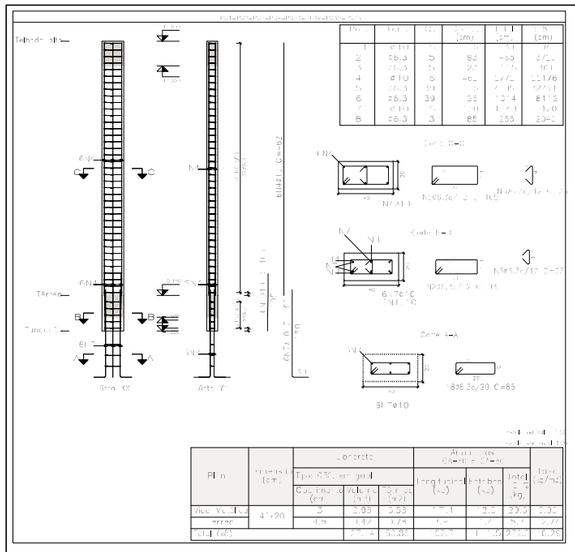
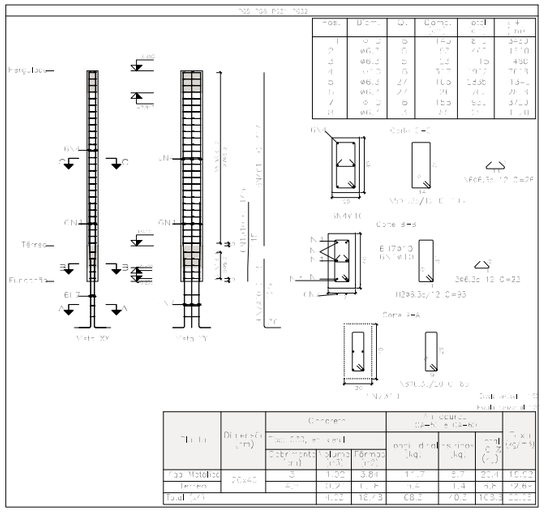


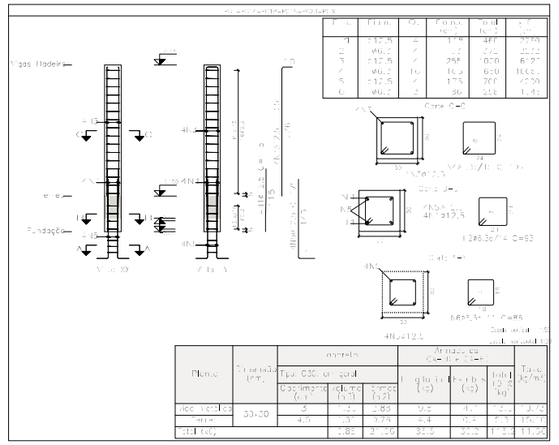
Pos.	Bitola	Nº	Comp. (cm)	Total (m)	Kg
1	ø 10	6	482	28.9	17.8
2	ø 6.3	6	92	5.5	1.2
3	ø 6.3	6	92	5.5	1.2
4	ø 10	6	482	28.9	17.8
5	ø 6.3	39	92	35.9	7.9
6	ø 6.3	39	92	35.9	7.9
7	ø 10	6	482	28.9	17.8
8	ø 6.3	3	85	2.6	0.6

Pilar	Dimensões (cm)	Concreto			Armaduras (CA-50 e CA-60)			
		Tipo: C30, em geral			Longitudinais		Estribos	Total kg	Taxa kg/m³
		Cobrimento (cm)	Volume (m³)	Fôrmas (m²)	Comp. (m)	Bitola (mm)	kg		
Vãos Verticais	40×20	3	2.93	5.53	71	5.0	33.0	38.0	32.4
Vigas		4.5	1.47	7.75	20.4	6.3	1.0	21.4	9.7
Total (kg)			4.40	13.28	91.4		34.0	59.4	42.1

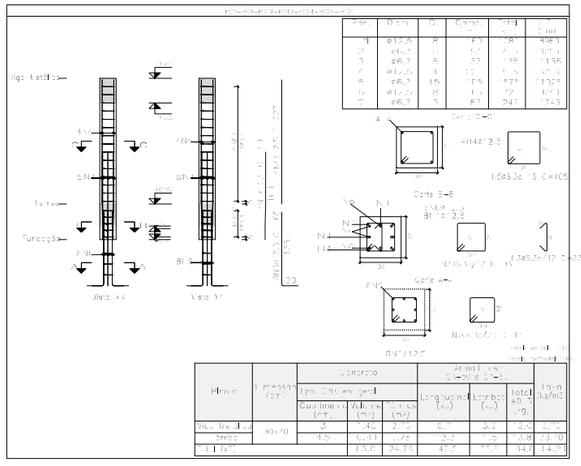


Pos.	Bitola	Nº	Comp. (cm)	Total (m)	Kg
1	ø 12.5	8	715	57.2	35.5
2	ø 6.3	4	92	3.7	0.8
3	ø 12.5	10	33	3.3	2.0
4	ø 12.5	14	33	4.6	2.8
5	ø 12.5	16	1585	253.6	157.3
6	ø 6.3	4	92	3.7	0.8
7	ø 12.5	8	715	57.2	35.5
8	ø 6.3	3	85	2.6	0.6

Pilar	Dimensões (cm)	Concreto			Armaduras (CA-50 e CA-60)			Taxa kg/m³
		Tipo: C30, em geral			Longitudinais	Estribos	Total kg	
		Cobrimento (cm)	Volume (m³)	Fôrmas (m²)				
Vãos Verticais	20×20	3	0.23	1.15	6.3	2.0	8.3	180.4
Vigas		4.5	0.23	1.26	6.4	2.0	8.4	182.6
Total (kg)			0.46	2.41	12.7	4.0	16.7	181.5

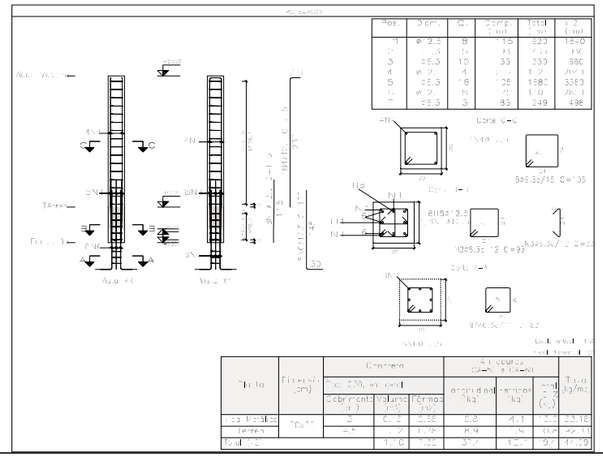


Pilar	Dimensões (cm)	Concreto			Armaduras (CA-50 e CA-60)			Taxa kg/m³
		Tipo: C30, em geral			Longitudinais	Estribos	Total kg	
		Cobrimento (cm)	Volume (m³)	Fôrmas (m²)				
Vãos Verticais	30×20	3	0.34	1.70	9.3	3.0	12.3	180.4
Vigas		4.5	0.34	1.86	9.4	3.0	12.4	182.6
Total (kg)			0.68	3.56	18.7	6.0	24.7	181.5



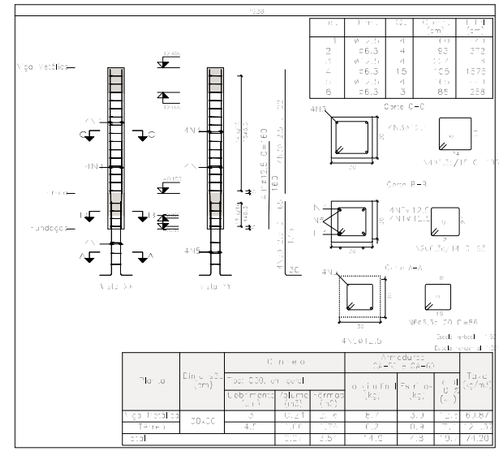
Pos.	Bitola	Nº	Comp. (cm)	Total (m)	Kg
1	ø 12.5	8	715	57.2	35.5
2	ø 6.3	4	93	3.7	0.8
3	ø 12.5	10	33	3.3	2.0
4	ø 12.5	14	33	4.6	2.8
5	ø 12.5	16	1585	253.6	157.3
6	ø 6.3	4	93	3.7	0.8
7	ø 12.5	8	715	57.2	35.5
8	ø 6.3	3	85	2.6	0.6

Pilar	Dimensões (cm)	Concreto			Armaduras (CA-50 e CA-60)			Taxa kg/m³
		Tipo: C30, em geral			Longitudinais	Estribos	Total kg	
		Cobrimento (cm)	Volume (m³)	Fôrmas (m²)				
Vãos Verticais	30×20	3	0.34	1.70	9.3	3.0	12.3	180.4
Vigas		4.5	0.34	1.86	9.4	3.0	12.4	182.6
Total (kg)			0.68	3.56	18.7	6.0	24.7	181.5



Pos.	Bitola	Nº	Comp. (cm)	Total (m)	Kg
1	ø 12.5	8	715	57.2	35.5
2	ø 6.3	4	93	3.7	0.8
3	ø 12.5	10	33	3.3	2.0
4	ø 12.5	14	33	4.6	2.8
5	ø 12.5	16	1585	253.6	157.3
6	ø 6.3	4	93	3.7	0.8
7	ø 12.5	8	715	57.2	35.5
8	ø 6.3	3	85	2.6	0.6

Pilar	Dimensões (cm)	Concreto			Armaduras (CA-50 e CA-60)			Taxa kg/m³
		Tipo: C30, em geral			Longitudinais	Estribos	Total kg	
		Cobrimento (cm)	Volume (m³)	Fôrmas (m²)				
Vãos Verticais	30×20	3	0.34	1.70	9.3	3.0	12.3	180.4
Vigas		4.5	0.34	1.86	9.4	3.0	12.4	182.6
Total (kg)			0.68	3.56	18.7	6.0	24.7	181.5



Pilar	Dimensões (cm)	Concreto			Armaduras (CA-50 e CA-60)			Taxa kg/m³
		Tipo: C30, em geral			Longitudinais	Estribos	Total kg	
		Cobrimento (cm)	Volume (m³)	Fôrmas (m²)				
Vãos Verticais	20×20	3	0.23	1.15	6.3	2.0	8.3	180.4
Vigas		4.5	0.23	1.26	6.4	2.0	8.4	182.6
Total (kg)			0.46	2.41	12.7	4.0	16.7	181.5

Resumo Aço Pilares	Comp. total (m)	Peso (kg)	total
CA-60 Ø6.3	171,5	227	
Ø 10	57,4	315	
Ø12.5	840,2	617	1159

Pilares que nascem em Térreo e chegam em Telhado têm:
Concreto C30, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60

Elemento	Pos	Bitola	Nº	Esquema (cm)	Comp. total (cm)	Total (m)	Kg
P33=P34=P35=P36=P37=P38=P39=P40	1	ø 10	6		482	28.9	17.8
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 10	6		482	28.9	17.8
	5	ø 6.3	74		105	77.7	17.2
	6	ø 6.3	74		26	19.2	4.3
	7	ø 10	6		105	6.3	3.9
	8	ø 6.3	3		85	2.6	0.6
						total (x8)	45.4 (363.2)
P35=P36=P37=P38	1	ø 10	6		172	10.3	6.4
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 10	6		172	10.3	6.4
	5	ø 6.3	74		105	77.7	17.2
	6	ø 6.3	74		26	19.2	4.3
	7	ø 10	6		105	6.3	3.9
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	44.7 (178.8)
P37=P38=P39=P40	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P29=P30=P31=P32 P40	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P33=P34=P35=P36 P40	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P29=P30=P31=P32 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P33=P34=P35=P36 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P25=P26=P27=P28 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P21=P22=P23=P24 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P17=P18=P19=P20 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P13=P14=P15=P16 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P9=P10=P11=P12 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P5=P6=P7=P8 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P1=P2=P3=P4 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P21=P22=P23=P24 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P17=P18=P19=P20 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P13=P14=P15=P16 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P9=P10=P11=P12 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P5=P6=P7=P8 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P1=P2=P3=P4 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P25=P26=P27=P28 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P33=P34=P35=P36 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P37=P38=P39=P40 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P16=P6=P22 P21	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P16=P6=P22 P29	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
P16=P6=P22 P40	1	ø 12.5	8		172	13.8	8.5
	2	ø 6.3	4		93	3.7	0.8
	3	ø 12.5	8		33	2.6	0.6
	4	ø 6.3	74		105	77.7	17.2
	5	ø 12.5	16		105	16.8	10.4
	6	ø 6.3	74		26	19.2	4.3
	7	ø 12.5	8		105	8.4	5.2
	8	ø 6.3	3		85	2.6	0.6
						total (x4)	56.4 (225.6)
							68.3 (546.9)
							0.0 (0.0)
							0.0 (0.0)
							0.0 (0.0)