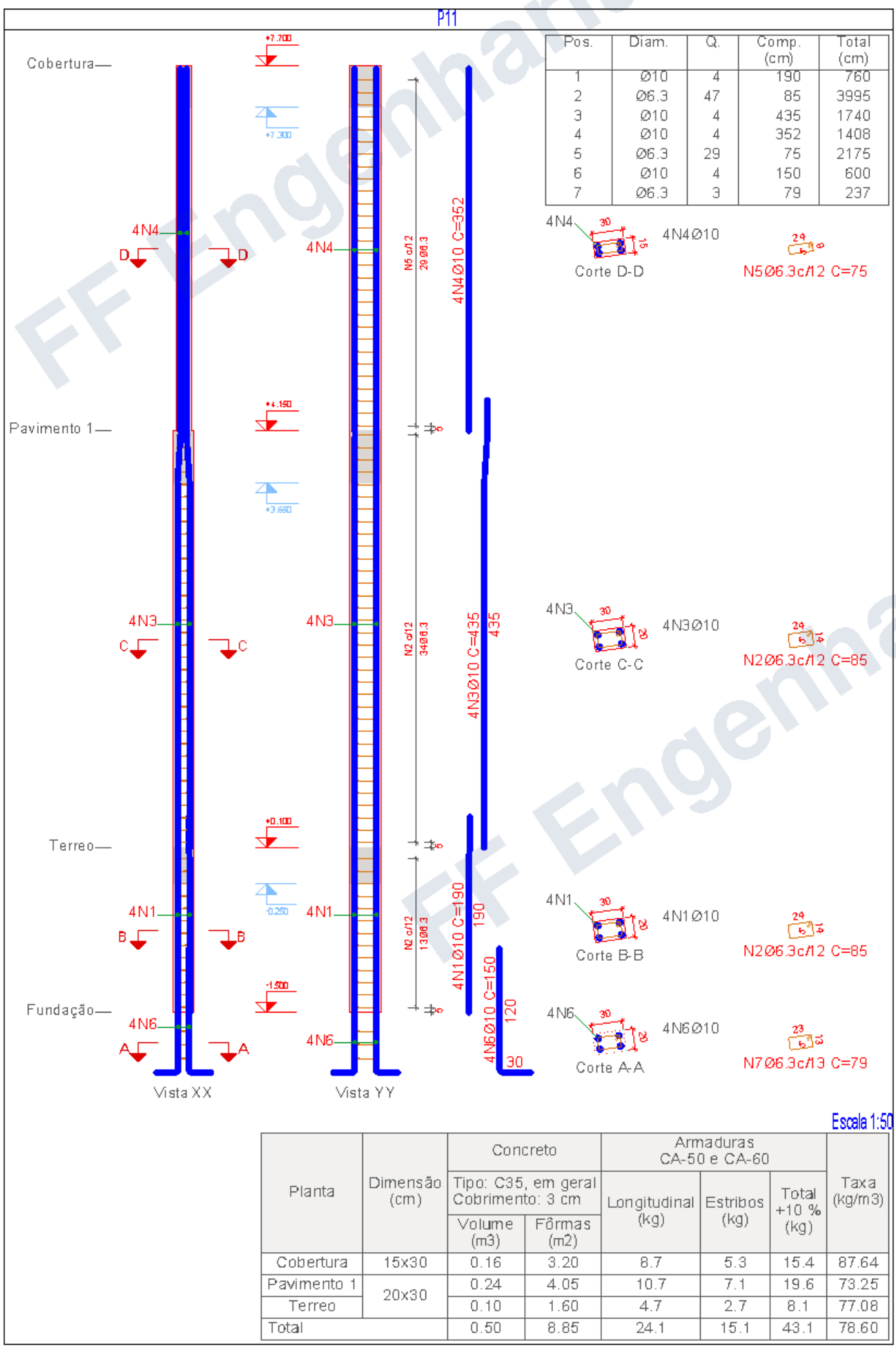
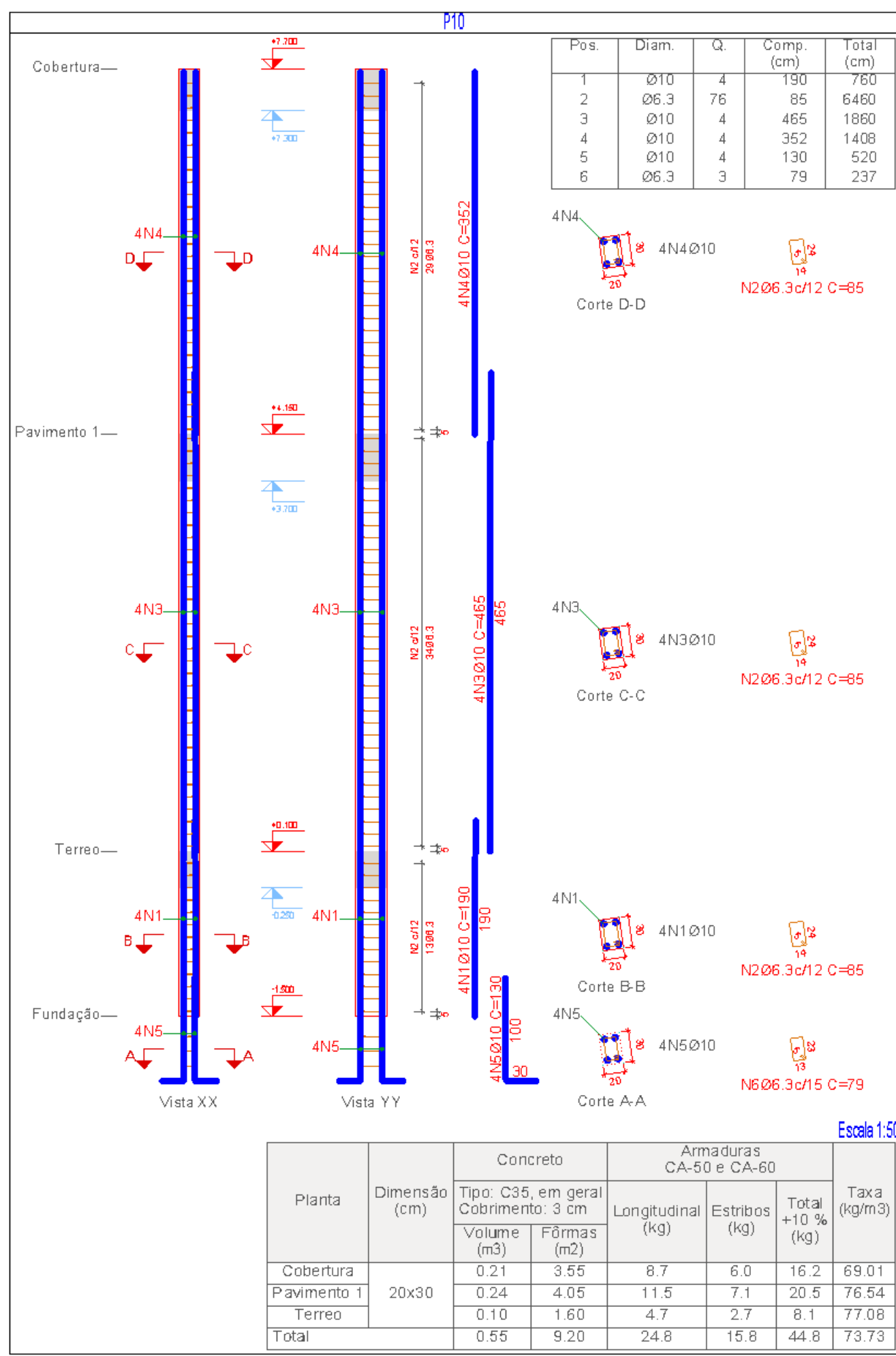


Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
Escada 6-Tramo 1										
	1	Ø8	9	842		842	7578	29.9		
	2	Ø12.5	9	925		925	8325	205.3		
	3	Ø8	77	133		133	10241	40.4		
Total+10%:									303.2	0.0
Ø8:									77.3	0.0
Ø12.5:									80	0.0
Total:									175.0	0.0
Resumo Aço Escada 6			Comp. total (m)		Peso+10% (kg)		Total			
CA-50 Ø8			178.2		77					
Ø12.5			83.3		81		175			



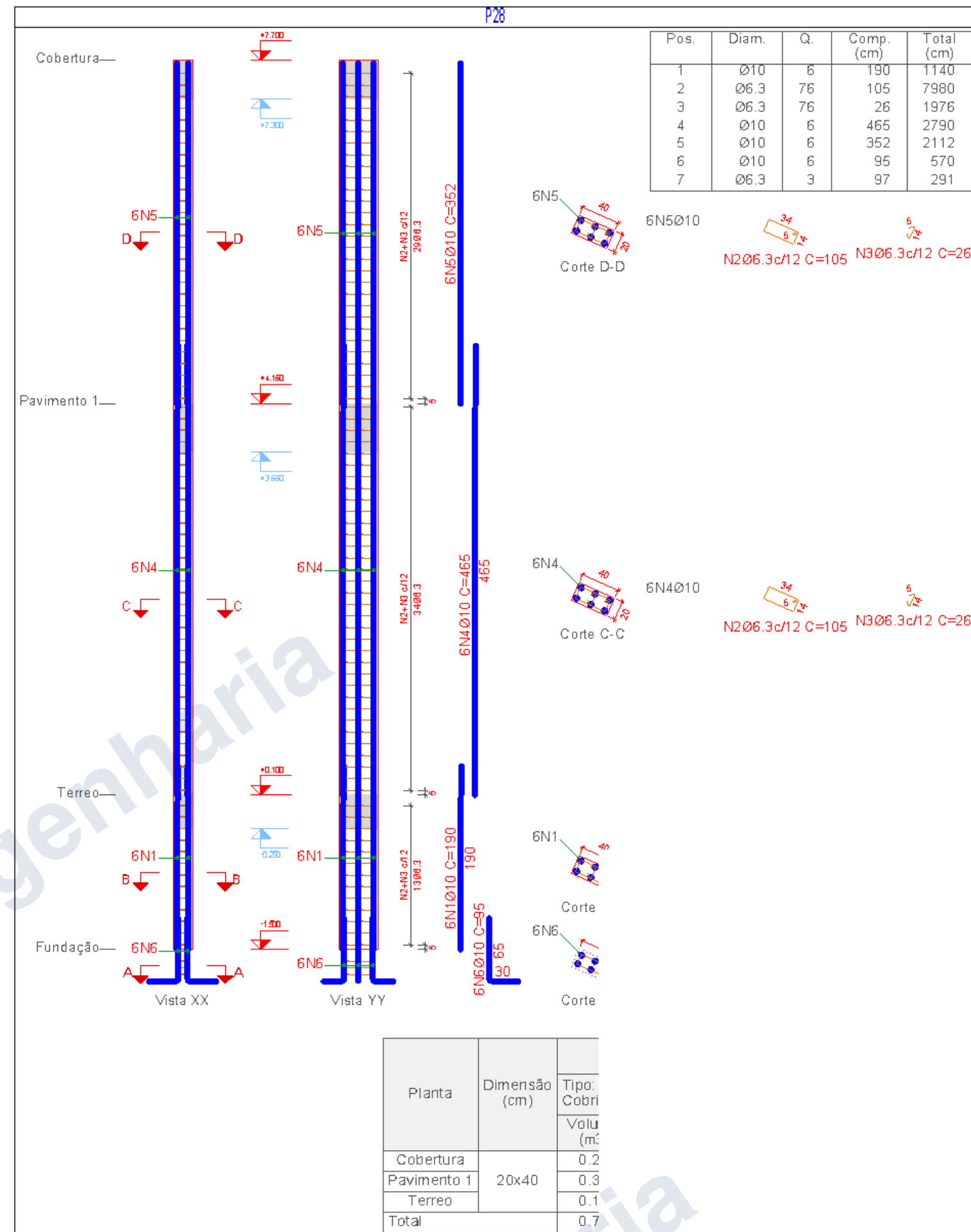
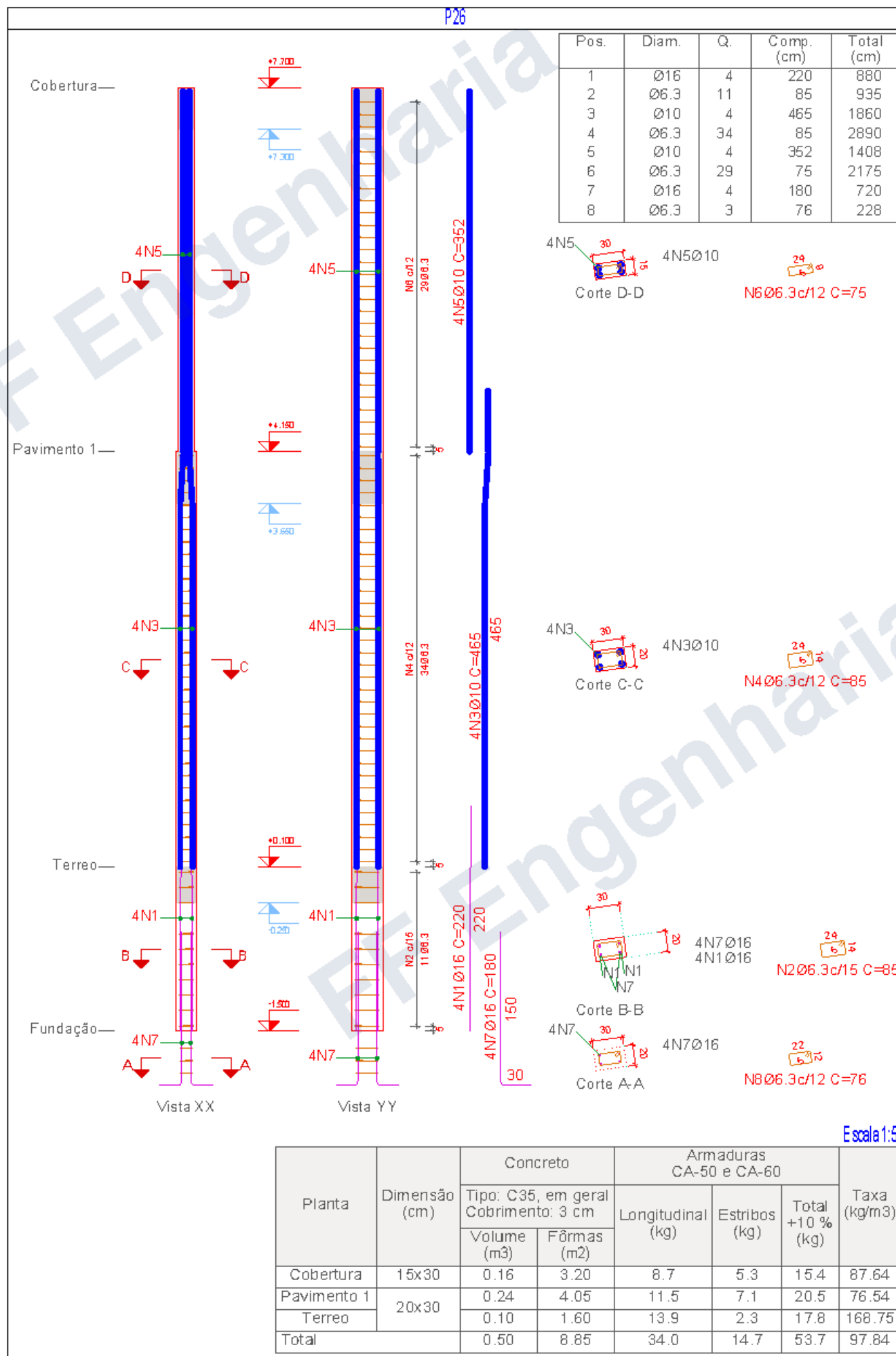
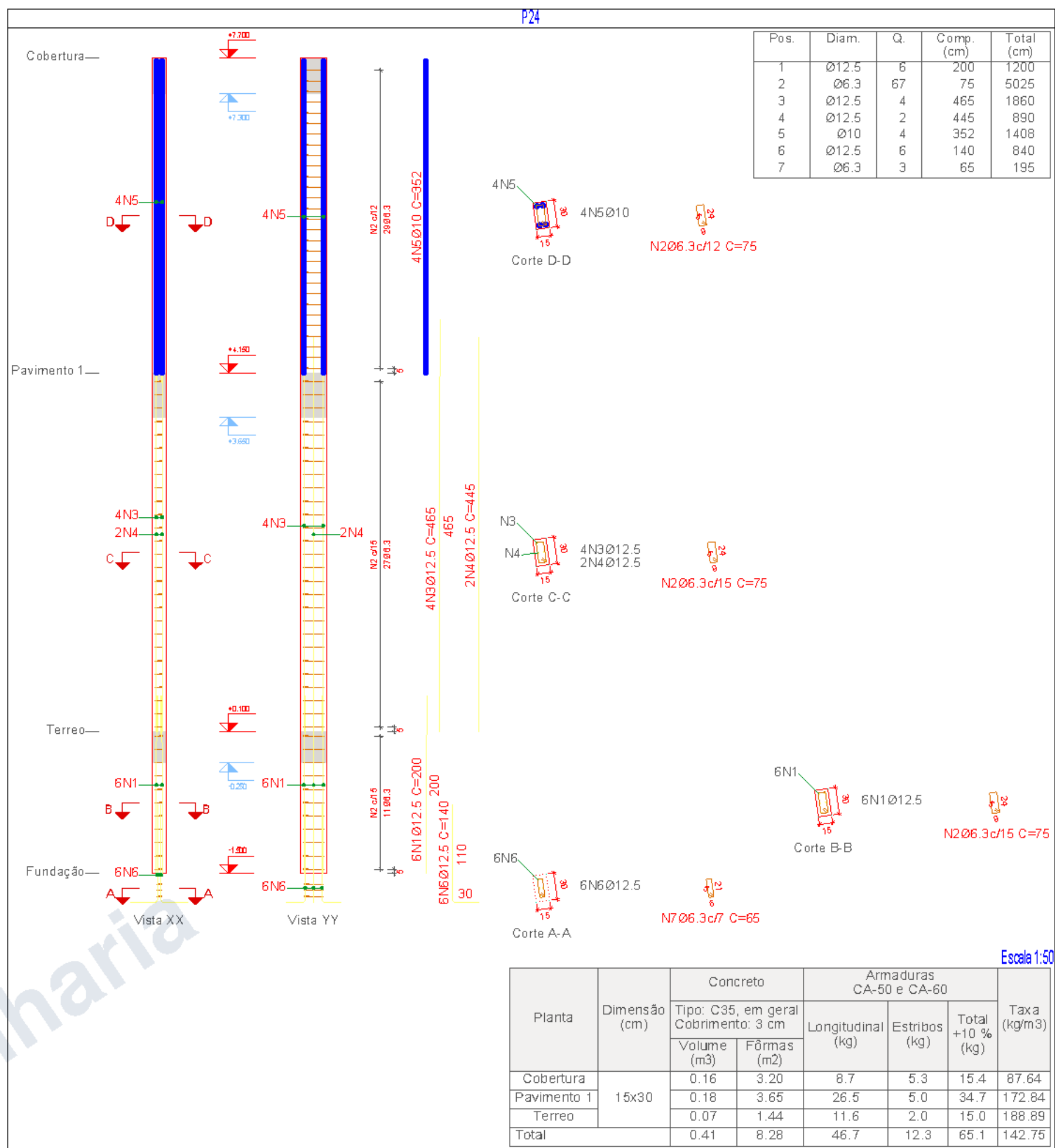
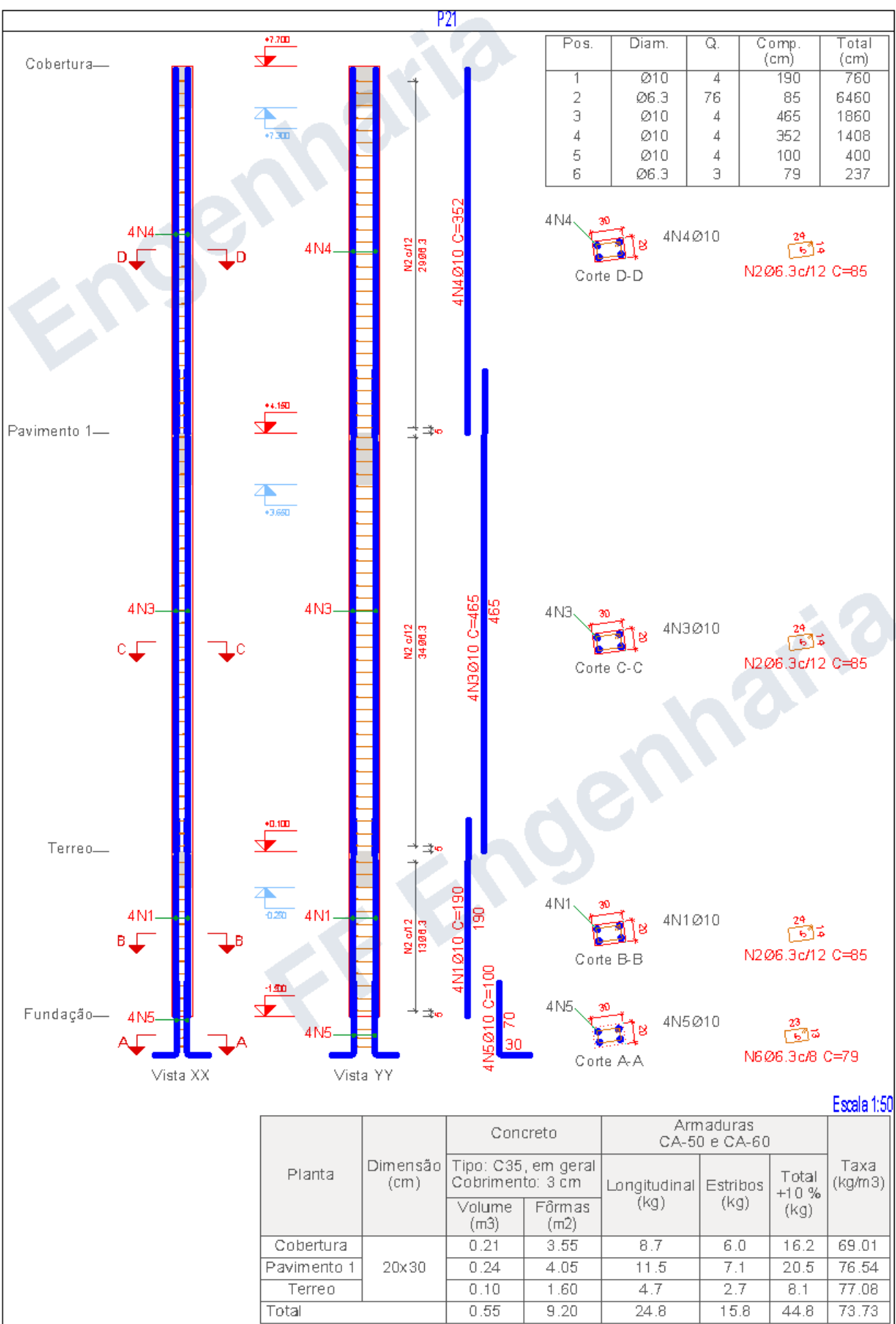
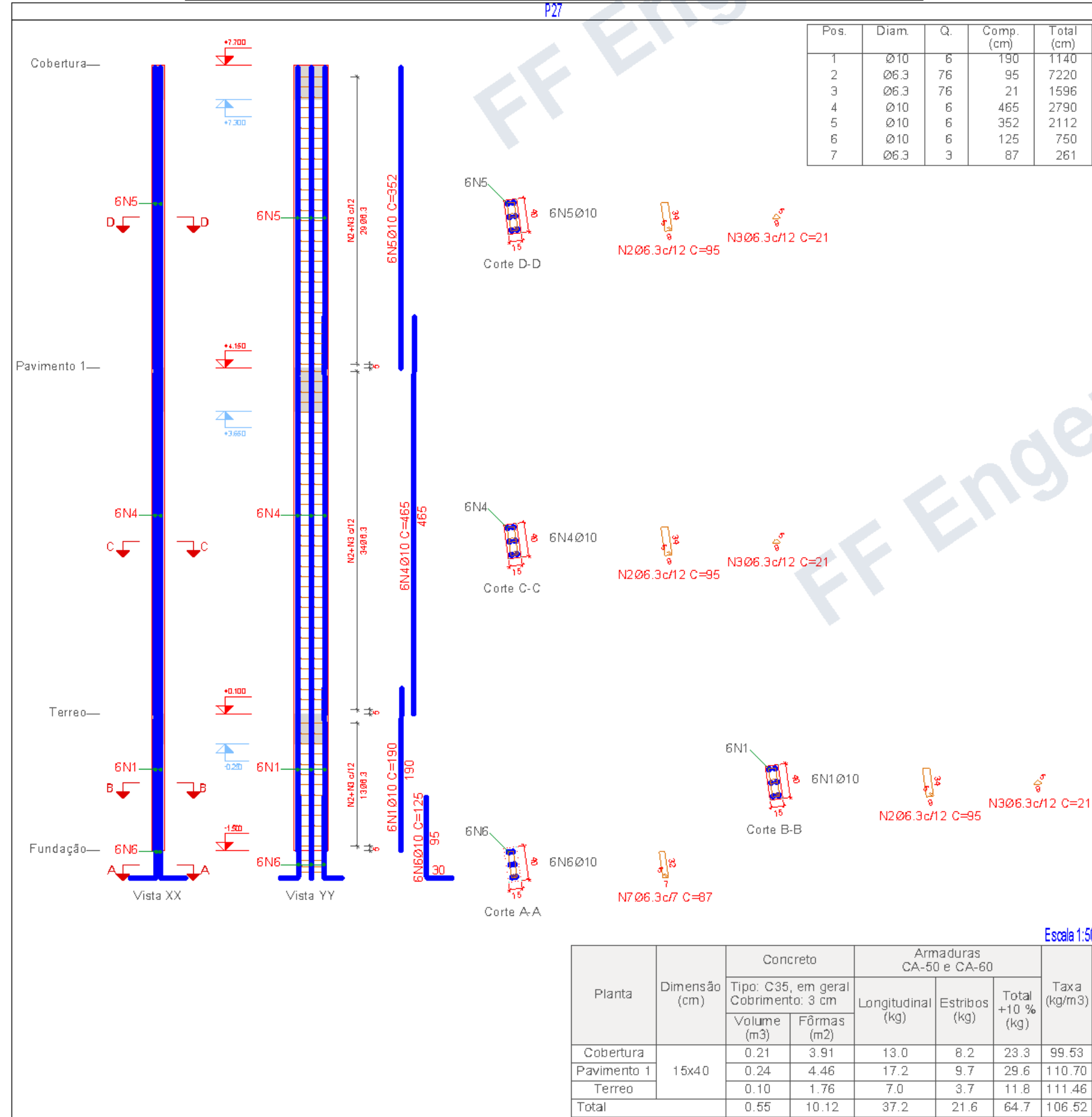
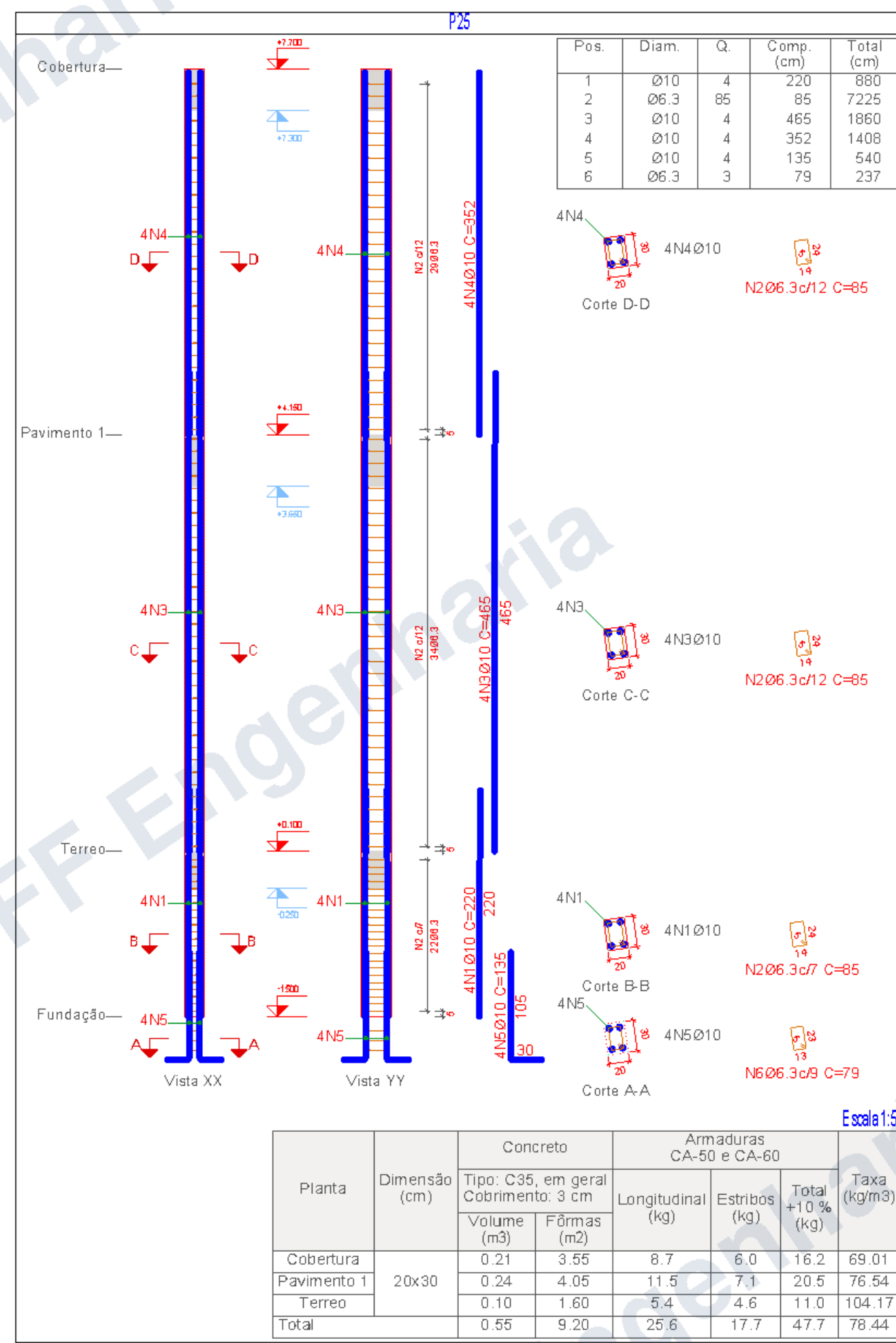
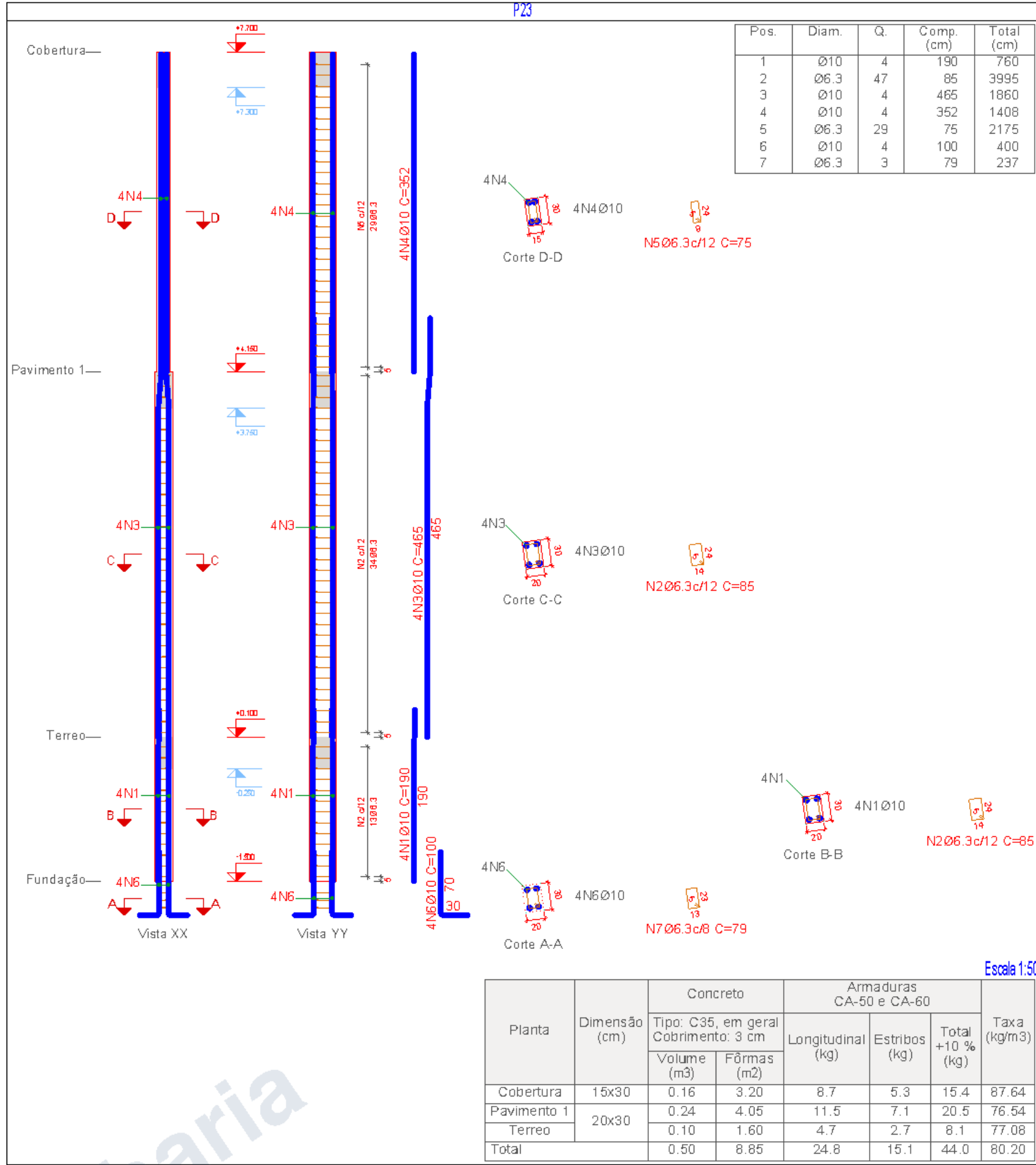
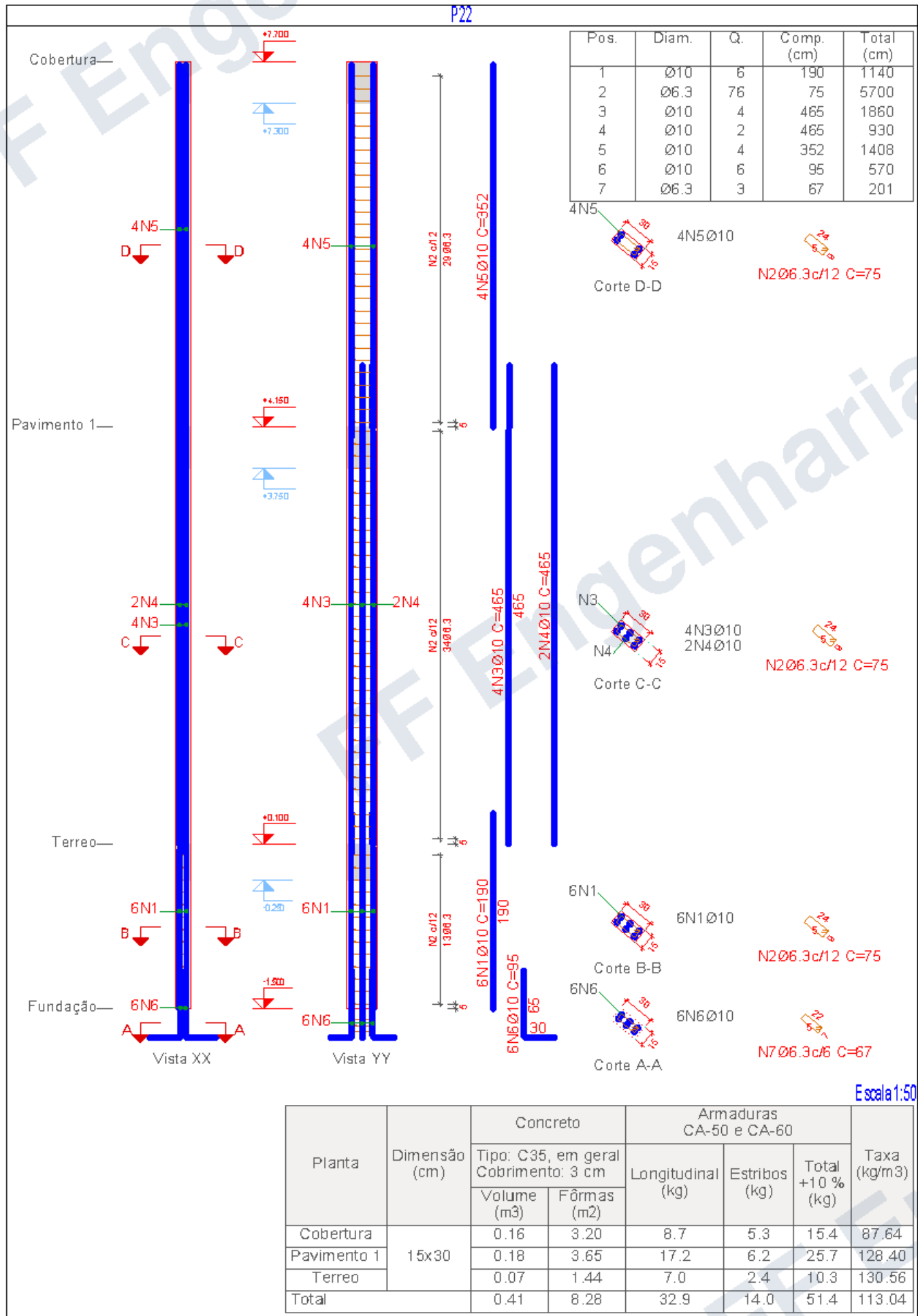
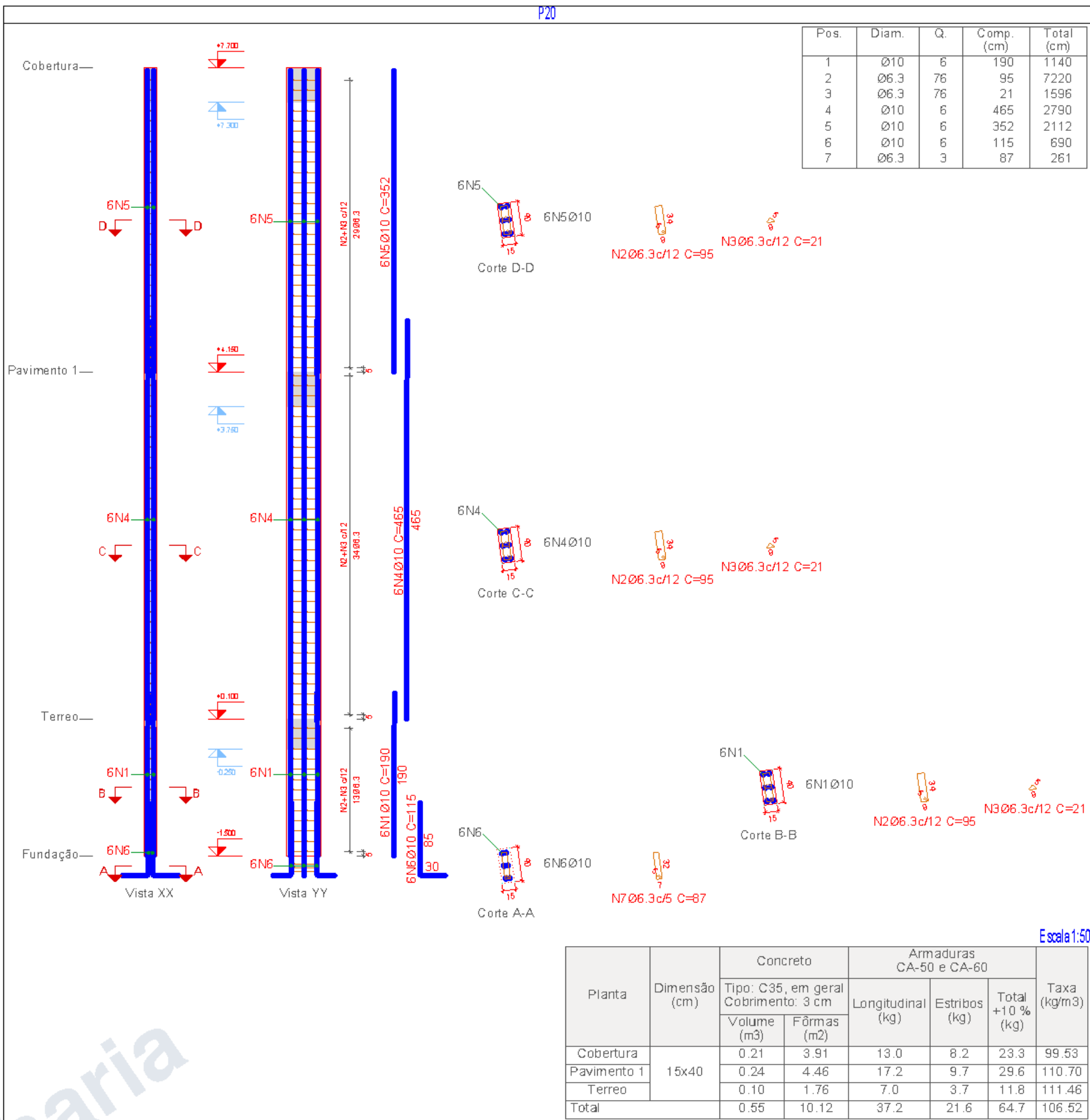
Elemento	Pos.	Diam	Q	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1	1	Ø16	6		220	1320	20,8	
	2	Ø6,3	9		85	765	1,9	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	2		465	930	5,7	
	5	Ø6,3	63		85	5355	13,1	
	6	Ø10	4		352	1408	8,7	
	7	Ø16	6		160	960	15,2	
	8	Ø6,3	3		72	216	0,5	
	Total+10%							65,1
P2	1	Ø12,5	8		200	1600	15,4	
	2	Ø6,3	30		85	2550	7,9	
	3	Ø12,5	8		485	3880	37,4	
	4	Ø12,5	8		352	2816	27,1	
	5	Ø6,3	24		75	1800	4,4	
	6	Ø12,5	8		105	840	8,1	
	7	Ø6,3	3		75	225	0,6	
	Total+10%							111,0
P3	1	Ø10	6		220	1320	8,1	
	2	Ø6,3	47		105	4935	12,1	
	3	Ø6,3	47		26	1222	3,0	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø6,3	29		85	2455	6,7	
	7	Ø6,3	29		21	609	1,5	
	8	Ø10	6		125	750	4,6	
	9	Ø6,3	3		97	291	0,7	
	Total+10%							73,6
P4	1	Ø10	6		220	1320	8,1	
	2	Ø6,3	47		105	4935	12,1	
	3	Ø6,3	47		26	1222	3,0	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø6,3	29		85	2455	6,7	
	7	Ø6,3	29		21	609	1,5	
	8	Ø10	6		125	750	4,6	
	9	Ø6,3	3		97	291	0,7	
	Total+10%							73,6
P5	1	Ø10	4		220	880	5,4	
	2	Ø6,3	76		85	6460	16,8	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	4		352	1408	8,7	
	5	Ø10	4		352	1408	8,7	
	6	Ø6,3	29		75	2175	5,3	
	7	Ø10	6		90	540	3,3	
	8	Ø6,3	3		77	231	0,6	
	Total+10%							48,7
P6	1	Ø10	4		220	880	5,4	
	2	Ø10	2		220	440	2,7	
	3	Ø6,3	47		85	3995	9,8	
	4	Ø10	4		465	1860	11,5	
	5	Ø10	4		352	1408	8,7	
	6	Ø6,3	29		75	2175	5,3	
	7	Ø10	6		90	540	3,3	
	8	Ø6,3	3		77	231	0,6	
	Total+10%							52,0
P7	1	Ø10	6		220	1320	11,6	
	2	Ø6,3	47		105	4935	12,1	
	3	Ø6,3	47		26	1222	3,0	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø6,3	29		85	2455	6,7	
	7	Ø6,3	29		21	609	1,5	
	8	Ø10	6		135	810	5,0	
	9	Ø6,3	3		97	291	0,7	
	Total+10%							74,0
P8	1	Ø12,5	6		200	1200	11,6	
	2	Ø6,3	38		105	3990	9,8	
	3	Ø6,3	38		26	988	2,4	
	4	Ø12,5	6		485	2910	28,0	
	5	Ø12,5	6		352	2112	20,3	
	6	Ø6,3	24		95	2280	5,8	
	7	Ø6,3	24		21	504	1,2	
	8	Ø6,3	3		95	285	0,7	
	Total+10%							95,5
P9	1	Ø10	4		220	880	5,4	
	2	Ø6,3	85		85	7225	17,7	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	4		352	1408	8,7	
	5	Ø10	4		352	1408	8,7	
	6	Ø6,3	29		75	2175	5,3	
	7	Ø10	6		90	540	3,3	
	8	Ø6,3	3		77	231	0,6	
	Total+10%							62,5
								67,8
								68,2
								68,6
								69,0
								69,4

Pilares que nascem em Tempo e chegam em Cobertura
 Concreto: C35, em geral
 Aço das barras: CA-50 e CA-60
 Aço dos estribos: CA-50 e CA-60

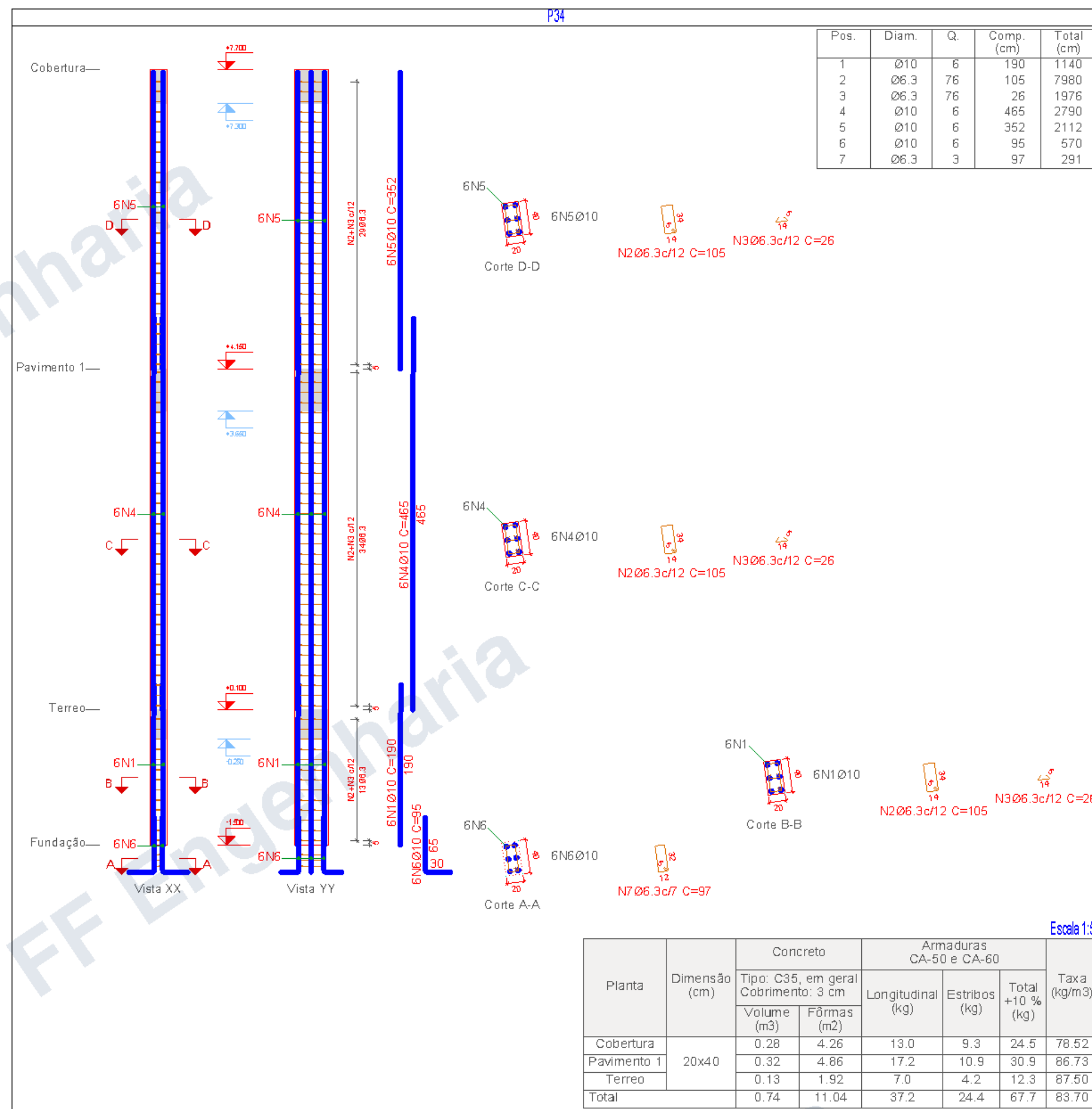
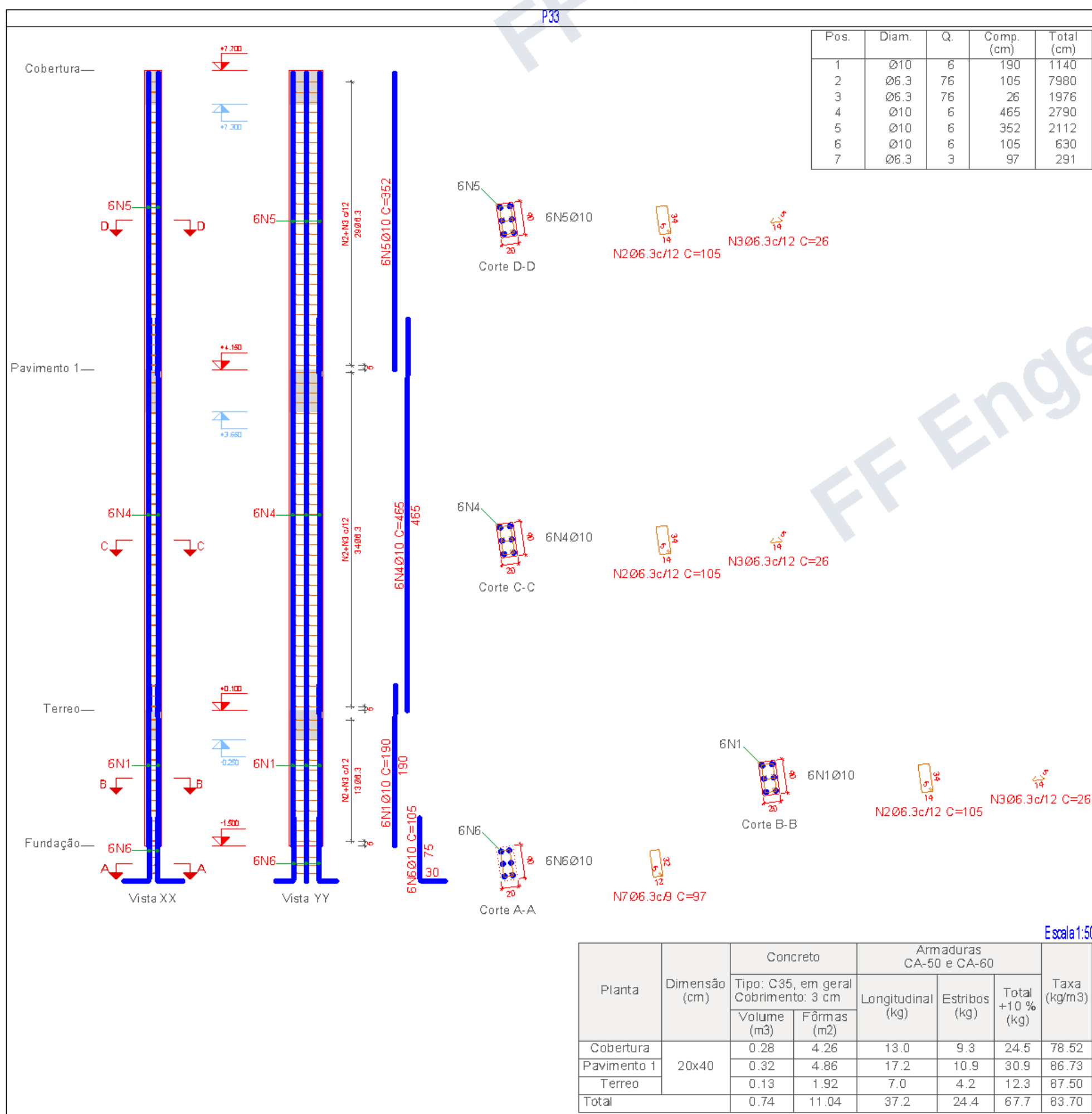
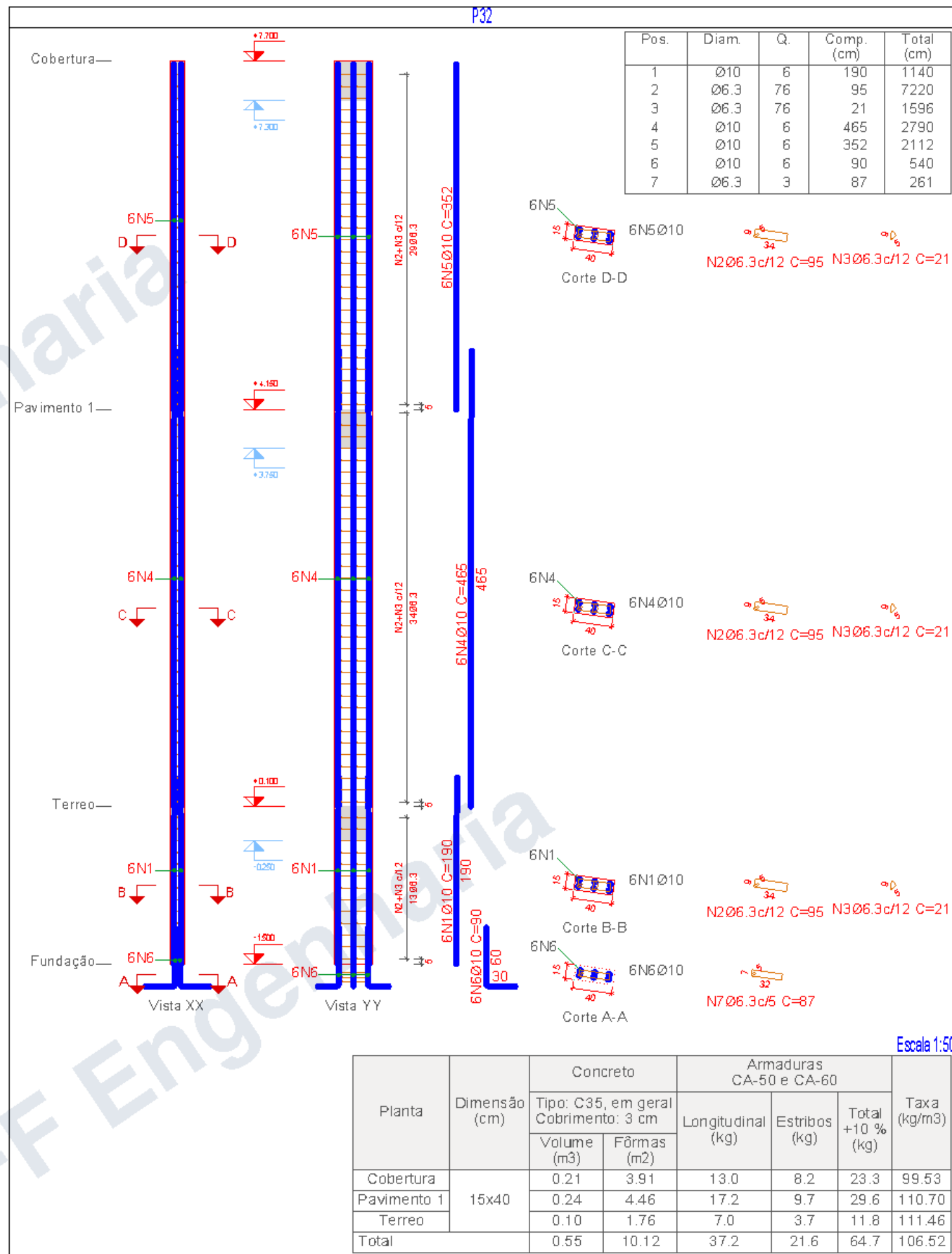
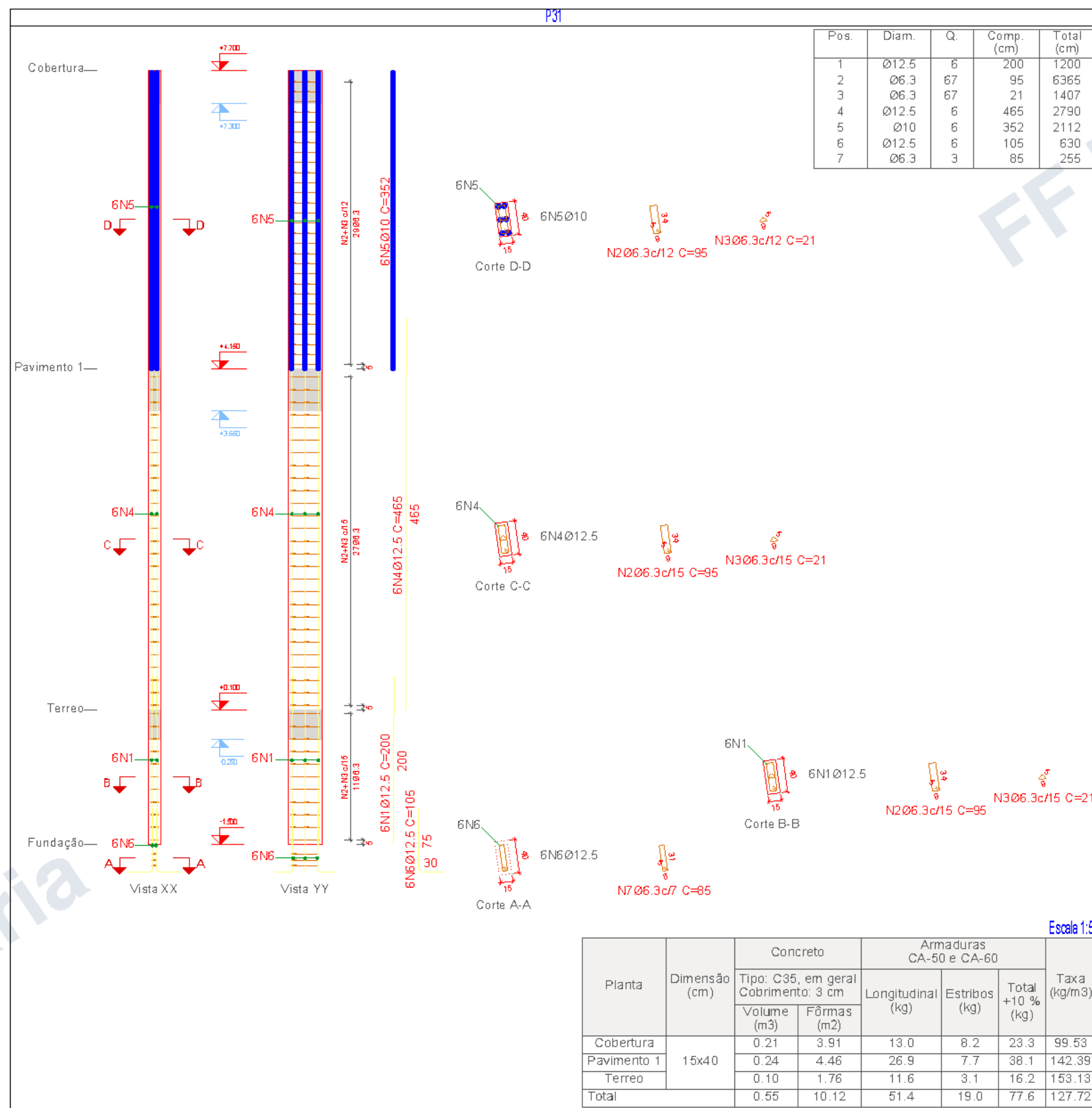
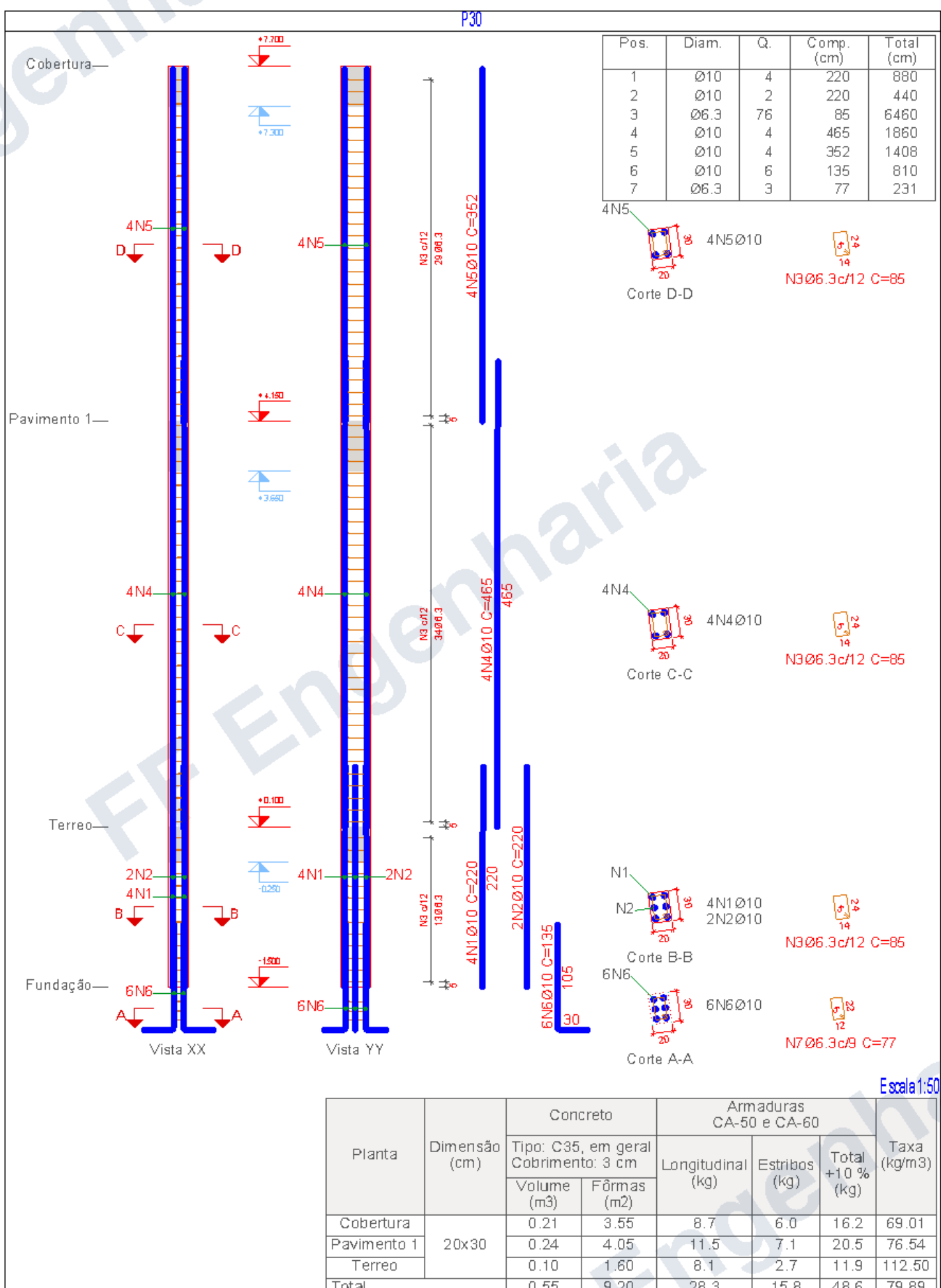
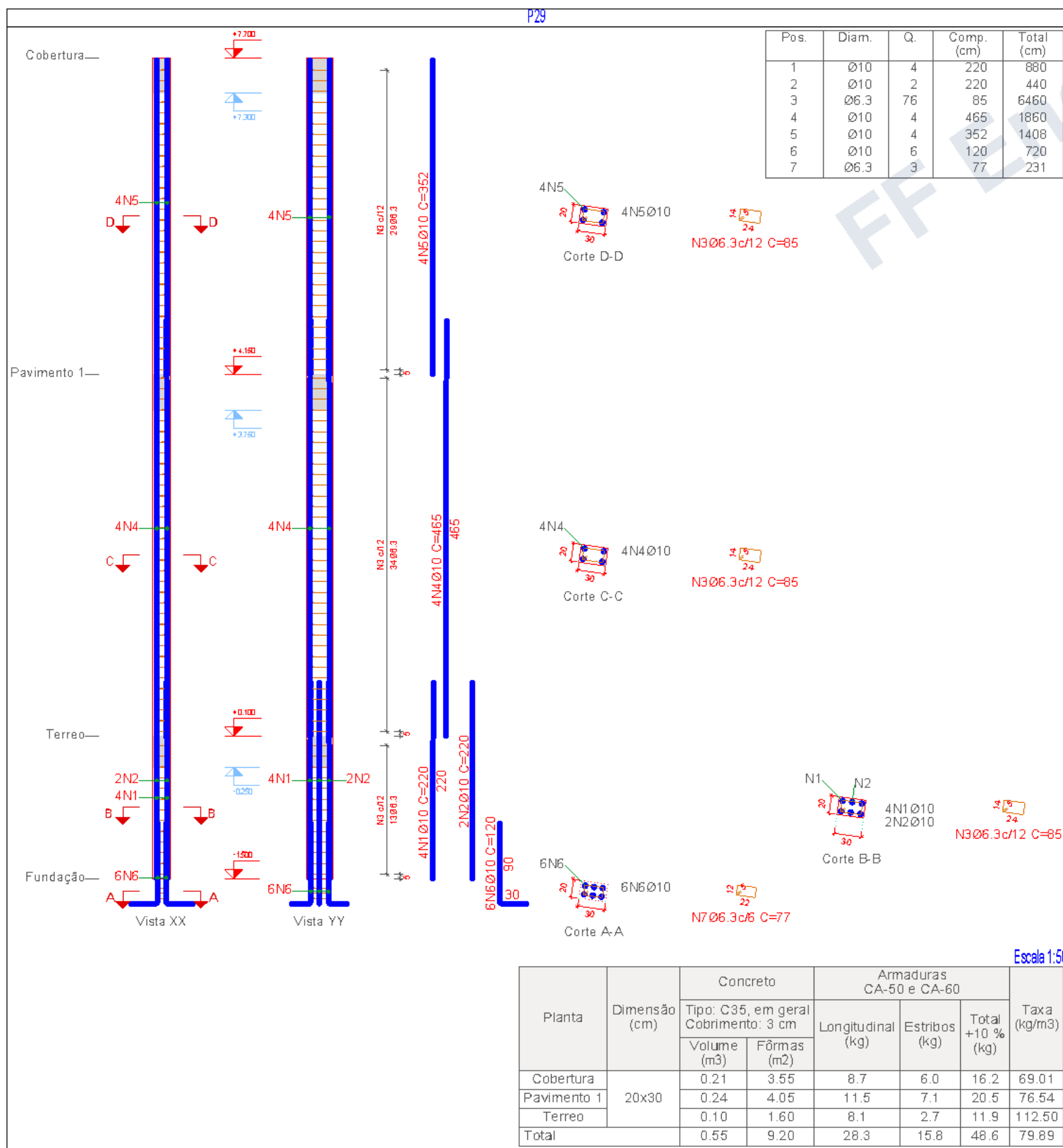


Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P10	1	Ø10	4		190	760	4.7	
	2	Ø6.3	76		85	6460	15.8	
	3	Ø10	4		465	1860	11.5	
	4	Ø10	4		352	1408	8.7	
	5	Ø10	4		130	520	3.2	
	6	Ø6.3	3		79	237	0.6	
	Total+10%							43.0
P11	1	Ø10	4		190	760	4.7	
	2	Ø6.3	47		85	3995	9.8	
	3	Ø10	4		435	1740	10.7	
	4	Ø10	4		352	1408	8.7	
	5	Ø6.3	29		75	2175	5.3	
	6	Ø10	4		150	600	3.7	
	7	Ø6.3	3		79	237	0.6	
Total+10%							47.9	
P12	1	Ø10	4		220	880	5.4	
	2	Ø6.3	47		85	3995	9.8	
	3	Ø10	4		402	1608	9.9	
	4	Ø10	4		115	460	2.8	
	5	Ø6.3	3		69	207	0.5	
Total+10%							29.9	
P13	1	Ø10	6		190	1140	7.0	
	2	Ø6.3	76		95	7220	17.7	
	3	Ø6.3	76		21	1696	3.9	
	4	Ø10	6		465	2790	17.2	
	5	Ø10	6		352	2112	13.0	
	6	Ø10	6		95	570	3.5	
	7	Ø6.3	3		87	261	0.6	
Total+10%							69.2	
P14	1	Ø10	4		220	880	5.4	
	2	Ø6.3	76		85	6460	15.8	
	3	Ø10	4		465	1860	11.5	
	4	Ø10	4		352	1408	8.7	
	5	Ø10	4		95	380	2.3	
	6	Ø6.3	3		79	237	0.6	
Total+10%							48.7	
P15	1	Ø10	4		190	760	4.7	
	2	Ø6.3	76		85	6460	15.8	
	3	Ø10	4		465	1860	11.5	
	4	Ø10	4		352	1408	8.7	
	5	Ø10	4		95	380	2.3	
	6	Ø6.3	3		79	237	0.6	
Total+10%							48.0	
P16	1	Ø12.5	4		200	800	7.7	
	2	Ø10	2		220	440	2.7	
	3	Ø6.3	76		85	6460	15.8	
	4	Ø12.5	4		465	1860	11.5	
	5	Ø10	2		465	930	5.7	
	6	Ø10	4		352	1408	8.7	
	7	Ø12.5	4		95	380	3.7	
	8	Ø10	2		90	180	1.1	
	9	Ø6.3	3		77	231	0.6	
Total+10%							70.3	
P17	1	Ø10	4		220	880	5.4	
	2	Ø6.3	85		85	7225	17.7	
	3	Ø10	4		465	1860	11.5	
	4	Ø10	4		352	1408	8.7	
	5	Ø10	4		150	600	3.7	
	6	Ø6.3	3		79	237	0.6	
Total+10%							52.4	
P18	1	Ø10	4		220	880	5.4	
	2	Ø6.3	85		85	7225	17.7	
	3	Ø10	4		465	1860	11.5	
	4	Ø10	4		352	1408	8.7	
	5	Ø10	4		140	560	3.5	
	6	Ø6.3	3		79	237	0.6	
Total+10%							52.1	
P19	1	Ø10	4		220	880	5.4	
	2	Ø6.3	85		85	7225	17.7	
	3	Ø10	4		465	1860	11.5	
	4	Ø10	4		352	1408	8.7	
	5	Ø10	4		135	540	3.3	
	6	Ø6.3	3		79	237	0.6	
Total+10%							51.9	
						Ø6.3	34.3	0.0
						Ø10	30.9	0.0
						Ø12.5	0.2	0.0
						Total	59.4	0.0

Plataes que nascem em Terreo e chegam em Cobertura
Concreto: C35, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
P20	1	Ø10	6		190	1140	7.0		
	2	Ø6.3	76		85	7220	17.7		
	3	Ø6.3	76		21	1596	3.9		
	4	Ø10	6		465	2790	17.2		
	5	Ø10	6		352	2112	13.0		
	6	Ø10	6		115	690	4.3		
	7	Ø6.3	3		87	261	0.6		
Total(+0%)							70.1		
P21	1	Ø10	4		190	760	4.7		
	2	Ø6.3	76		85	6460	16.8		
	3	Ø10	4		465	1980	11.5		
	4	Ø10	4		352	1408	8.7		
	5	Ø10	4		100	400	2.5		
	6	Ø6.3	3		79	237	0.6		
	Total(+0%)							49.2	
P22	1	Ø10	6		190	1140	7.0		
	2	Ø6.3	76		75	5700	14.0		
	3	Ø10	4		465	1980	11.5		
	4	Ø10	2		465	930	5.7		
	5	Ø10	4		352	1408	8.7		
	6	Ø10	6		95	570	3.5		
	7	Ø6.3	3		67	201	0.5		
Total(+0%)							56.0		
P23	1	Ø10	4		190	760	4.7		
	2	Ø6.3	47		85	3995	9.8		
	3	Ø10	4		465	1980	11.5		
	4	Ø10	4		352	1408	8.7		
	5	Ø6.3	29		75	2175	5.3		
	6	Ø10	4		100	400	2.5		
	7	Ø6.3	3		79	237	0.6		
Total(+0%)							56.0		
P24	1	Ø12.5	6		140	840	8.1		
	2	Ø6.3	67		75	5025	12.3		
	3	Ø12.5	4		465	1980	17.9		
	4	Ø12.5	2		445	890	8.6		
	5	Ø10	4		352	1408	8.7		
	6	Ø12.5	6		140	840	8.1		
	7	Ø6.3	3		65	195	0.5		
Total(+0%)							74.5		
P25	1	Ø10	4		200	800	5.4		
	2	Ø6.3	85		85	7225	17.7		
	3	Ø10	4		465	1980	11.5		
	4	Ø10	4		352	1408	8.7		
	5	Ø10	6		135	540	3.3		
	6	Ø6.3	3		79	237	0.6		
Total(+0%)							51.9		
P26	1	Ø16	4		200	800	13.9		
	2	Ø6.3	11		85	935	2.3		
	3	Ø10	4		465	1980	11.5		
	4	Ø6.3	34		85	2890	7.1		
	5	Ø10	4		352	1408	8.7		
	6	Ø6.3	29		75	2175	5.3		
	7	Ø16	4		180	720	11.4		
	8	Ø6.3	3		76	228	0.6		
Total(+0%)							66.9		
P27	1	Ø10	6		190	1140	7.0		
	2	Ø6.3	76		85	7220	17.7		
	3	Ø6.3	76		21	1596	3.9		
	4	Ø10	6		465	2790	17.2		
	5	Ø10	6		352	2112	13.0		
	6	Ø10	6		125	750	4.6		
	7	Ø6.3	3		87	261	0.6		
Total(+0%)							70.4		
P28	1	Ø10	6		190	1140	7.0		
	2	Ø6.3	76		105	7380	19.5		
	3	Ø6.3	76		26	1976	4.8		
	4	Ø10	6		465	2790	17.2		
	5	Ø10	6		352	2112	13.0		
	6	Ø10	6		95	570	3.5		
	7	Ø6.3	3		97	291	0.7		
Total(+0%)							72.3		
							86.3	176.8	0.0
							0.0	300.3	0.0
							0.125	50.8	0.0
							0.06	27.9	0.0
							Total	557.7	0.0

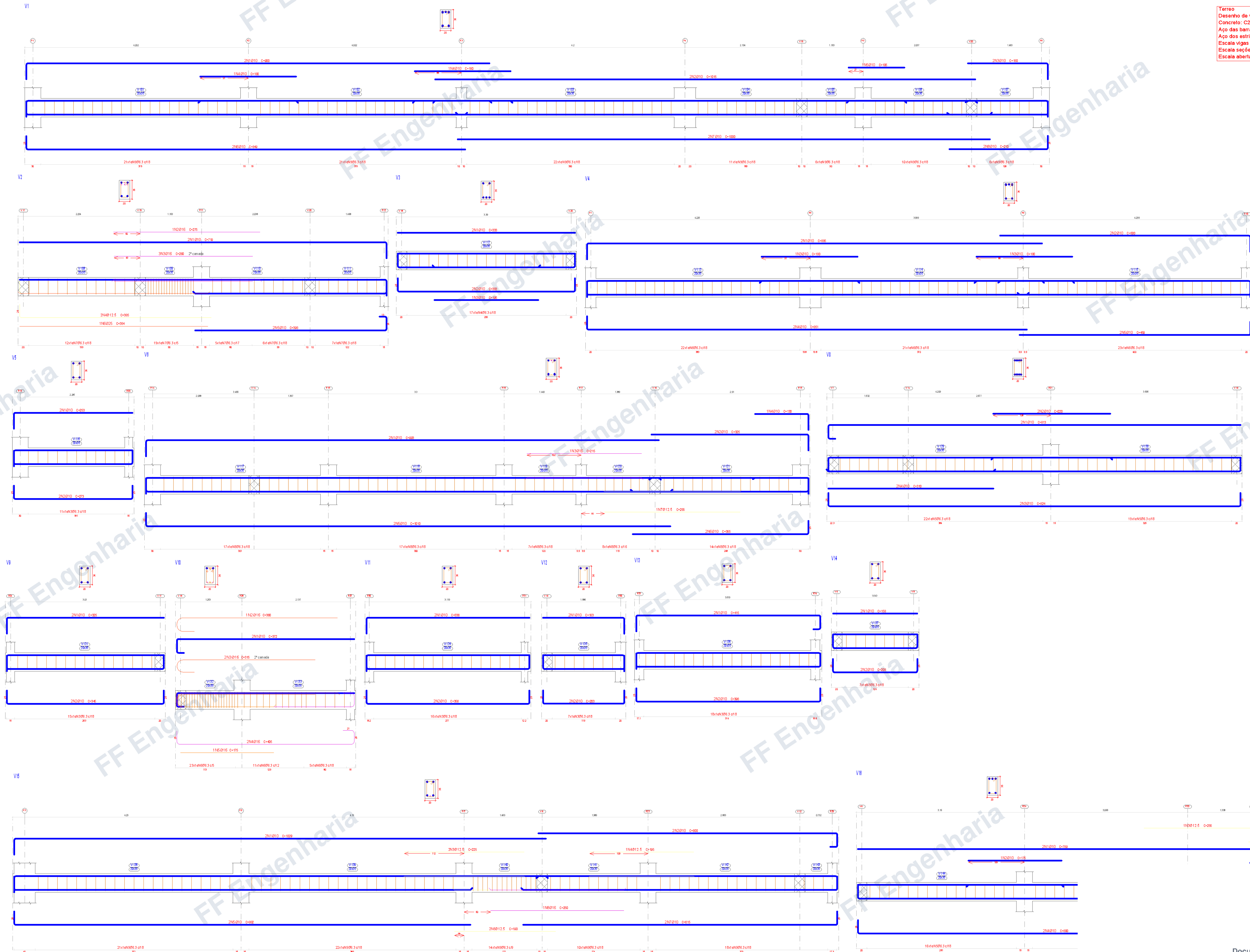


Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
P29	1	Ø10	4		220	880	5.4		
	2	Ø10	2		220	440	2.7		
	3	Ø6.3	76		85	6460	15.8		
	4	Ø10	4		465	1860	11.5		
	5	Ø10	4		352	1408	8.7		
	6	Ø10	6		120	720	4.4		
	7	Ø6.3	3		77	231	0.6		
Total+10%							54.8		
P30	1	Ø10	4		220	880	5.4		
	2	Ø10	2		220	440	2.7		
	3	Ø6.3	76		85	6460	15.8		
	4	Ø10	4		465	1860	11.5		
	5	Ø10	4		352	1408	8.7		
	6	Ø10	6		135	810	5.0		
	7	Ø6.3	3		77	231	0.6		
Total+10%							54.7		
P31	1	Ø12.5	6		200	1200	11.6		
	2	Ø6.3	67		95	6365	15.6		
	3	Ø6.3	67		21	1407	3.4		
	4	Ø12.5	6		465	2780	26.9		
	5	Ø10	6		352	2112	13.0		
	6	Ø12.5	6		105	630	6.1		
	7	Ø6.3	3		85	255	0.6		
Total+10%							84.9		
P32	1	Ø10	6		190	1140	7.0		
	2	Ø6.3	76		95	7220	17.7		
	3	Ø6.3	76		21	1596	3.9		
	4	Ø10	6		465	2780	17.2		
	5	Ø10	6		352	2112	13.0		
	6	Ø10	6		90	540	3.3		
	7	Ø6.3	3		87	261	0.6		
Total+10%							68.6		
P33	1	Ø10	6		190	1140	7.0		
	2	Ø6.3	76		105	7980	19.5		
	3	Ø6.3	76		26	1976	4.8		
	4	Ø10	6		465	2780	17.2		
	5	Ø10	6		352	2112	13.0		
	6	Ø10	6		105	630	3.3		
	7	Ø6.3	3		97	291	0.7		
Total+10%							72.7		
P34	1	Ø10	6		190	1140	7.0		
	2	Ø6.3	76		105	7980	19.5		
	3	Ø6.3	76		26	1976	4.8		
	4	Ø10	6		465	2780	17.2		
	5	Ø10	6		352	2112	13.0		
	6	Ø10	6		95	570	3.5		
	7	Ø6.3	3		97	291	0.7		
Total+10%							72.3		
							Ø6.3	137.6	0.0
							Ø10	221.6	0.0
							Ø12.5	49.1	0.0
							Total	407.6	0.0

Resumo Aço	Comp. total (m)	Peso+10% (kg)	Total
CA-50 Ø6.3	2553.1	688	
Ø10	1612.0	1093	
Ø12.5	285.6	303	
Ø16	38.8	67	2151

Pilares que nascem em Terreno e chegam em Cobertura
Concreto: C35, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60

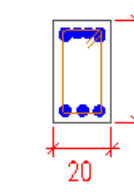
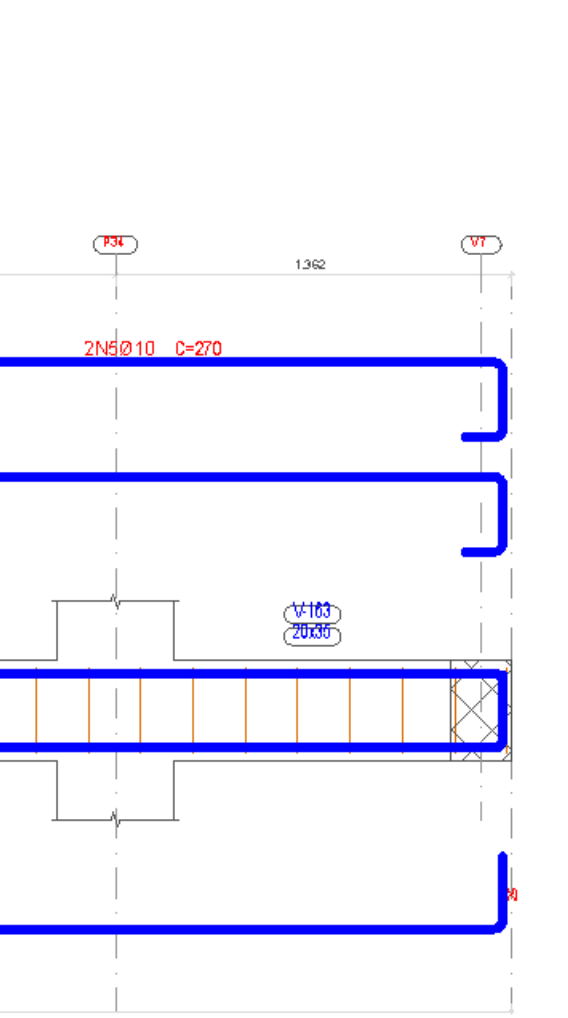
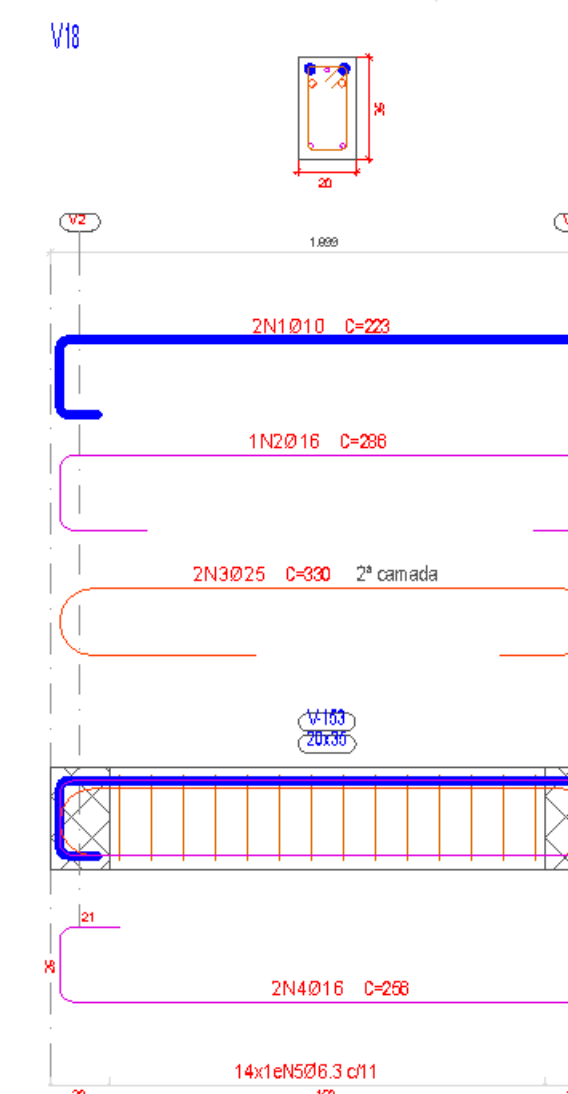
VIGAS TERREO F01

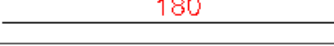
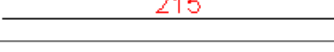
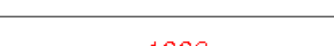
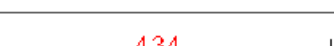
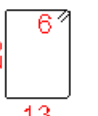


Terreo
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Escala vigas 1:25
Escala seções 1:25
Escala aberturas 1:25

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V1	1	Ø10	2	100	300	1800	11.1	
	2	Ø10	2	100	1015	2030	12.6	
	3	Ø10	2	100	180	360	2.2	
	4	Ø10	2	100	180	360	2.2	
	5	Ø10	1	100	105	105	0.6	
	6	Ø10	2	100	843	1686	10.5	
	7	Ø10	2	100	1000	2000	12.3	
	8	Ø10	2	100	210	420	2.6	
	9	Ø6.3	97	10	96	9312	22.8	
Total+10%					96	9312	84.5	
V2	1	Ø10	2	100	719	1438	8.9	
	2	Ø16	1	100	275	275	4.3	
	3	Ø16	3	100	260	780	12.3	
	4	Ø12.5	2	100	365	730	7.4	
	5	Ø10	2	100	388	776	4.9	
	6	Ø25	1	100	354	354	13.6	
	7	Ø6.3	49	10	96	4704	11.5	
Total+10%					96	4704	59.2	
V3	1	Ø10	2	100	329	658	4.1	
	2	Ø10	2	100	303	606	4.7	
	3	Ø10	1	100	195	195	1.2	
	4	Ø6.3	17	10	96	1632	4.0	
Total+10%					96	1632	15.4	
V4	1	Ø10	2	100	885	1770	10.9	
	2	Ø10	2	100	500	1000	6.2	
	3	Ø10	2	100	180	360	2.2	
	4	Ø10	2	100	851	1702	10.5	
	5	Ø10	2	100	459	918	5.7	
	6	Ø6.3	66	10	96	6336	15.6	
Total+10%					96	6336	56.1	
V5	1	Ø10	2	100	253	506	3.1	
	2	Ø10	2	100	273	546	3.4	
	3	Ø6.3	11	10	96	1056	2.6	
Total+10%					96	1056	10.0	
V6	1	Ø10	2	100	893	1786	12.2	
	2	Ø10	2	100	325	650	4.0	
	3	Ø16	1	100	215	215	3.4	
	4	Ø10	1	100	130	130	0.8	
	5	Ø10	2	100	1010	2020	12.4	
	6	Ø10	2	100	355	710	4.4	
	7	Ø12.5	1	100	295	295	2.5	
	8	Ø6.3	63	10	96	6048	14.8	
Total+10%					96	6048	60.0	
V8	1	Ø10	2	100	813	1626	10.0	
	2	Ø10	2	100	220	440	2.7	
	3	Ø10	2	100	824	1648	10.2	
	4	Ø10	2	100	310	620	3.8	
	5	Ø6.3	41	10	96	3936	9.6	
Total+10%					96	3936	39.9	
V9	1	Ø10	2	100	325	650	4.0	
	2	Ø10	2	100	345	690	4.3	
	3	Ø6.3	15	10	96	1440	3.5	
Total+10%					96	1440	13.0	
V10	1	Ø10	2	100	372	744	4.6	
	2	Ø16	1	100	360	360	13.9	
	3	Ø16	2	100	315	630	24.3	
	4	Ø16	2	100	405	810	12.8	
	5	Ø16	1	100	175	175	4.3	
	6	Ø6.3	39	10	96	3744	9.2	
Total+10%					96	3744	76.0	
V11	1	Ø10	2	100	395	790	4.1	
	2	Ø10	2	100	395	790	4.1	
	3	Ø6.3	16	10	96	1536	3.8	
Total+10%					96	1536	13.5	
V12	1	Ø10	2	100	163	326	2.3	
	2	Ø10	2	100	405	810	2.5	
	3	Ø6.3	3	10	96	672	1.6	
Total+10%					96	672	1.6	
V13	1	Ø10	2	100	415	830	5.1	
	2	Ø10	2	100	395	790	4.5	
	3	Ø6.3	18	10	96	1728	4.2	
Total+10%					96	1728	15.6	
V14	1	Ø10	2	100	158	316	1.9	
	2	Ø10	2	100	209	418	2.6	
	3	Ø6.3	7	10	96	672	1.6	
Total+10%					96	672	6.7	
V15	1	Ø10	2	100	1029	2058	12.7	
	2	Ø10	2	100	600	1200	7.4	
	3	Ø12.5	2	100	225	450	4.3	
	4	Ø12.5	1	100	195	195	1.9	
	5	Ø10	2	100	882	1764	10.9	
	6	Ø12.5	2	100	190	380	3.7	
	7	Ø10	2	100	615	1230	7.6	
	8	Ø16	1	100	250	250	3.9	
	9	Ø6.3	85	10	96	8160	20.0	
Total+10%					96	8160	79.6	
V16	1	Ø10	2	100	789	1578	9.7	
	2	Ø10	1	100	175	175	1.1	
	3	Ø12.5	1	100	255	255	2.6	
	4	Ø10	2	100	800	1600	9.9	
	5	Ø6.3	40	10	96	3840	9.4	
Total+10%					96	3840	35.5	
					Ø6.3	147.3	0.0	
					Ø10	309.7	0.0	
					Ø12.5	24.6	0.0	
					Ø16	40.2	0.0	
					Ø16	4.7	0.0	
					Ø16	56.9	0.0	
					Total	860.4	0.0	

Terreo
 Desenho de vigas
 Concreto: C25, em geral
 Aço das barras: CA-50 e CA-60
 Aço dos estribos: CA-50 e CA-60
 Escala vigas 1:25
 Escala seções 1:25
 Escala aberturas 1:25

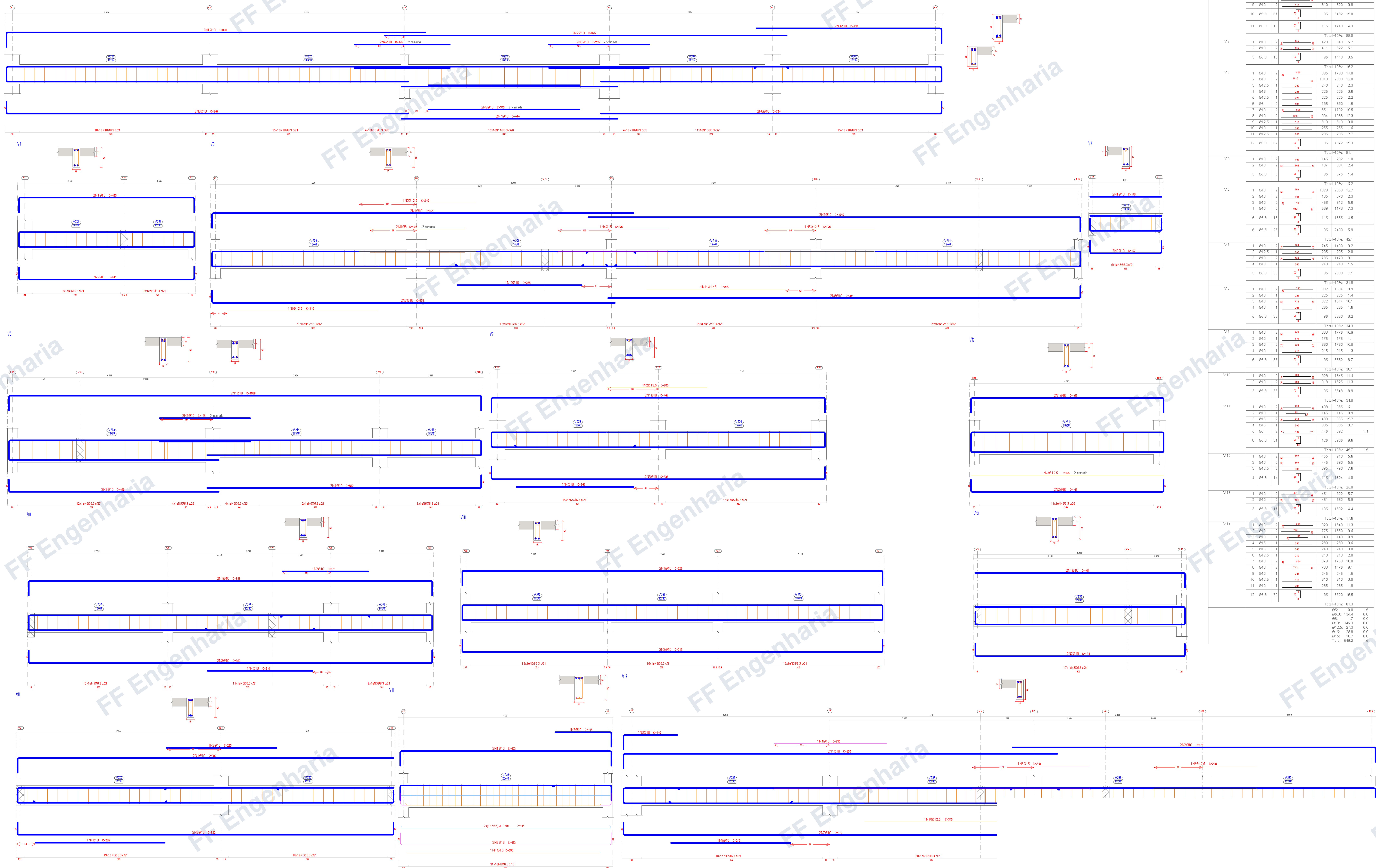


Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
V 7	1	Ø10	2		925	1850	11.4		
	2	Ø10	2		805	1610	9.9		
	3	Ø10	2		1055	2110	13.0		
	4	Ø10	2		460	920	5.7		
	5	Ø10	2		185	370	2.3		
	6	Ø10	1		180	180	1.1		
	7	Ø10	1		215	215	1.3		
	8	Ø10	2		245	490	3.0		
	9	Ø10	2		878	1756	10.8		
	10	Ø10	2		741	1482	9.1		
	11	Ø10	2		1009	2018	12.4		
	12	Ø10	2		459	918	5.7		
	13	Ø10	1		165	165	1.0		
	14	Ø10	1		355	355	2.2		
	15	Ø6.3	154		96	14784	36.2		
Total+10%:							137.6		
							Ø6.3:	39.8	0.0
							Ø10:	97.8	0.0
							Total:	137.6	0.0

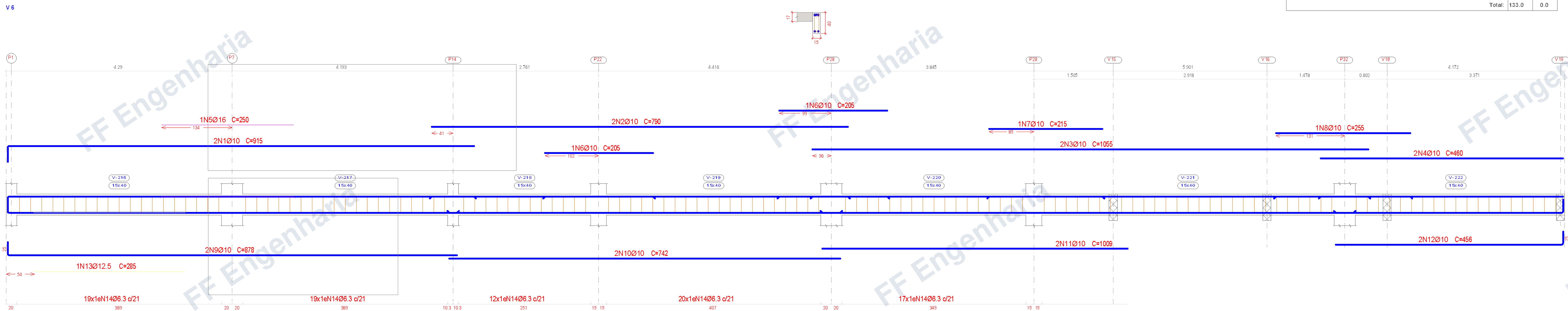
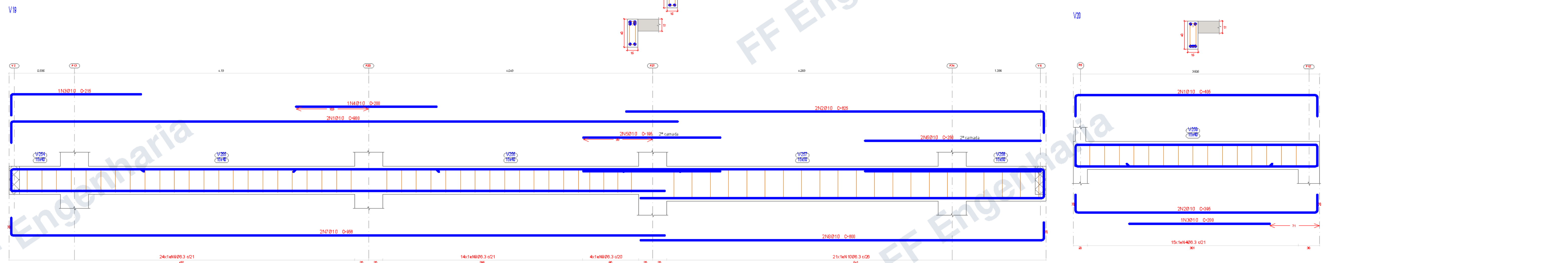
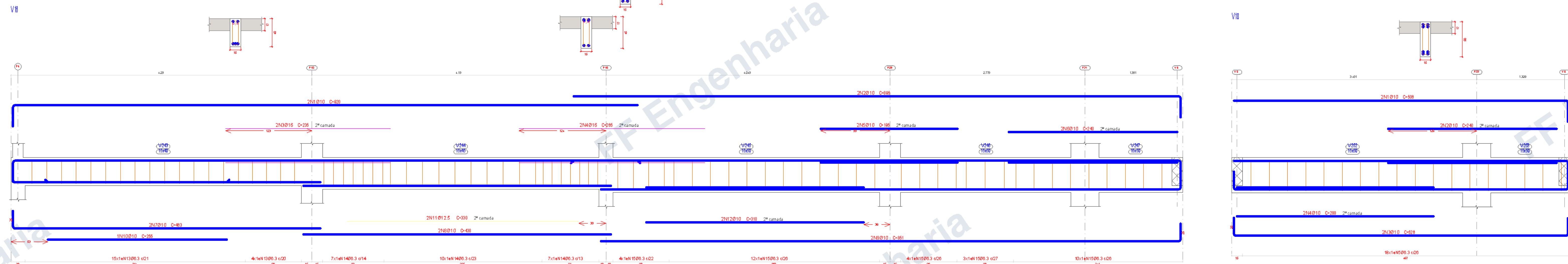
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VIGAS PAV 1 F01

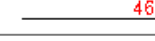
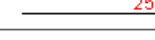
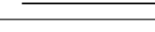
Pavimento 1
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Escala vigas 1:25
Escala seções 1:25
Escala aberturas 1:25



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V1	1	Ø10	2	180	800	1760	11.0	
	2	Ø10	2	180	825	1650	10.2	
	3	Ø10	2	180	410	820	5.1	
	4	Ø10	2	180	195	390	2.4	
	5	Ø10	2	180	205	410	2.5	
	6	Ø10	2	180	849	1698	10.5	
	7	Ø10	2	180	444	888	5.5	
	8	Ø10	2	180	724	1448	8.9	
	9	Ø10	2	180	310	620	3.8	
	10	Ø6.3	67		96	6432	15.8	
	11	Ø6.3	15		116	1740	4.3	
Total+10%							88.0	
V2	1	Ø10	2	180	420	840	5.2	
	2	Ø10	2	180	411	822	5.1	
	3	Ø6.3	15		96	1440	3.5	
Total+10%							15.2	
V3	1	Ø10	2	180	895	1790	11.0	
	2	Ø10	2	180	1040	2080	12.8	
	3	Ø12.5	1	180	240	240	2.3	
	4	Ø16	1	180	225	225	3.6	
	5	Ø12.5	1	180	225	225	2.2	
	6	Ø8	2	180	155	310	1.5	
	7	Ø10	2	180	851	1702	10.5	
	8	Ø10	2	180	994	1988	12.3	
	9	Ø12.5	1	180	310	310	3.0	
	10	Ø10	1	180	255	255	1.8	
	11	Ø12.5	1	180	295	295	2.7	
	12	Ø6.3	82		96	7872	19.3	
Total+10%							91.1	
V4	1	Ø10	2	180	145	290	1.8	
	2	Ø10	2	180	197	394	2.4	
	3	Ø6.3	6		96	576	1.4	
Total+10%							6.2	
V5	1	Ø10	2	180	1029	2058	12.7	
	2	Ø10	2	180	185	370	2.3	
	3	Ø10	2	180	456	912	5.6	
	4	Ø10	2	180	569	1138	7.3	
	5	Ø6.3	16		116	1856	4.5	
	6	Ø6.3	25		96	2400	5.9	
Total+10%							42.1	
V7	1	Ø10	2	180	745	1490	9.2	
	2	Ø12.5	1	180	205	205	2.0	
	3	Ø10	2	180	735	1470	9.1	
	4	Ø10	1	180	240	240	1.5	
	5	Ø6.3	30		96	2880	7.1	
Total+10%							31.8	
V8	1	Ø10	2	180	802	1604	9.9	
	2	Ø10	1	180	225	225	1.4	
	3	Ø10	2	180	822	1644	10.1	
	4	Ø10	1	180	265	265	1.6	
	5	Ø6.3	35		96	3360	8.2	
Total+10%							34.3	
V9	1	Ø10	2	180	888	1776	10.9	
	2	Ø10	1	180	175	175	1.1	
	3	Ø10	2	180	880	1760	10.8	
	4	Ø10	1	180	215	215	1.3	
	5	Ø6.3	37		96	3552	8.7	
Total+10%							36.1	
V10	1	Ø10	2	180	923	1846	11.4	
	2	Ø10	2	180	913	1826	11.3	
	3	Ø6.3	30		96	3648	8.9	
Total+10%							34.8	
V11	1	Ø10	2	180	453	906	6.1	
	2	Ø10	1	180	145	145	0.9	
	3	Ø16	2	180	483	966	15.2	
	4	Ø16	1	180	395	395	9.7	
	5	Ø6	2	180	445	892		1.4
	6	Ø6.3	31		126	3906	9.6	
Total+10%							45.7	1.5
V12	1	Ø10	2	180	455	910	6.6	
	2	Ø10	2	180	445	890	5.5	
	3	Ø12.5	2	180	395	790	7.6	
	4	Ø6.3	14		116	1624	4.0	
Total+10%							25.0	
V13	1	Ø10	2	180	461	922	5.7	
	2	Ø10	2	180	481	962	5.9	
	3	Ø6.3	17		105	1802	4.4	
Total+10%							17.6	
V14	1	Ø10	2	180	920	1840	11.3	
	2	Ø10	2	180	775	1550	9.6	
	3	Ø10	1	180	140	140	0.9	
	4	Ø16	1	180	230	230	3.6	
	5	Ø16	1	180	240	240	3.8	
	6	Ø12.5	1	180	210	210	2.0	
	7	Ø10	2	180	879	1758	10.8	
	8	Ø10	2	180	730	1460	9.1	
	9	Ø10	1	180	245	245	1.5	
	10	Ø12.5	1	180	310	310	3.0	
	11	Ø10	1	180	285	285	1.8	
	12	Ø6.3	70		96	6720	16.5	
Total+10%							81.3	
							06	1.5
							08	0.0
							010	0.0
							012.5	27.3
							016	28.9
							016	10.7
							Total	949.2



Pavimento 1	Elemento	Pos.	Quant.	Diari.	Q	Esquema (cm)	Comp (m)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
Desenho de vigas Concreto: C25, em geral Apo das barras: CA-50 e CA-60 Apo dos estribos: CA-50 e CA-60 Escala vigas: 1:25 Escala seções: 1:25 Escala aberturas: 1:25	V 15	1	010	2			775	1540	8,6		
		2	010	2			775	1540	8,6		
		3	010	2			775	1540	8,6		
		4	010	2			776	1552	8,6		
		06.3	30				116	3480	8,8		
							Total=10% 36,5				
	V 16	1	010	2			920	1840	11,3		
		2	010	2			995	1730	11,0		
		3	010	2			995	1730	11,0		
		4	016	2			265	530	3,4		
	5	010	2			195	390	2,4			
	6	010	2			240	480	3,0			
	10	010	2			465	930	5,7			
	15	010	2			430	870	5,4			
	19	010	2			851	1702	10,5			
	10	010	2			355	710	4,5			
	15	012.5	2			230	460	3,4			
	12	010	2			310	620	3,8			
	13	06.3	15			96	1824	4,5			
	14	06.3	24			108	2544	6,2			
	15	06.3	30			116	3320	9,4			
						Total=10% 66,7					
V 17	1	010	2			925	1850	11,4			
	2	010	2			490	980	6,0			
	3	010	2			355	710	4,5			
	4	016	2			270	540	3,5			
	5	010	2			372	744	4,6			
	6	010	2			535	1070	6,6			
	10	010	2			444	888	5,5			
	19	010	2			275	550	3,4			
	15	012.5	2			360	720	6,5			
	10	010	2			355	710	4,4			
	13	06.3	36			116	3480	8,8			
	12	06.3	25			106	2650	6,5			
						Total=10% 90,1					
V 18	1	010	2			606	1012	6,2			
	2	010	2			240	480	3,0			
	3	010	2			676	1352	8,6			
	4	010	2			260	520	3,3			
	06.3	18				116	2088	5,1			
						Total=10% 36,3					
V 19	1	010	2			980	1960	12,1			
	2	010	2			625	1250	7,7			
	3	010	1			156	315	1,9			
	4	010	1			200	400	2,2			
	5	010	2			195	390	2,4			
	6	010	2			260	520	3,1			
	7	010	2			558	1117	6,8			
	10	010	2			558	1120	7,4			
	9	06.3	42			95	4232	9,9			
	10	06.3	25			116	2496	6,0			
						Total=10% 69,2					
V 20	1	010	2			405	810	5,0			
	2	010	2			395	790	4,9			
	010	1				200	200	1,2			
	4	06.3	15			96	1440	3,5			
						Total=10% 16,5					
						06.3 74,9 6,0					
						010 214,6 6,0					
						012.5 14,8 6,0					
						016 37,3 6,0					
						Total 349,3 6,0					

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 6	1	Ø10	2		915	1830	11.3	
	2	Ø10	2		790	1580	9.7	
	3	Ø10	2		1055	2110	13.0	
	4	Ø10	2		460	920	5.7	
	5	Ø16	1		250	250	3.9	
	6	Ø10	2		205	410	2.5	
	7	Ø10	1		215	215	1.3	
	8	Ø10	1		255	255	1.6	
	9	Ø10	2		878	1756	10.8	
	10	Ø10	2		742	1484	9.1	
	11	Ø10	2		1009	2018	12.4	
	12	Ø10	2		458	912	5.6	
	13	Ø12.5	1		285	285	2.7	
	14	Ø6.3	133		96	12768	31.3	
						Total+10%:	133.0	
						Ø6.3:	34.4	0.0
						Ø10:	91.3	0.0
						Ø12.5:	3.0	0.0
						Ø16:	4.3	0.0
						Total:	133.0	0.0

VIGAS COBERTURA F01

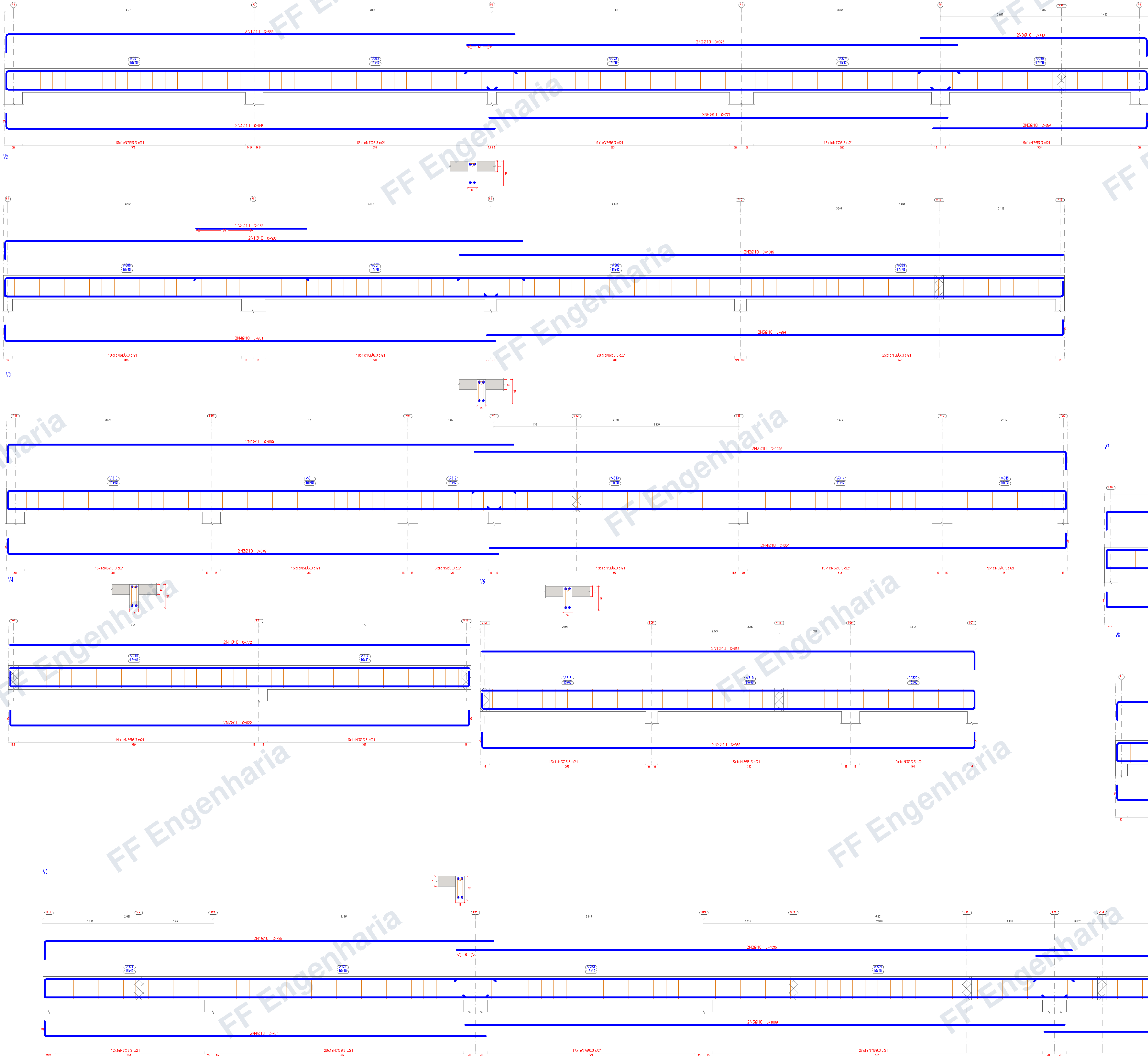


Cobertura
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Escala vigas 1:25
Escala seções 1:25

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
V-10	1	Ø10	2		455	910	5.6		
	2	Ø10	2		445	890	5.5		
	3	Ø10	1		290	290	1.8		
	4	Ø6.3	18		96	1728	4.2		
Total+10%							18.8		
V-11	1	Ø10	2		910	1820	11.2		
	2	Ø10	2		770	1540	9.5		
	3	Ø10	2		879	1758	10.8		
	4	Ø10	2		738	1476	9.1		
	5	Ø6.3	69		96	6624	16.2		
Total+10%							62.5		
V-12	1	Ø10	2		775	1550	9.6		
	2	Ø10	2		796	1592	9.8		
	3	Ø6.3	35		96	3360	8.2		
Total+10%							30.4		
V-13	1	Ø10	2		895	1790	11.0		
	2	Ø10	2		925	1850	11.2		
	3	Ø12.5	1		200	200	1.9		
	4	Ø12.5	1		215	215	2.1		
	5	Ø10	2		876	1752	10.8		
	6	Ø10	2		851	1702	10.5		
	7	Ø12.5	1		255	255	2.7		
	8	Ø6.3	77		96	7392	18.1		
Total+10%							75.1		
V-14	1	Ø10	2		930	1860	11.5		
	2	Ø10	2		495	990	6.1		
	3	Ø10	1		265	265	1.6		
	4	Ø12.5	1		215	215	2.1		
	5	Ø10	2		877	1754	10.8		
	6	Ø10	2		443	886	5.5		
	7	Ø10	1		255	255	1.6		
	8	Ø10	1		285	285	1.8		
	9	Ø6.3	59		96	5664	13.9		
Total+10%							60.4		
V-15	1	Ø10	2		505	1012	6.2		
	2	Ø10	2		526	1052	6.5		
	3	Ø6.3	23		96	2208	5.4		
Total+10%							19.9		
V-16	1	Ø10	2		870	1740	10.7		
	2	Ø10	2		1020	2040	12.6		
	3	Ø10	2		885	1770	10.9		
	4	Ø10	2		1004	2008	12.4		
	5	Ø6.3	82		96	7872	19.3		
Total+10%							72.5		
							Ø6.3	93.8	0.0
							Ø10	236.2	0.0
							Ø12.5	9.6	0.0
							Total	325.6	0.0

Resumo Aço	Comp. total (m)	Peso+10% (kg)	Total
CA-50	836.8	225	
Ø10	830.8	563	
Ø12.5	9.2	10	
Ø16	4.8	13	811

VIGAS COBERTURA F02



Cobertura									
Desenho de vigas									
Concreto: C25, em geral									
Aço das barras: CA-50 e CA-60									
Escala vigas 1:25									
Escala seções 1:25									
Escala aberturas 1:25									
Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
V1	1	Ø10	2	84	888	900	1770	10.9	
	2	Ø10	2	84	825	1650	10.2		
	3	Ø10	2	84	116	820	5.1		
	4	Ø10	2	84	825	847	1694	10.4	
	5	Ø10	2	771	771	1542	9.5		
	6	Ø10	2	84	384	768	4.7		
	7	Ø6.3	85	84	96	8160	20.0		
V2	1	Ø10	2	84	888	900	1800	11.1	
	2	Ø10	2	84	1015	2030	12.5		
	3	Ø10	1	84	185	185	1.1		
	4	Ø10	2	84	825	847	1702	10.5	
	5	Ø10	2	84	994	994	1988	12.3	
	6	Ø6.3	82	84	96	7872	19.3		
V3	1	Ø10	2	84	888	900	1780	10.8	
	2	Ø10	2	84	1025	2050	12.6		
	3	Ø10	2	84	849	1698	10.5		
	4	Ø10	2	84	994	994	1988	12.3	
	5	Ø6.3	79	84	96	7584	18.6		
V4	1	Ø10	2	84	772	1544	9.5		
	2	Ø10	2	84	822	1644	10.1		
	3	Ø6.3	35	84	96	3360	8.2		
V5	1	Ø10	2	84	888	900	1716	10.6	
	2	Ø10	2	84	878	1756	10.8		
	3	Ø6.3	37	84	96	3552	8.7		
V6	1	Ø10	2	84	785	1570	9.7		
	2	Ø10	2	84	1035	2070	12.8		
	3	Ø10	2	84	445	890	5.5		
	4	Ø10	2	84	187	187	1.3		
	5	Ø10	2	84	1009	1009	2018	12.4	
	6	Ø10	2	84	456	912	5.6		
	7	Ø6.3	95	84	96	8120	22.3		
V7	1	Ø10	2	84	893	1786	11.0		
	2	Ø10	2	84	913	1826	11.3		
	3	Ø6.3	38	84	96	3648	8.9		
V8	1	Ø10	2	84	912	1824	11.2		
	2	Ø10	2	84	902	1804	11.1		
	3	Ø6.3	38	84	96	3648	8.9		
V8	1	Ø10	2	84	488	976	6.0		
	2	Ø10	2	84	491	982	5.9		
	3	Ø16	1	84	480	480	11.8		
	4	Ø6.3	15	84	126	1890	4.6		
Total							31.1		
							06.3	131.4	0.0
							Ø10	807.3	0.0
							Ø16	13.0	0.0
							Total	871.7	0.0

