

Technical drawing of a cross-section of a reinforced concrete beam. The drawing shows a rectangular cross-section with a central horizontal channel. The overall width is 283 mm and the height is 313 mm. The channel has a width of 129 mm and a height of 129 mm. The concrete has a strength class of C-20/25. The reinforcement consists of 4x2 N8 bars at the top and bottom, and 10x10 C=313 bars at the ends. The drawing includes a section line A-A and a detail view of the reinforcement layout.

Esc. 1/25

Technical drawing of a roof structure showing three cross-sections (A-A, B-B, C-C) and their corresponding reinforcement details.

Section A-A: Shows a cross-section of the roof with a width of 4.0m and a height of 10m. The reinforcement detail shows 4 N10 bars with a spacing of 10cm (4 N10 Ø 10 C=10).

Section B-B: Shows a cross-section of the roof with a width of 4.0m and a height of 12.5m. The reinforcement detail shows 2 N11 bars with a spacing of 12.5cm (2 N11 Ø 12.5 C=12.5).

Section C-C: Shows a cross-section of the roof with a width of 14.0m and a height of 15m. The reinforcement detail shows 2 N12 bars with a spacing of 12.5cm (2 N12 Ø 12.5 C=12.5).

Technical drawing of a mechanical part, likely a bracket or support, showing dimensions and tolerances.

Dimensions (mm):

- Central horizontal section width: 13
- Central horizontal section height: 17.5
- Central horizontal section thickness: 4
- Vertical section width: 4
- Vertical section height: 12.5
- Vertical section thickness: 4

Tolerances (mm):

- Central horizontal section width: ± 0.16
- Vertical section width: ± 0.125
- Central horizontal section thickness: ± 0.05

Notes:

- C=15
- 2x4 N15
- 181

Technical drawing of a square plate. The outer dimensions are 37 by 37. A square hole is centered with dimensions 15 by 15. The distance from the hole to the edges is 8. The plate is labeled 2X13 N16 Ø 8 C=16.

[illegible]

1 N25 Ø 6.3 C=43
ERNAR OS GANCHOS

Esc. 1/25

PARA BARRAS CORRIDAS

Technical drawing of a stepped shaft with the following dimensions:

Section	Outer Diameter (mm)	Inner Diameter (mm)	Length (mm)
Left Step	35	20	35
Right Step	45	20	45

DAS BARRAS

RAIO DE CURVATURA

Ø	R	C
10.0	3cm.	6cm.
12.5	4cm.	8cm.
16.0	5cm.	9cm.
20.0	8cm.	14cm.
25.0	10cm.	18cm.

NOTAS :
VERIFICAR TODAS AS MEDIDAS NA OBRA
CONCRETO ADOTADO : $f_{ck} = 20\text{MPa}$
COBRIMENTO = 3,5cm

AQO	POS	BIT (mm)	QUANT	COMPROMITO	
				UNIT	TOTAL
				(cm)	(cm)
50	8	8	176	296	52096
	9	10	176	313	55008
50	10	10	88	359	31562
	11	12	44	444	19556
50	12	12	44	575	25364
	13	15	44	681	29964
	14	16	328	328	10752
50	15	15	328	355	116750
50	16	8	572	164	93308
	17	12	44	432	19008
	18	12	44	432	19008
	19	15	44	429	18876
50	20	15	44	331	14564
50	21	8	836	VAR	266748
50	22	10	836	VAR	286748
50	23	8	132	VAR	26928
50	24	8	98	VAR	22024
50	25	6-3	2022	VAR	80044

RESUMO DO AÇO			
AÇO	BIT (mm)	COMPR (m)	PESO (kg)
50	6,3	955,46	238,87
50	8	4093,76	1637,50
50	10	4236,32	2668,88
50	12,5	2188,56	2188,56
TOTAL			6733,81

Proprietário: PREFEITURA DE PIRAI DO SUL		Referência: DETALHES	
Obra: COBERTURA METÁLICA		Projeto nº1	
Local:		Cessão: Indicado	
Responsável Técnico Projeto: ERICKSON SCHARNECKS Eng. Civil - CREA - 69.551/0 PR		Desenhado: ERICKSON	
Responsável Técnico Execução:		Data: JULHO/2026	
		02/02	