

[illegible]

Technical drawing of a rectangular plate. The top view shows a rectangle with dimensions 40 (height) and 15 (width). The bottom view shows a rectangle with dimensions 30 (height) and 10 (width). The drawing is labeled 146N16x5 C=100.

[illegible]

40
15
25
10
27N83#5 C=100

[illegible]

Technical drawing of a rectangular plate. The top view shows a rectangle with dimensions 40 (height) and 20 (width). The bottom view shows a rectangle with dimensions 33 (height) and 15 (width). The drawing is labeled 31N23#5 C=110.

Technical drawing of a staircase (Escalera 1:20) showing a plan view and a side elevation.

Plan View:

- Overall width: 200
- Overall depth: 551
- Central landing area: 20x80
- Reinforcement bars:
 - 3N6408 C=145
 - 2N6208 C=620
 - 1N65810 C=150
 - 1N65810 C=13
 - 1N61912.5 C=415
 - 6N60610 C=610
 - 2N60610 C=610
 - 31x1N65850/18

Side Elevation (Corte A):

- Overall height: 180
- Overall width: 200

Dimensions:

- 200
- 551
- 20
- 80
- 180
- 20

15

31N6665 C=190

30
103N36#5 C-190

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15
90N59#6.3 C=193

Technical drawing of a bridge structure, showing a plan view and a cross-section (Corte A).

Plan View:

- Overall length: 380
- Span lengths: 20m (central), 10m (left), 10m (right)
- Labels: Planície P.3.3, Planície P.3.0, 2N6948 C=595, 2N6810 C=365, 2N6712.5 C=405, 2N617085/19
- Dimensions: 380, 20, 10, 10

Corte A (Cross-section):

- Scale: 1:20
- Dimensions: 20 (width), 11 (height)
- Label: 2N6706 C=130

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30
45N77#5 C=190

BARRA TRANSVERSAL SEPARADORA DE CAMADAS
Ø20,0mm
COMPRIMENTOS
10cm: PARA VIGAS COM LARGURA =15cm
15cm: PARA VIGAS COM LARGURA =20cm

Diagrama de uma barra transversal separadora de camadas, com uma dimensão vertical de 2cm indicada.

VIGAS COM CASO DE BARRAS FLUTUANTES:

V312

Resumo Aço FIXAÇÃO DAS ARMADURAS DE 2ª CAMADA	Comp. total (m)	Peso+10% (kg)	Total
CA-50-A Ø20	1.14	3.1	3.1
Total			3.1

Elemento	Pos.	Diam.	Q	Deb.	Ret.	Deb.	Comp.	Total	CA	-50	A0-(kg-
				(cm)	(cm)	(cm)	(cm)		50)		
V 12	2	810	2	12	108	12	1125	1125	2280	14.1	
	3	810	2	12	108	12	1125	1125	2280	14.1	
	3	810	2	12	108	12	1125	1125	2280	14.1	
	5	8	335	335	335	670	2.6				
	5	8	335	335	335	670	2.6				
	7	8	335	335	335	670	2.6				
	8	8	335	335	335	670	2.6				
	10	8	1060	1100	1100	2210	4.7				
	10	8	1060	1100	1100	2210	4.7				
	12	10	240	240	240	960	6.0				
	13	10	240	240	240	960	6.0				
	14	10	220	220	220	880	5.4				
	14	10	220	220	220	880	5.4				
	14	10	220	220	220	880	5.4				
Total=108								14660			
Total=108								10.19	25.2		
V 13	17	812.5	2	15	586	15	616	1232	12.1		
	18	812.5	2	15	586	15	616	1232	12.1		
	19	8	345	345	345	690	2.6				
	19	8	345	345	345	690	2.6				
	21	8	135	135	135	270	1.1				
	21	8	135	135	135	270	1.1				
	23	8	120	120	120	240	0.9				
	23	8	120	120	120	240	0.9				
	25	31	100	100	100	3410	20.5				5.4
	25	31	100	100	100	3410	20.5				
	25	31	100	100	100	3410	20.5				
	25	31	100	100	100	3410	20.5				
	25	31	100	100	100	3410	20.5				
	Total=108								26.3	5.9	
V 14	24	810	2	10	908	12	920	1840	16.3		
	25	810	2	10	908	12	920	1840	16.3		
	27	8	375	375	375	750	2.9				
	27	8	375	375	375	750	2.9				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
	30	8	1010	1010	1010	2020	17.0				
V 15	37	810	2	12	1140	12	1140	2280	14.5		
	38	810	2	12	1140	12	1140	2280	14.5		
	38	810	2	12	1140	12	1140	2280	14.5		
	38	810	2	12	1140	12	1140	2280	14.5		
	41	810	2	10	908	12	920	1840	16.3		
	41	810	2	10	908	12	920	1840	16.3		
	42	8	405	405	405	810	3.2				
	43	8	405	405	405	810	3.2				
	44	8	400	400	400	800	3.0				
	44	8	400	400	400	800	3.0				
	48	8	1050	1100	1100	2210	8.7				
	48	8	1050	1100	1100	2210	8.7				
	48	8	1050	1100	1100	2210	8.7				
	48	8	1050	1100	1100	2210	8.7				
V 16	60	810	2	18	586	12	616	1232	12.1		
	61	812.5	2	18	586	12	616	1232	12.1		
	62	8	178	178	178	356	1.4				
	63	8	150	150	150	300	1.2				
	64	8	135	135	135	270	1.1				
	65	8	123	123	123	246	1.0				
	66	31	100	100	100	3410	20.5				9.4
	66	31	100	100	100	3410	20.5				
	66	31	100	100	100	3410	20.5				
	66	31	100	100	100	3410	20.5				
	66	31	100	100	100	3410	20.5				
	66	31	100	100	100	3410	20.5				
	66	31	100	100	100	3410	20.5				
	Total=108								46.3	9.4	
V 17	67	812.5	2	15	575	15	605	1210	11.6		
	68	810	2	15	575	15	605	1210	11.6		
	69	8	365	365	365	730	2.7				
	69	8	365	365	365	730	2.7				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
	70	8	375	375	375	750	2.9				
Total=108								46.3	9.4		
V 18	71	812.5	2	15	535	15	565	1130	10.8		
	72	812.5	2	15	535	15	565	1130	10.8		
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
	73	8	105	105	105	210	0.8				
Total=108								48.2	14.4		
V 39	76	810	2	12	535	12	565	1130	10.8		
	79	810	2	12	535	12	565	1130	10.8		
	79	810	2	12	535	12	565	1130	10.8		
	79	810	2	12	535	12	565	1130	10.8		
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
	81	8	135	135	135	270	1.1				
Total=108								17.6	4.6		
es:								0.0	100.0		
es:								47.3	0.0		
es:								121.1	0.0		
es:								384.7	0.0		
es:								69.7	0.0		
es:								2.8	0.0		
Total:								669.3	100.0		

Nota:

Planta de referência: Prancha 16/64

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