

Technical drawing of a reinforced concrete slab (B60) and its cross-section (Corte A).

**Plan View (Top):**

- Overall dimensions: 24 m x 6.3 m.
- Reinforcement grid: 2x3 bars (Ø 6.3) and 4 bars (Ø 12.5).
- Labels: B60, B52, and a north arrow.

**Corte A (Cross-section):**

- Slab thickness: 13 cm.
- Overall height: 54 cm.
- Reinforcement details: 2 N5 Ø 8 C=181, 2 N6 Ø 8 C=181, 2 N5 Ø 8 C=515, 2 N2 Ø 12.5 C=635, 2 N4 Ø 12.5 C=812, 2x3 N3 Ø 6.3 C=752, 24 N7 Ø 6.3 C=148.

Technical drawing of a mechanical part, likely a bracket or support, showing a top view and a cross-section A-A.

**Top View Dimensions:**

- Overall length: 165
- Overall width: 75
- Top edge holes: 2 N1 Ø 8 C=195
- Bottom edge holes: 2 N2 Ø 12.5 C=610, 2 N3 Ø 12.5 C=812
- Internal holes: 2 N4 Ø 6.3 C=475, 2 N5 Ø 8 C=207
- Section line A-A: 177

**Cross-section A-A Dimensions:**

- Width: 13
- Height: 40

**Corte A**

2 Ø 8

4 Ø 12.5

13

40

23 N6 Ø 6.3 C=148

165

2 N1 Ø 8 C=195

75

2 N4 Ø 6.3 C=475

177

2 N5 Ø 8 C=207

30

7

2 N2 Ø 12.5 C=610

752

2 N3 Ø 12.5 C=812

30

B51

B52

A

**Plan View Details:**

- Slab Dimensions: 165m (width) x 75m (length)
- Top Reinforcement:
  - N6 C/28, 23 Ø 6.3 (top edge)
  - N4 Ø 6.3 C=475 (middle top)
- Bottom Reinforcement:
  - N2 Ø 12.5 C=610 (middle bottom)
  - N3 Ø 12.5 C=812 (bottom edge)
- Other Dimensions: 2 Ø 8, 2 Ø 6.3, 4 Ø 12.5, 177, 2 N5 Ø 8 C=207, 75, 165, 30, 75, 30

**Corte A (Cross-Section) Details:**

- Slab Thickness: 13cm
- Total Height: 30cm
- Reinforcement:
  - Top: 2 Ø 8, 2 Ø 6.3
  - Bottom: 4 Ø 12.5

Technical drawing of a reinforced concrete slab (B16) and its cross-section (Corte A).

**Plan View (Top):**

- Overall dimensions: 24.0 x 6.3m.
- Reinforcement details: N7 C/28, 24 Ø 6.3; 2 Ø 8; 2x3 Ø 6.3; 4 Ø 12.5.
- Labels: B16, B8, A.

**Corte A (Cross-section):**

- Slab thickness: 13cm.
- Reinforcement details: 2 Ø 8; 3x2 Ø 6.3; 4 Ø 12.5.

**Plan View (Bottom):**

- Dimensions: 154, 148, 30, 75, 13, 752, 30.
- Reinforcement details: 2 N1 Ø 8 C=184; 2 N6 Ø 8 C=178; 2 N4 Ø 8 C=515; 2x3 N3 Ø 6.3 C=754; 2 N2 Ø 12.5 C=635; 2 N5 Ø 12.5 C=812.
- Label: (costela).

Technical drawing of a window frame assembly, showing a cross-section and a side elevation.

**Corte A**

Dimensions and components shown in the cross-section (top):

- 2 Ø 8
- 23 Ø 6.3
- 2 Ø 6.3
- 2 Ø 8
- 4 Ø 12.5
- 4 Ø 12.5

**Side Elevation (bottom):**

- 180
- 2 N1 Ø 8 C=210
- 75
- 2 N3 Ø 6.3 C=475
- 162
- 2 N5 Ø 8 C=192
- 30
- 7
- 2 N2 Ø 12.5 C=610
- 752
- 2 N4 Ø 12.5 C=812
- 30
- 13
- 54
- 23 N6 Ø 6.3 C=148

**Corte A**

2 Ø 8

4 Ø 12.5

13

7

30

23 N6 Ø 6.3 C=148

2 N5 Ø 8 C=192

162

2 N1 Ø 8 C=210

180

75

2 N3 Ø 6.3 C=475

2 N2 Ø 12.5 C=610

752

2 N4 Ø 12.5 C=812

30

B21

B22

30

2 Ø 8

23 Ø 6.3 C/28

2 Ø 6.3

4 Ø 12.5

30

**Plan View Details:**

- Top reinforcement: N6 C/28 (23 Ø 6.3)
- Bottom reinforcement: N4 Ø 6.3 (C=475), N2 Ø 12.5 (C=610), N3 Ø 12.5 (C=812)
- Dimensions: 165m x 177m
- Section markers: 30, 7, 30

**Corte A Details:**

- Slab thickness: 13cm
- Reinforcement: 2 Ø 8, 4 Ø 12.5, 23 N6 Ø 6.3 (C=148)

RESUMO DE AÇO			
AÇO	BIT mm	COMPR m	PESO kgf
50A	6,3	423	104
50A	8	83	33
50A	12,5	229	220
Peso Total +10%		50A =	393 kgf

- MEDIDAS EM CENTÍMETRO, NÍVEIS EM METRO
- CARACTERÍSTICAS DO CONCRETO ESTRUTURAL:
  - CONCRETO MOLDADO IN LOCO -  $f_{ck} \geq 30$  MPa  $E_{cs} \geq 26,1$  GPa;
  - CONFIRMAR MEDIDAS NA OBRA;
  - COBRIMENTO = 3 CM.

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CONTRATO  
SECRETARIA DE DESENVOLVIMENTO ECONÔMICO

PROJETO


SDE\_074-ETEC JOSÉ MARTIMIANO DA SILVA  
REFORMA E AMPLIAÇÃO

R. Tamandaré, 520—Campos Elíseos—Ribeirão Preto

DISCIPLINA	ÁREA	FOLHA
ESTRUTURA	EST	209/254

ASSUNTO

ESTRUTURA DE CONCRETO  
PROJETO EXECUTIVO  
ARMADÇÃO DOS BALCAMES 3/11  
BLOCÓ PEDAGÓGICO

ESCALA GRÁFICA	ESCALA NOMINAL	DATA
 0 1 2 3 (m)	1:50	OUT/2021
ESPAÇO PARA APROVAÇÃO		

CÓDIGO CDHU EMPREENDIMENTO										
Projeto					Região		Município		Versão	Etapas do Projeto
0	0	0	6	5	0	6	1	3	0	P E