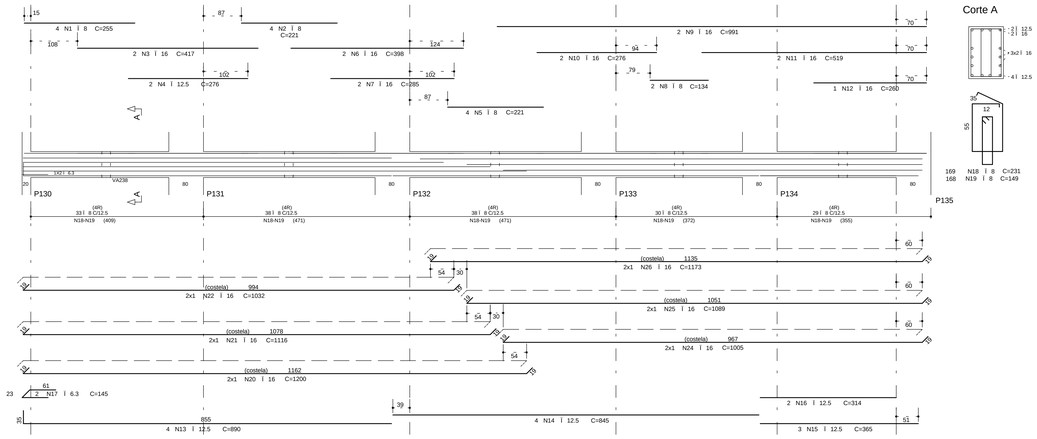
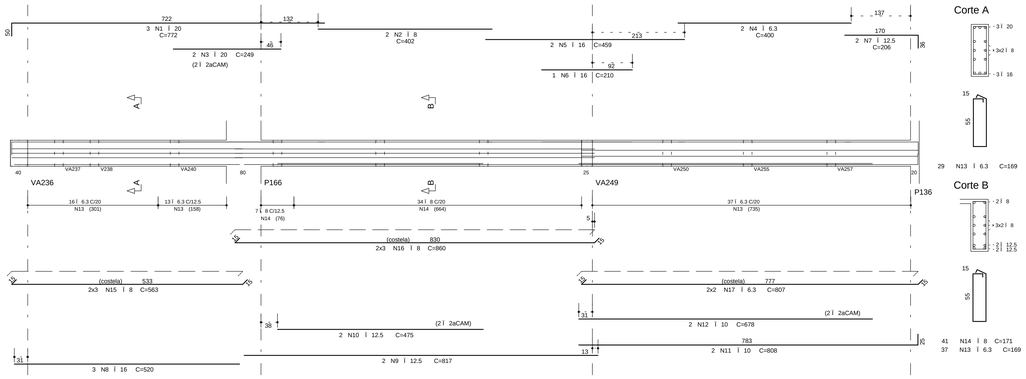
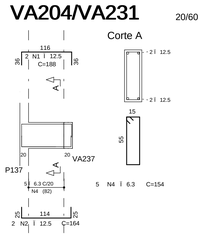
VA201 40/60



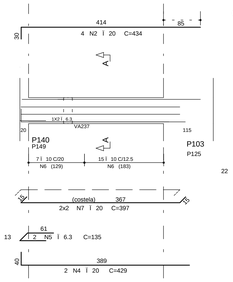
VA202 20/60



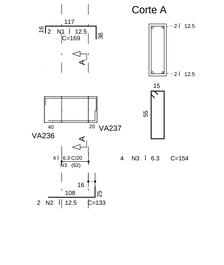
VA203/VA229 VA204/VA231 20/60



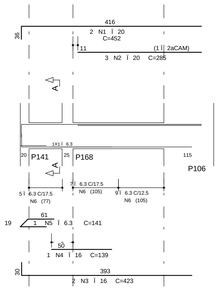
VA205/VA228 25/60



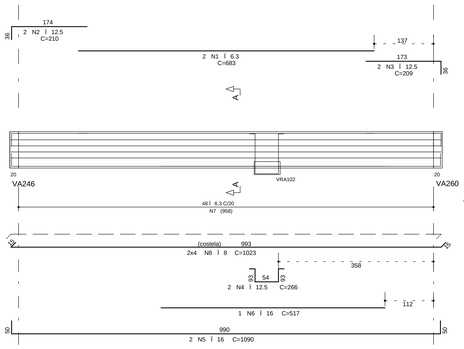
VA206/VA209/VA211/VA214 VA220/VA223/VA225/VA227 20/60



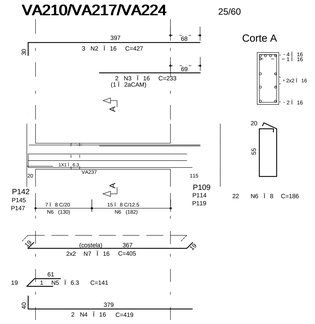
VA207/VA213/VA222/VA226 25/60



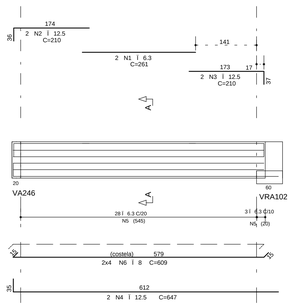
VA208 20/84



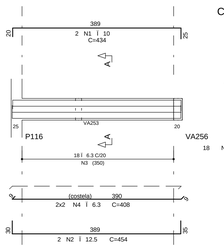
VA210/VA217/VA224 25/60



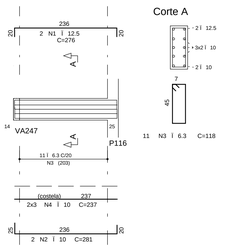
VA212 20/84



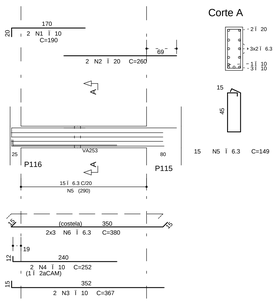
VA215 14/50



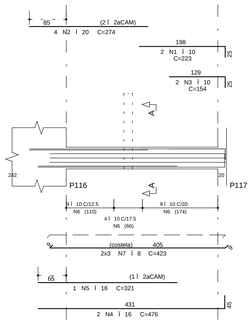
VA216/VA219 12/50



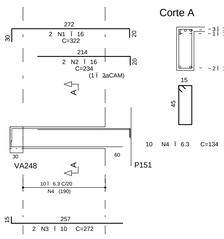
VA218 20/50



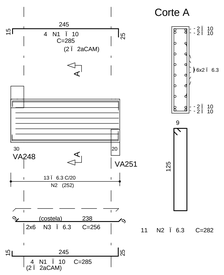
VA221 14/50



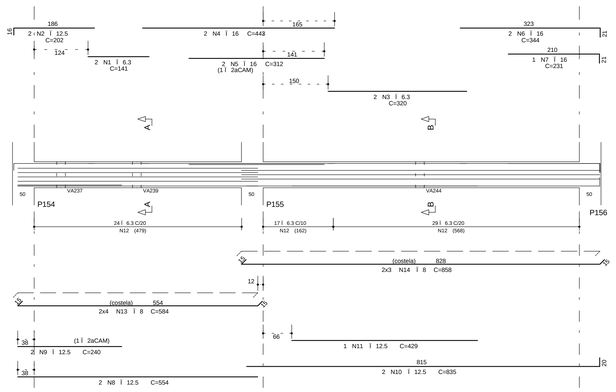
VA230 20/50



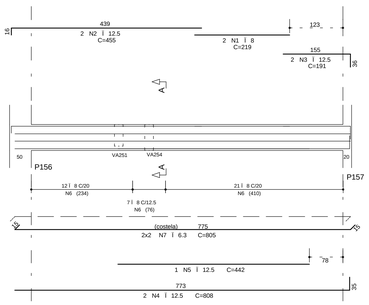
VA232 14/130



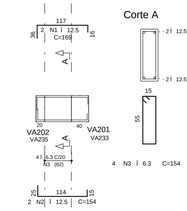
VA233 20/60



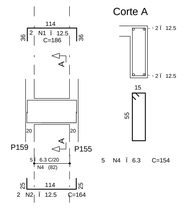
VA234 20/60



VA238/VA239/VA242 VA245/VA250/VA257 20/60



VA241 20/60



AÇO	POS	BIT (mm)	QUANT	COMPRIMENTO UNIT (cm)	COMPRIMENTO TOTAL (cm)
VA201					
50A	1	8	4	255	1020
50A	2	8	4	221	884
50A	3	16	2	417	834
50A	4	12.5	2	276	552
50A	5	8	4	221	884
50A	6	16	2	398	796
50A	7	16	2	285	570
50A	8	8	2	134	268
50A	9	16	2	991	1982
50A	10	16	2	276	552
50A	11	16	2	519	1038
50A	12	16	1	260	260
50A	13	12.5	4	890	3560
50A	14	12.5	4	845	3380
50A	15	12.5	3	365	1095
50A	16	12.5	2	314	628
50A	17	6.3	2	145	290
50A	18	8	169	149	25169
50A	19	8	168	149	25031
50A	20	16	2	1200	2400
50A	21	16	2	1116	2232
50A	22	16	2	1032	2064
50A	24	16	2	1005	2010
50A	25	16	2	1089	2178
50A	26	16	2	1173	2346
VA202					
50A	1	8	3	772	2316
50A	2	8	2	402	804
50A	3	20	2	249	498
50A	4	6.3	2	400	800
50A	5	16	2	459	918
50A	6	16	1	210	210
50A	7	12.5	2	206	412
50A	8	16	3	520	1560
50A	9	12.5	2	817	1634
50A	10	12.5	2	475	950
50A	11	10	2	808	1616
50A	12	10	2	678	1356
50A	13	6.3	66	169	11154
50A	14	8	41	171	7011
50A	15	8	6	563	3378
50A	16	8	6	860	5160
50A	17	6.3	4	807	3228
VA204/VA231 (X4)					
50A	1	12.5	8	188	1504
50A	2	12.5	8	164	1312
50A	4	6.3	20	154	3080
VA205/VA228 (X2)					
50A	2	20	8	434	3472
50A	4	20	4	429	1716
50A	5	6.3	4	135	540
50A	6	10	44	190	8360
50A	7	20	8	397	3176
VA220/VA223/VA225/VA227 (X8)					
50A	1	12.5	16	169	2704
50A	2	12.5	16	133	2128
50A	4	6.3	32	154	4928
VA207/VA213/VA222/VA226 (X4)					
50A	1	20	8	452	3616
50A	2	20	12	285	3420
50A	3	16	8	423	3384
50A	4	16	4	139	556
50A	5	6.3	4	141	564
50A	6	6.3	84	164	13776
VA208					
50A	1	6.3	2	683	1366
50A	2	12.5	2	210	420
50A	3	12.5	2	209	418
50A	4	12.5	2	266	532
50A	5	16	2	1090	2180
50A	6	16	1	517	517
50A	7	6.3	48	202	9696
50A	8	8	8	1023	8184
VA210/VA217/VA224 (X3)					
50A	2	16	9	427	3843
50A	3	16	6	233	1398
50A	4	16	6	419	2514
50A	5	6.3	3	141	423
50A	6	8	66	186	12276
50A	7	16	12	405	4860
VA212					
50A	1	6.3	2	261	522
50A	2	12.5	2	210	420
50A	3	12.5	2	210	420
50A	4	12.5	2	647	1294
50A	5	6.3	31	202	6262
50A	6	8	8	609	4872
VA215					
50A	1	10	2	434	868
50A	2	12.5	2	454	908
50A	3	6.3	18	131	2358
50A	4	6.3	4	408	1632
VA216/VA219 (X2)					
50A	1	12.5	4	276	1104
50A	2	10	4	281	1124
50A	3	6.3	22	118	2596
50A	4	10	12	237	2844
VA218					
50A	1	10	2	190	380
50A	2	20	2	260	520
50A	3	10	2	367	734
50A	4	10	2	252	504
50A	5	6.3	15	149	2235
50A	6	6.3	6	380	2280
VA221					
50A	1	10	2	223	446
50A	2	20	4	274	1096
50A	3	10	2	154	308
50A	4	16	2	476	952
50A	5	16	1	321	321
50A	6	10	22	137	3014
50A	7	8	6	423	2538
VA230					
50A	1	16	2	322	644
50A	2	16	2	234	468
50A	3	10	2	272	544
50A	4	6.3	10	134	1340
VA232					
50A	1	10	8	285	2280
50A	2	6.3	11	282	3102
50A	3	6.3	12	256	3072
VA233					
50A	1	6.3	2	141	282
50A	2	12.5	2	202	404
50A	3	6.3	2	320	640
50A	4	16	2	443	886
50A	5	16	2	312	624
50A	6	16	2	344	688
50A	7	16	1	231	231
50A	8	12.5	2	554	1108
50A	9	12.5	2	240	480
50A	10	12.5	2	835	1670
50A	11	12.5	3	429	429
50A	12	6.3	70	169	11830
50A	13	8	8	584	4672
50A	14	8	6	858	5148
VA234					
50A	1	8	2	219	438
50A	2	12.5	2	455	910
50A	3	12.5	2	191	382
50A	4	12.5	2	808	1616
50A	5	12.5	1	442	442
50A	6	8	40	171	6840
50A	7	6.3	4	805	3220
VA238/VA239/VA242 (X6)					
50A	1	12.5	12	169	2028
50A	2	12.5	12	154	1848
50A	3	6.3	24	154	3696
VA241					
50A	1	12.5	2	186	372
50A	2	12.5	2	164	328
50A	4	6.3	5	154	770

RESUMO AÇO CA 50-60			
AÇO	BIT (mm)	COMPR (m)	PESO (kg)
50A	6.3	957	239
50A	8	1284	514
50A	10	244	154
50A	12.5	1187	374
50A	16	460	736
50A	20	154	496
Peso Total:	50A		2513 kg

COBRIMENTO DA ARMADURA:

- LAJES = 2,0 cm
- VIGAS E PILARES = 2,5 cm
- BLOCOS,BALDRAMES E CONTENÇÕES (FACE EM CONTATO COM O TERRA) = 3,0 cm

1. ESSES COBRIMENTOS DEVERÃO SER GARANTIDOS COM O USO DE ESPAÇADORES DE ARGAMASSA OU PASTILHAS.

COBRIMENTOS ESPECIFICOS EM DETALHES DE VIGAS DIFERENTES DOS INDICADOS ACIMA, ESTÃO INDICADOS NOS DESENHOS DE FORMAS DOS PAVIMENTOS.

NORMAS UTILIZADAS:

NBR-6118/2003 - PROJETO E EXECUCAO DE OBRAS DE CONCRETO ARMADO
NBR-6120/1980 - CARGAS PARA O CALCULO DE ESTRUTURAS DE EDIFICACOES

INDICE:

VA201 A VA234, VA238, VA239, VA241, VA242, VA245, VA250 E VA257

FCK= 35 MPa
EC = 28 GPa (MODULO DE ELASTICIDADE SECANTE AOS 28 DIAS).
A/C = 0,65 (FATOR AGUA CIMENTO)

REV	DATA	DESCRICAO
1	19/08/2014	NUMERACAO FINAL
0	15/06/2012	EMISSAO INICIAL

Simetria Engenharia
SIA QUADRA AC Nº 50 SALAS 201 A 203
BRASÍLIA-DF CEP: 71200-045
PABX: (0XX61) 3036-9633
simetria@simetria.eng.br

PROJETO ESTRUTURAL

CLIENTE: GENT INCORPORADORA LTDA
OBRA: ED. RESIDENCIAL/COMERCIAL PAINEIRAS — No OBRA: XXX
ENDEREÇO OBRA: RUA 30 NORTE LOTE 02 - RUA DAS PAINEIRAS - AGUAS CLARAS DF
DESCRICAO: ARMACAO DAS VIGAS - TORRE 1 - JUNTA A 1o SUBSOLO (01/03)
DESENHO No: BL1 035-090

DESENHISTA	DATA	ESCALA	UNIDADE	No PROJ. SIMETRIA
TQS/ PRISCILLA	15/06/2012	1:50	CM	478

ARQUIVO PLT: 478 -EST-BL1- 035-090 -R01 -VIG.PLT

PROPRIETARIO: RESPONSAVEL TECNICO

RESPONSAVEL TECNICO PELO PROJETO ESTRUTURAL
SIMETRIA ENGENHARIA E PROJETOS S/C LTDA
CREA:2725/RF

SIMETRIA ENGENHARIA DE PROJETOS S/C LTDA PLT,E:\TQS\WorkFir - COSMOPOLITAN - TORRE 1 - JUNTA A\02 Ex SUBSOLO\VIGAS\VIGA001.PLT 19/08/2014 17:35:59