

67
3 N2 N 16 C=228

115
2 N1 N 6.3 C=259

153
2 N3 R 12.5 C=184

344
P310

32 R 6.3 C=17.8
N= (500)

602
(costeira)
2x3 N8 N 5 C=632

437
1 N6 N 10 C=457

19
2 N4 N 12.5 C=157

612
2 N5 N 10 C=632

[illegible]

Corte A

Technical drawing showing the cross-section (Corte A) of the building. The drawing includes the following details:

- Top Section:** Shows a horizontal section with dimensions 224, 2 N1, N 16, and C=327. A vertical dimension of 10 is indicated on the right.
- Left Wall Section:** Shows a vertical section with dimensions 25, 14, and 10 R 5 C 20. It includes labels VC231 and VC232.
- Right Wall Section:** Shows a vertical section with dimensions 9, 180, and 10. It includes labels NS, R 5, and C=392.
- Bottom Section:** Shows a horizontal section with dimensions 225, 2 N3, R 12.5, (2 N 2aCAM), C=283, 225, 2 N4, R 10, C=200, 96, 8, 8, 2, and 225.
- Annotations:** Includes a north arrow pointing upwards and a scale bar indicating 10 units.

[illegible][illegible]

Technical drawing of a mechanical part, showing two views: a front view (left) and a side view (right).

Front View (Left):

- Overall width: 340
- Overall height: 20
- Base dimensions: 2 N1 R 12.5 C=376, 1 N2 R 12.5 C=184
- Vertical support dimensions: 64 (width), 184 (height)
- Bottom dimensions: 16 R 6.3 C17.5 N4 (27.3), 337, 2x2 N5 R 5 C=337, 318, 4 N3 R 10 C=343

Side View (Right):

- Overall width: 20
- Overall height: 46
- Dimensions: 16 N4 R 6.3 C=144, 3 R 12.5

The drawing is titled "Corte A" in the top right corner.

Technical drawing of a bridge deck cross-section showing reinforcement details. The drawing includes a top reinforcement bar (N1, N25, C=857), a bottom reinforcement bar (N6, N20, C=645), and a central reinforcement bar (N5, N25, C=857). The deck width is 1100 cm. The drawing also shows the placement of stirrups (N7, N20) and the location of the reinforcement bars relative to the deck edges. The drawing is labeled '222' and '223'.

[illegible]

The drawing shows three sections of a building floor plan, labeled P334, P323, and P315. Each section includes dimensions, room numbers, and structural details.

- Section P334:**
 - Top: 739, 2 N1 R 16 C=760, 96, 1 N3 R 16 C=227, 203, 2 N2 R 6.3 C=220.
 - Bottom: 50, 125, P334, 21 R 6.3 C117.5 N9 (350), 446, 2x2 N11 R 5 C=446, 31, 4 N6 N 10 C=412.
- Section P323:**
 - Top: 739, 2 N4 R 16 C=799, 96, 1 N5 R 16 C=331, 203, 2 N2 R 6.3 C=220.
 - Bottom: 150, 125, P323, 36 R 6.3 C117.5 N9 (613), 446, 2x2 N11 R 5 C=446, 31, 4 N6 N 10 C=412.
- Section P315:**
 - Top: 739, 2 N4 R 16 C=799, 96, 1 N5 R 16 C=331, 203, 2 N2 R 6.3 C=220.
 - Bottom: 150, 125, P315, 22 R 6.3 C117.5 N10 (375), 435, 2x3 N12 R 5 C=465, 37, 2 N8 N 12.5 C=451.

Corte A

20
45

2 N 16
2 x 2 N 5
4 N 10

N 9 N 6.3 C=144

Corte B

20
45

2 N 6.3
3 N 10

N 9 N 6.3 C=144

Corte C

20
45

2 N 16
2 x 2 N 5
2 N 12.5

N 10 N 6.3 C=154

Case	AEO	POS	COMMITMENT			COMMITMENT			TOTAL		AEO	POS	COMMITMENT			COMMITMENT			TOTAL			
			BIT	QUANT	UNIT	BIT	QUANT	UNIT					BIT	QUANT	UNIT	BIT	QUANT	UNIT				
VC23	SEA	1	6.1	2	188	516	668			VC36	SEA	1	12.0	2	324	762						
	SEA	2	12.2	4	376	1332			VC36	SEA	2	24.0	4	648	1524							
	SEA	4	13.5	2	188	596			VC36	SEA	4	13.1	4	343	873							
	SEA	5	13.5	2	188	596			VC36	SEA	5	13.1	4	343	873							
	SEA	6	13.5	2	188	596			VC36	SEA	6	13.1	4	343	873							
VC24	SEA	1	6.1	2	188	516	668			VC37	SEA	1	6.1	2	188	516	668					
	SEA	2	12.2	4	376	1332			VC37	SEA	2	12.2	4	376	1332							
	SEA	4	13.5	2	188	596			VC37	SEA	4	13.1	4	343	873							
	SEA	5	13.5	2	188	596			VC37	SEA	5	13.1	4	343	873							
	SEA	6	13.5	2	188	596			VC37	SEA	6	13.1	4	343	873							
VC25	SEA	1	12.2	4	376	1332			VC38	SEA	1	12.0	2	324	762							
	SEA	2	12.2	4	376	1332			VC38	SEA	2	24.0	4	648	1524							
	SEA	4	13.5	2	188	596			VC38	SEA	4	13.1	4	343	873							
	SEA	5	13.5	2	188	596			VC38	SEA	5	13.1	4	343	873							
	SEA	6	13.5	2	188	596			VC38	SEA	6	13.1	4	343	873							
VC27	SEA	1	13.5	2	188	596	662			VC39	SEA	1	6.1	2	188	516	668					
	SEA	2	13.5	2	188	596	662			VC39	SEA	2	12.2	4	376	1332						
	SEA	4	13.5	2	188	596	662			VC39	SEA	4	13.1	4	343	873						
	SEA	5	13.5	2	188	596	662			VC39	SEA	5	13.1	4	343	873						
	SEA	6	13.5	2	188	596	662			VC39	SEA	6	13.1	4	343	873						
VC28	SEA	1	13.5	2	188	596	662			VC40	SEA	1	6.1	2	188	516	668					
	SEA	2	13.5	2	188	596	662			VC40	SEA	2	12.2	4	376	1332						
	SEA	4	13.5	2	188	596	662			VC40	SEA	4	13.1	4	343	873						
	SEA	5	13.5	2	188	596	662			VC40	SEA	5	13.1	4	343	873						
	SEA	6	13.5	2	188	596	662			VC40	SEA	6	13.1	4	343	873						
VC29	SEA	1	13.5	2	188	596	662			VC41	SEA	1	6.1	2	188	516	668					
	SEA	2	13.5	2	188	596	662			VC41	SEA	2	12.2	4	376	1332						
	SEA	4	13.5	2	188	596	662			VC41	SEA	4	13.1	4	343	873						
	SEA	5	13.5	2	188	596	662			VC41	SEA	5	13.1	4	343	873						
	SEA	6	13.5	2	188	596	662			VC41	SEA	6	13.1	4	343	873						

RESUMO AEO CA 50-60			
AEO	BIT (mm)	COMPR (m)	PESO (kg)
60B	5	252	40
50A	8,3	281	167
50A	9	458	185
50A	10	174	110
50A	12,5	134	114
50A	16	117	107
50A	20	92	249
50A	25	135	461
Peso Total 60B =			40 kg
Peso Total 50A =			1501 kg

COBRIMENTO DA ARMADURA:

- LAJES = 2,0 cm
 - VIGAS E PILARES = 2,5 cm
 - BLOCOS, BALDRAMES E CONTENCOES (FACE EM CONTATO COM A TERRA) = 3,0 cm
1. ESSES COBRIMENTOS DEVERAO SER GARANTIDOS COM O USO DE ESPACADORES OU PASTILHAS.
- COBRIMENTOS ESPECIFICOS EM CONTRARIO AOS VALORES INDICADOS ACIMA, ESTAO 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

FCK= 35 MPa

EC = 28 GPa (MODULO DE ELASTICIDADE SECANTE AOS 28 DIAS).

$$A/C = 0,65 \quad (\text{FATOR AGUA CIMENTO})$$

2	29/08/2014	NUMERACAO FINAL	
1	13/12/2014	REVISI O VC231	
0	09/11/2012	EMISSAO INICIAL	
REV	DATA	DESCRICAO	

 Simetria Engenharia SIMETRIA ENGENHARIA SUA QUADRA: AC 14 31 SALA 201 E 203 BRASILELVA DE: CEP: 71209-050 PABX: (061) 208.8623 WWW.SIMETRIA.ENG	
PROJETO ESTRUTURAL	
CLIENTE:	GENT INCORPORADORA LTDA END. RESIDENCIAL/COMERCIAL COSMOPOLITAN RUA 30 NORTE LOTE 03 - RUA DAS PINEIRAS - AGUAS CLARAS DF
OBRA:	ED. RESIDENCIAL/COMERCIAL COSMOPOLITAN No OBRA: XXX
DESENHO ORCADO:	DESCRICAO: ARMACAO DAS VIGAS - TORRE 3 - JUNTA C 1o SUBSOLO (03/03)
DESENHISTA	DATA: 19/11/2012 ESCALA: 1:50 UNIDADE: CM No PROJ: SIMETRIA 478
ARQUIVO: PLT 478 - EST-BL3 - 024-076 - R02 - VIG-PLT	DESENHO No.: BL3 024-076
PROPRIETARIO: _____ RESPONSAVEL TECNICO: _____ _____ _____	
RESPONSAVEL TECNICO PELO PROJETO ESTRUTURAL _____ SIMETRIA ENGENHARIA E PROJETOS S/C LTDA CREA: 7725/RP	