

V18

V19

V20

V21

[illegible]

V24

V26

Technical drawing of a mechanical part with dimensions and a section view.

Top View:

- Overall width: 20/50
- Overall height: 4
- Top edge features: $N3 \text{ } \phi 15$ and $R1$
- Internal width: $2 \text{ } \phi 8$
- Internal height: $2 \text{ } \phi 12.5$
- Bottom edge features: V47 and V51

Section View (Corte A):

- Section line: A-A
- Top edge features: $2 \text{ } \phi 8$ and $2 \text{ } \phi 12.5$
- Bottom edge features: 74 and 44

Bottom View:

- Overall width: 120
- Overall height: 40
- Top edge features: $2 \text{ } N1 \text{ } \phi 8$ and $C=150$
- Internal width: $2 \text{ } \phi 12.5$
- Internal height: $2 \text{ } \phi 12.5$
- Bottom edge features: N2 $\phi 12.5$ and $C=152$

V27

[illegible]

V28

Technical drawing of a shaft with dimensions and labels. The shaft has a total length of 400 units. It features a central section with a diameter of 20 mm and a length of 125 mm, labeled '2 N1 Ø 12.5 C=523'. The shaft is supported by two bearings, labeled 'V10' and 'V9'. The distance between the bearing centers is 200 mm. The shaft has a total length of 400 mm, with a distance of 200 mm between the bearing centers. The shaft has a diameter of 20 mm at the ends and 12.5 mm in the center. The shaft is labeled '443' and '444'.

V29

V30

V31

V32

[illegible]

Corte A

Technical drawing showing a cross-section (Corte A) and a side view of a mechanical part.

Cross-section (Corte A):

- Top flange width: 24
- Top flange thickness: 5.4
- Central slot width: 4
- Central slot depth: 20
- Four holes in the top flange: 4 \varnothing 12.5
- Four holes in the bottom flange: 4 \varnothing 12.5

Side View:

- Overall length: 390
- Overall width: 25
- Overall height: 30
- Bottom flange thickness: 2
- Bottom flange width: 2 N2 \pm 0.4
- Top flange thickness: 2
- Top flange width: 25
- Central slot width: 4
- Central slot depth: 20

Dimensions:

- Top flange width: 24
- Top flange thickness: 5.4
- Central slot width: 4
- Central slot depth: 20
- Four holes in the top flange: 4 \varnothing 12.5
- Four holes in the bottom flange: 4 \varnothing 12.5
- Overall length: 390
- Overall width: 25
- Overall height: 30
- Bottom flange thickness: 2
- Bottom flange width: 2 N2 \pm 0.4
- Top flange thickness: 2
- Top flange width: 25
- Central slot width: 4
- Central slot depth: 20

Material: N4 \pm 6.3 C=172

V33

Technical drawing of a beam cross-section showing reinforcement details. The top part shows a longitudinal section with reinforcement bars (2 #8) and stirrups (15/45) at 150mm spacing. The bottom part shows a cross-section with reinforcement bars (2 N2 #8, 2 N3 #8) and stirrups (390, 325).

V34

V35

The technical drawing shows two views of a mechanical component:

- Top View (Front View):** A rectangular plate with overall dimensions of 20 x 50 mm. It features four mounting holes arranged in a square pattern. The distance between the centers of opposite holes is 16 mm (indicated by dimension 3 N1 ± 0.16). The distance from the center of each hole to the nearest edge is 12.5 mm (indicated by dimension 4 ± 12.5).
- Bottom View (Side View):** Shows the thickness of the plate as 77 mm.
- Sectional View (Corte A-A):** A vertical cross-section labeled "A" at both ends. It reveals internal features: a central hole with a diameter of 4 mm (labeled 4 Ø 4) and a larger outer hole with a diameter of 5 mm (labeled 5 Ø 5). The total height of the section is 41 mm (labeled 41).

V36

Technical drawing of a cable assembly. The main drawing shows a cable with a blue outer jacket and a red inner jacket. The red jacket is labeled "N3 5/25" and "3 x 12,5". The blue jacket is labeled "P24" and "P5". A cross-section view "Corte A" is shown to the right, indicating a 3 x 12,5 mm cable. The cable is connected to a terminal block with a red terminal labeled "44" and a blue terminal labeled "512". The terminal block is labeled "3 N2 x 12,5 C=505". A red terminal labeled "44" is also shown. The cable is labeled "20/50" and "A".

V37

[illegible]

V38

Technical drawing of a mechanical part with dimensions and section A-A.

Top View Dimensions:

- Overall width: 20 ± 0.5
- Overall height: 50
- Distance from left edge to center of hole V10: 163 ± 0.15
- Distance from left edge to center of hole V12: 200 ± 0.5
- Distance from left edge to center of hole V16: 110 ± 0.5
- Distance from left edge to center of hole V18: 160 ± 0.5
- Distance from left edge to center of hole V20: 210 ± 0.5
- Distance from left edge to center of hole V22: 260 ± 0.5
- Distance from left edge to center of hole V24: 310 ± 0.5
- Distance from left edge to center of hole V26: 360 ± 0.5
- Distance from left edge to center of hole V28: 410 ± 0.5
- Distance from left edge to center of hole V30: 460 ± 0.5
- Distance from left edge to center of hole V32: 510 ± 0.5
- Distance from left edge to center of hole V34: 560 ± 0.5
- Distance from left edge to center of hole V36: 610 ± 0.5
- Distance from left edge to center of hole V38: 660 ± 0.5
- Distance from left edge to center of hole V40: 710 ± 0.5
- Distance from left edge to center of hole V42: 760 ± 0.5
- Distance from left edge to center of hole V44: 810 ± 0.5
- Distance from left edge to center of hole V46: 860 ± 0.5
- Distance from left edge to center of hole V48: 910 ± 0.5
- Distance from left edge to center of hole V50: 960 ± 0.5
- Distance from left edge to center of hole V52: 1010 ± 0.5
- Distance from left edge to center of hole V54: 1060 ± 0.5
- Distance from left edge to center of hole V56: 1110 ± 0.5
- Distance from left edge to center of hole V58: 1160 ± 0.5
- Distance from left edge to center of hole V60: 1210 ± 0.5
- Distance from left edge to center of hole V62: 1260 ± 0.5
- Distance from left edge to center of hole V64: 1310 ± 0.5
- Distance from left edge to center of hole V66: 1360 ± 0.5
- Distance from left edge to center of hole V68: 1410 ± 0.5
- Distance from left edge to center of hole V70: 1460 ± 0.5
- Distance from left edge to center of hole V72: 1510 ± 0.5
- Distance from left edge to center of hole V74: 1560 ± 0.5
- Distance from left edge to center of hole V76: 1610 ± 0.5
- Distance from left edge to center of hole V78: 1660 ± 0.5
- Distance from left edge to center of hole V80: 1710 ± 0.5
- Distance from left edge to center of hole V82: 1760 ± 0.5
- Distance from left edge to center of hole V84: 1810 ± 0.5
- Distance from left edge to center of hole V86: 1860 ± 0.5
- Distance from left edge to center of hole V88: 1910 ± 0.5
- Distance from left edge to center of hole V90: 1960 ± 0.5
- Distance from left edge to center of hole V92: 2010 ± 0.5
- Distance from left edge to center of hole V94: 2060 ± 0.5
- Distance from left edge to center of hole V96: 2110 ± 0.5
- Distance from left edge to center of hole V98: 2160 ± 0.5
- Distance from left edge to center of hole V100: 2210 ± 0.5

Section A-A Dimensions:

- Section A-A is a cross-section of the part, showing a rectangular profile with a width of 20 ± 0.5 and a height of 50.
- The section is labeled "Corte A" and "A-A".

V39

Technical drawing of a structural connection between a beam and a column. The drawing includes a side elevation and two cross-sections, Corte A and Corte B.

Side Elevation:

- Beam reinforcement: $N5 \frac{6}{15}$, $3 \varnothing 15$, $4 \varnothing 15$.
- Column reinforcement: $4 \varnothing 12.5$, $V15$, $2 \varnothing 20$, $V12$.
- Labels: P61, P46, P38.
- Dimensions: 76, 51, 35.

Corte A:

- Top reinforcement: $3 \varnothing 16$.
- Bottom reinforcement: $4 \varnothing 12.5$.

Corte B:

- Top reinforcement: $3 \varnothing 16$.
- Bottom reinforcement: $2 \varnothing 12.5$.

Reinforcement Details:

- Beam reinforcement: $4 N1 \varnothing 16 C=305$, $3 N2 \varnothing 16 C=614$, $2 N4 \varnothing 20 C=340$.
- Column reinforcement: $4 N1 \varnothing 16 C=305$, $3 N2 \varnothing 16 C=614$, $2 N4 \varnothing 20 C=340$.

DET. VIGAS – 3º PAVIMENTO
Escala: 1/50

NOTAS GERAIS:
ESTRUTURAS EM CONCRETO

1- DIMENSÕES EM 'cm' (CENTÍMETROS), COTAS DE NÍVEL EM 'm' (METROS).

2- PARA O PROJETO DAS ESTRUTURAS DE CONCRETO FORM. CONSIDERADOS OS REQUISITOS DA NBR 8118/2014, SENDO ESTA SER CONSIDERADA PELO EXECUTANTE DA OBRA.

3- ALÉM DAS ESPECIFICAÇÕES INDICADAS DE FORMA EXPLÍCITA NAS PLANTAS DO PROJETO ESTRUTURAL, O EXECUTANTE DA ESTRUTURA DEVERÁ OBSERVAR RIGOROSAMENTE TODAS AS PRESCRIÇÕES DA NBR 8118/2014 E DEMAIS NORMAS PERTINENTES EM VIGÊNCIA.

4- PARA QUALQUER ALTERAÇÕES NESTE PROJETO, DEVERÁ SER CONTATADA PREVIAMENTE EST. EMPRESA.

5- CARACTERÍSTICAS GERAIS:

a. CLASSE DE AGRESSIVIDADE AMBIENTAL: CAA I

b. CLASSE DO CONCRETO: $f_{ck} > 30 \text{ MPa}$

c. COBRIMENTO DAS ARMADURAS PASSIVAS (cm)

LAJES	VIGAS	PILARES	FUND.
2,5	3,0	3,0	

VEZES	VEZES	PILARES	FUNDAÇÕES
1,5	3,0	3,0	3,0

	AÇO	POS	BIT	QUANT	COMPRIMENTO	TOTAL	
					UNIT	Cm	
V19	50A	1	20	4	458	1832	
	50A	2	12,5	5	375	1454	
	50A	3	6,3	20	192	340	
	60B	2	12,5	2	152	300	
V20	50A	1	12,5	3	435	1305	
	50A	2	12,5	4	1085	4340	
	50A	3	12,5	4	350	2200	
	50A	4	16	16	352	1454	
V21	50A	5	12,5	2	640	1280	
	50A	6	12,5	2	508	1016	
	50A	8	5	39	131	5115	
	60B	9	5	39	131	5115	
	60B	10	6	6	145	870	
	60B	11	6,3	32	146	4662	
	60B	12	4,2	18	520	9360	
	V22	50A	1	16	4	275	1100
		50A	2	12,5	2	351	702
		50A	3	12,5	2	351	702
50A		4	16	2	558	1116	
50A		6	12,5	2	547	1094	
60B		8	6,3	32	145	4640	
60B		9	4,2	16	810	3360	
60B		10	6,3	6	530	3180	
60B		11	4,2	6	530	3180	
V23		50A	2	12,5	2	203	406
	60B	3	5	7	145	1015	
	60B	4	4,2	6	152	632	
	60B	5	3	7	131	917	
V24	50A	1	12,5	2	203	406	
	50A	2	8	7	131	917	
	60B	3	5	7	131	917	
	60B	4	4,2	6	152	632	
V25	50A	1	12,5	3	310	930	
	50A	2	12,5	5	1095	4340	
	50A	3	12,5	4	815	2445	
	50A	4	12,5	4	900	2200	
V26	50A	1	16	3	320	960	
	50A	2	12,5	3	590	1770	
	50A	3	12,5	2	590	1180	
	50A	4	16	2	425	850	
V27	50A	7	12,5	3	535	1605	
	50A	6	12,5	10	900	2250	
	50A	7	12,5	3	645	1290	
	60B	8	6,3	103	152	1562	
V28	50A	1	8	2	150	300	
	50A	2	12,5	2	152	304	
	60B	3	5	6	131	786	
	60B	4	4,2	5	28	131	
V29	50A	1	12,5	2	523	1046	
	50A	2	12,5	2	548	1096	
	50A	3	16	3	852	2550	
	60B	4	6,3	4	948	2844	
V30	50A	1	5	6	177	4950	
	50A	2	12,5	2	197	394	
	50A	3	5	5	131	655	
	60B	4	4,2	5	7	131	
V31	50A	1	12,5	2	197	394	
	50A	2	8	2	135	270	
	50A	3	5	7	131	917	
	60B	4	4,2	5	7	131	
V32	50A	1	12,5	4	457	1828	
	50A	2	12,5	4	336	1344	
	50A	3	12,5	4	442	1768	
	50A	4	6,3	42	672	2712	
V33	50A	1	8	2	267	1534	
	50A	2	8	2	410	820	
	50A	3	8	2	345	690	
	60B	4	11	695	111	6952	
V34	50A	1	20	2	655	1310	
	50A	2	16	2	280	560	
	50A	3	12,5	3	390	1170	
	50A	4	6,3	5	355	1065	
V35	50A	1	16	3	415	1245	
	50A	2	12,5	15	191	3315	
	60B	3	5	19	131	2489	
	60B	4	4,2	6	28	131	
V36	50A	1	12,5	3	592	1656	
	50A	2	12,5	3	505	1515	
	60B	3	5	6	28	131	
	60B	4	4,2	5	7	131	
V37	50A	1	16	3	838	2514	
	50A	2	12,5	3	390	1170	
	50A	3	12,5	4	375	1500	
	60B	4	5	5	131	655	
V38	50A	1	10	2	460	800	
	50A	2	12,5	2	363	726	
	60B	3	5	20	131	2620	
	V39	50A	1	16	4	305	1220
50A		2	12,5	4	314	1256	
50A		3	12,5	4	445	1780	
60B		4	6,3	42	672	2712	
V40	50A	1	16	3	430	1290	
	50A	2	12,5	3	422	1266	
	60B	3	5	20	131	2620	
	60B	4	4,2	131	550	7266	

RESUMO DE AÇO			
AÇO	BIT	COMPR	PESO
	mm	m	kgf
60B	4,2	151	16
60B	5	662	102
50A	6,3	704	172
50A	8	48	19
50A	10	8	5
50A	12,5	607	585
50A	16	175	276
50A	20	90	221
Peso Total	60B =		119 kgf
Peso Total	50A =		1278 kgf

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EMIÇÃO INICIAL	01/04/2024	EMITIDO PARA COMENTÁRIOS	

	<p align="center">SERVIÇO AUTÔNOMO MUNICIPAL DE ÁGUA E ESGOTO</p>
	<p align="center">E – MAIL: samae@smecocxas.com.br</p>

COTA SEDE ADMINISTRATIVA SAMAE EDIFÍCIO ADMINISTRATIVO PRECÍPIOS Rua Visconde de Pelotas, 2256, Madureira - Caxias do Sul/RS	
AUTOR DO ANTEPROJETO DE ARQUITETURA ARG. SAMUEL DAL. PIVAZ JACONI CAU-A101861-1 / ENG. LEONARIO DE CASTILHOS CREA 112007-D	ESCALA
CONTEÚDO DET. VIGAS - 3º PAVIMENTO - V18 a V39 DE-2023-025-EST-PB-042-Rev00	FRANCHA PB-42