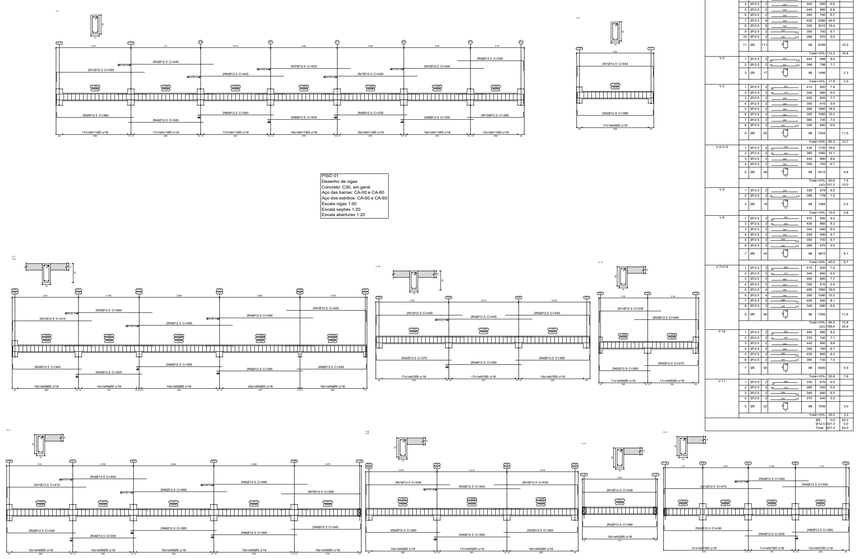
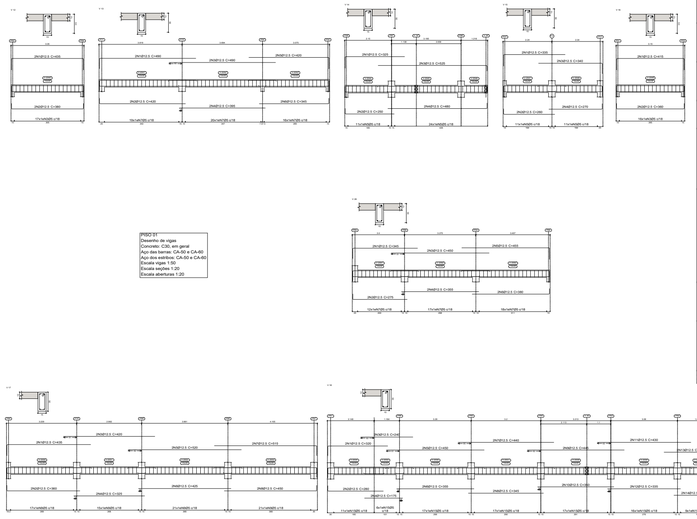


PBD 01
Desenho de vigas
Concreto: C30, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:20
Escala aberturas 1:20

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V-1	1	Ø12.5	2		440	880	7.7	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		440	880	7.7	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		440	880	7.7	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	112		58	6496		16.3
					Total (10%)		93.4	16.6
V-2	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	2.3
	3	Ø8	12		58	696		0.3
					Total (10%)		23.1	2.6
V-3	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	2.3
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		450	900	7.7	
	5	Ø12.5	2		580	1160	10.1	
	6	Ø12.5	2		750	1500	13.0	
	7	Ø12.5	2		580	1160	10.1	
	8	Ø12.5	2		450	900	7.7	
	9	Ø8	112		58	6496		16.3
					Total (10%)		92.3	21.1
V-4	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		750	1500	13.0	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	12		58	696		0.3
					Total (10%)		41.2	0.3
V-5	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø8	56		58	3248		8.1
					Total (10%)		17.8	8.9
V-6	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø8	56		58	3248		8.1
					Total (10%)		18.0	8.9
V-7/V-8	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø12.5	2		450	900	7.7	
	6	Ø12.5	2		580	1160	10.1	
	7	Ø8	56		58	3248		8.1
					Total (10%)		45.0	8.1
V-10	1	Ø12.5	2		440	880	7.7	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		440	880	7.7	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		440	880	7.7	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	112		58	6496		16.3
					Total (10%)		93.5	16.6
V-11	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	2.3
	3	Ø8	12		58	696		0.3
					Total (10%)		23.1	2.6

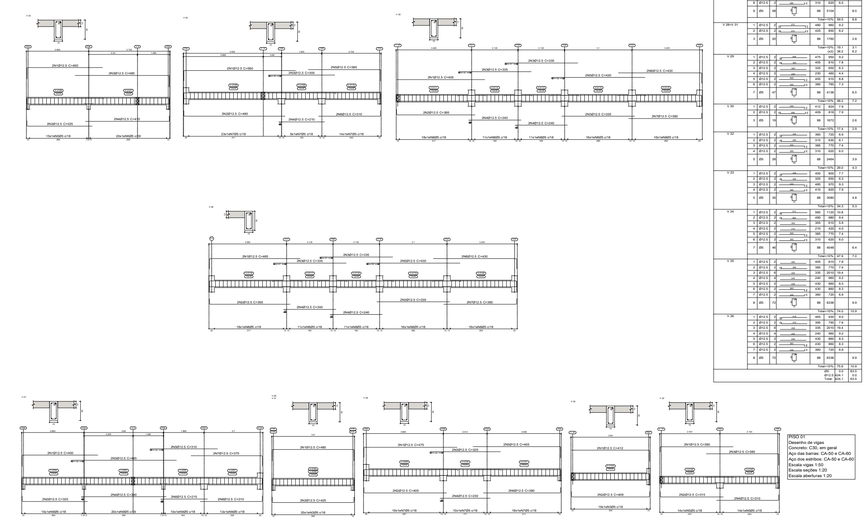


PBD 01
Desenho de vigas
Concreto: C30, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:20
Escala aberturas 1:20

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V-12	1	Ø12.5	2		520	1040	9.1	
	2	Ø12.5	2		490	980	8.5	
	3	Ø8	12		58	696		0.3
					Total (10%)		17.7	0.3
V-13	1	Ø12.5	2		520	1040	9.1	
	2	Ø12.5	2		490	980	8.5	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		490	980	8.5	
	5	Ø12.5	2		520	1040	9.1	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		490	980	8.5	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	56		58	3248		8.1
					Total (10%)		79.4	8.1
V-14	1	Ø12.5	2		520	1040	9.1	
	2	Ø12.5	2		490	980	8.5	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		490	980	8.5	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-15	1	Ø12.5	2		520	1040	9.1	
	2	Ø12.5	2		490	980	8.5	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		490	980	8.5	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-16	1	Ø12.5	2		475	950	8.3	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø8	56		58	3248		8.1
					Total (10%)		19.4	8.1
V-17	1	Ø12.5	2		435	870	8.4	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		520	1040	9.1	
	6	Ø12.5	2		520	1040	9.1	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		520	1040	9.1	
	9	Ø8	112		58	6610		16.6
					Total (10%)		93.2	16.6
V-18	1	Ø12.5	2		520	1040	9.1	
	2	Ø12.5	2		490	980	8.5	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		490	980	8.5	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		490	980	8.5	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	112		58	6496		16.3
					Total (10%)		93.2	16.3
V-19	1	Ø12.5	2		190	370	3.6	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		420	840	7.3	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		37.7	8.1
V-20	1	Ø12.5	2		340	680	5.9	
	2	Ø12.5	2		270	540	4.7	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		270	540	4.7	
	5	Ø12.5	2		340	680	5.9	
	6	Ø8	56		58	3248		8.1
					Total (10%)		35.2	8.1
					Ø12.5	1912.5	1920	1920
					Ø8	1647.4	284	284
					Total		2204	2204

PBD 01
Desenho de vigas
Concreto: C30, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:20
Escala aberturas 1:20

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V-21	1	Ø12.5	2		440	880	7.7	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		440	880	7.7	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		440	880	7.7	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	112		58	6496		16.3
					Total (10%)		93.5	16.6
V-22	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	2.3
	3	Ø8	12		58	696		0.3
					Total (10%)		23.1	2.6
V-23	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		450	900	7.7	
	5	Ø12.5	2		580	1160	10.1	
	6	Ø12.5	2		750	1500	13.0	
	7	Ø12.5	2		580	1160	10.1	
	8	Ø12.5	2		450	900	7.7	
	9	Ø8	112		58	6496		16.3
					Total (10%)		92.3	21.1
V-24	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-25	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-26	1	Ø12.5	2		590	1180	10.4	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		490	980	8.5	
	5	Ø12.5	2		520	1040	9.1	
	6	Ø12.5	2		590	1180	10.4	
	7	Ø8	56		58	3248		8.1
					Total (10%)		57.2	8.1
V-27	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		490	980	8.5	
	6	Ø12.5	2		520	1040	9.1	
	7	Ø8	56		58	3248		8.1
					Total (10%)		52.1	8.1
V-28	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-29	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-30	1	Ø12.5	2		190	370	3.6	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		420	840	7.3	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		37.7	8.1
V-31	1	Ø12.5	2		340	680	5.9	
	2	Ø12.5	2		270	540	4.7	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		270	540	4.7	
	5	Ø12.5	2		340	680	5.9	
	6	Ø8	56		58	3248		8.1
					Total (10%)		35.2	8.1
					Ø12.5	1912.5	1920	1920
					Ø8	1647.4	284	284
					Total		2204	2204



PBD 01
Desenho de vigas
Concreto: C30, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:20
Escala aberturas 1:20

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V-32	1	Ø12.5	2		440	880	7.7	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		440	880	7.7	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		440	880	7.7	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	112		58	6496		16.3
					Total (10%)		93.5	16.6
V-33	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	2.3
	3	Ø8	12		58	696		0.3
					Total (10%)		23.1	2.6
V-34	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		450	900	7.7	
	5	Ø12.5	2		580	1160	10.1	
	6	Ø12.5	2		750	1500	13.0	
	7	Ø12.5	2		580	1160	10.1	
	8	Ø12.5	2		450	900	7.7	
	9	Ø8	112		58	6496		16.3
					Total (10%)		92.3	21.1
V-35	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-36	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-37	1	Ø12.5	2		590	1180	10.4	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		490	980	8.5	
	5	Ø12.5	2		520	1040	9.1	
	6	Ø12.5	2		590	1180	10.4	
	7	Ø8	56		58	3248		8.1
					Total (10%)		57.2	8.1
V-38	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		490	980	8.5	
	6	Ø12.5	2		520	1040	9.1	
	7	Ø8	56		58	3248		8.1
					Total (10%)		52.1	8.1
V-39	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-40	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-41	1	Ø12.5	2		190	370	3.6	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		420	840	7.3	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		37.7	8.1
V-42	1	Ø12.5	2		340	680	5.9	
	2	Ø12.5	2		270	540	4.7	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		270	540	4.7	
	5	Ø12.5	2		340	680	5.9	
	6	Ø8	56		58	3248		8.1
					Total (10%)		35.2	8.1
					Ø12.5	1912.5	1920	1920
					Ø8	1647.4	284	284
					Total		2204	2204

PBD 01
Desenho de vigas
Concreto: C30, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:20
Escala aberturas 1:20

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V-43	1	Ø12.5	2		440	880	7.7	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		440	880	7.7	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		440	880	7.7	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	112		58	6496		16.3
					Total (10%)		93.5	16.6
V-44	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	2.3
	3	Ø8	12		58	696		0.3
					Total (10%)		23.1	2.6
V-45	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		450	900	7.7	
	5	Ø12.5	2		580	1160	10.1	
	6	Ø12.5	2		750	1500	13.0	
	7	Ø12.5	2		580	1160	10.1	
	8	Ø12.5	2		450	900	7.7	
	9	Ø8	112		58	6496		16.3
					Total (10%)		92.3	21.1
V-46	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-47	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-48	1	Ø12.5	2		590	1180	10.4	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		490	980	8.5	
	5	Ø12.5	2		520	1040	9.1	
	6	Ø12.5	2		590	1180	10.4	
	7	Ø8	56		58	3248		8.1
					Total (10%)		57.2	8.1
V-49	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		490	980	8.5	
	6	Ø12.5	2		520	1040	9.1	
	7	Ø8	56		58	3248		8.1
					Total (10%)		52.1	8.1
V-50	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-51	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		35.4	8.1
V-52	1	Ø12.5	2		190	370	3.6	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		420	840	7.3	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		37.7	8.1
V-53	1	Ø12.5	2		340	680	5.9	
	2	Ø12.5	2		270	540	4.7	
	3	Ø12.5	2		520	1040	9.1	
	4	Ø12.5	2		270	540	4.7	
	5	Ø12.5	2		340	680	5.9	
	6	Ø8	56		58	3248		8.1
					Total (10%)		35.2	8.1
					Ø12.5	1912.5	1920	1920
					Ø8	1647.4	284	284
					Total		2204	2204

PBD 01
Desenho de vigas
Concreto: C30, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:20
Escala aberturas 1:20

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V-54	1	Ø12.5	2		440	880	7.7	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		440	880	7.7	
	6	Ø12.5	2		490	980	8.5	
	7	Ø12.5	2		520	1040	9.1	
	8	Ø12.5	2		440	880	7.7	
	9	Ø12.5	2		520	1040	9.1	
	10	Ø8	112		58	6496		16.3
					Total (10%)		93.5	16.6
V-55	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	2.3
	3	Ø8	12		58	696		0.3
					Total (10%)		23.1	2.6
V-56	1	Ø12.5	2		750	1500	13.0	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		450	900	7.7	
	5	Ø12.5	2		580	1160	10.1	
	6	Ø12.5	2		750	1500	13.0	
	7	Ø12.5	2		580	1160	10.1	
	8	Ø12.5	2		450	900	7.7	
	9	Ø8	112		58	6496		16.3
					Total (10%)		92.3	21.1
V-57	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-58	1	Ø12.5	2		450	900	7.7	
	2	Ø12.5	2		580	1160	10.1	
	3	Ø12.5	2		450	900	7.7	
	4	Ø12.5	2		580	1160	10.1	
	5	Ø8	56		58	3248		8.1
					Total (10%)		44.1	8.1
V-59	1	Ø12.5	2		590	1180	10.4	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		490	980	8.5	
	5	Ø12.5	2		520	1040	9.1	
	6	Ø12.5	2		590	1180	10.4	
	7	Ø8	56		58	3248		8.1
					Total (10%)		57.2	8.1
V-60	1	Ø12.5	2		490	980	8.5	
	2	Ø12.5	2		520	1040	9.1	
	3	Ø12.5	2		490	980	8.5	
	4	Ø12.5	2		520	1040	9.1	
	5	Ø12.5	2		490	980