

Technical drawing of a reinforced concrete slab (P36) showing reinforcement details. The drawing includes a plan view and a cross-section view.

Plan View:

- Overall dimensions: 280 (1 x 20) and 188 (4 x 12.5).
- Reinforcement bars:
 - 5 N2 ϕ 20 C=310
 - 2 N1 ϕ 8 C=310
 - 3 N4 ϕ 20 C=465
 - 2 N5 ϕ 20 C=350 (1 ϕ 20 CAM)
 - 4 N6 ϕ 12.5 C=230
 - 2 N3 ϕ 6.3 C=255
 - N12 C/10
 - N13 C/20 18 ϕ 6.3
 - N13 C/12.5 17 ϕ 6.3
 - N13 C/15 12 ϕ 6.3
 - N13 C/20 18 ϕ 6.3
 - 3 ϕ 16
 - 4 ϕ 12.5
 - 1 N9 ϕ 16 C=305
 - 8 N7 ϕ 12.5 C=145
 - 2 N8 ϕ 16 C=745
 - 2 N10 ϕ 12.5 C=605
 - 2 N11 ϕ 12.5 C=315
- Dimensions: 172, 194, 112, 172, 25/50, 160, 155, 50.

Cross-section View:

- Slab thickness: 25/50.
- Reinforcement bars: 25/50.
- Labels: P36, P37.

Technical drawing of a rectangular plate. The drawing shows a rectangle with a double-line border. On the right side, there are dimension lines and specifications: a vertical dimension of 4 with a diameter symbol and 20, and a horizontal dimension of 1 with a diameter symbol and 20. On the left side, there is a vertical dimension of 3 with a diameter symbol and 16. The drawing is labeled 'Fig. 1' at the bottom right.

A diagram of a rectangular box with dimensions 4 by 4. The box is shown in a perspective view, with the top and front faces visible. The top face is a square with side length 4, and the front face is a rectangle with width 4 and height 4. The box is labeled with '4' on the top edge and '4' on the front edge.

3 N12 ϕ 10 C=147
5 N13 ϕ 6.3 C=144

N13 ϕ 6.3 C=144

13 N3 ϕ 5 C=133

Technical drawing of a rectangular plate. The top view shows a rectangle with overall dimensions 108 (width) and 16 (height). There are two vertical centerlines. The top view also shows a hole with diameter 5 and a distance of 5 from the left edge, with a note C=140. A section line A-A is indicated. The side view shows a rectangle with overall dimensions 20 (width) and 50 (height). There are two vertical centerlines. The side view also shows a hole with diameter 5 and a distance of 5 from the left edge, with a note C=15. A section line A-A is indicated. The bottom view shows a rectangle with overall dimensions 20 (width) and 10 (height). There are two vertical centerlines. The bottom view also shows a hole with diameter 5 and a distance of 5 from the left edge, with a note C=135. A section line A-A is indicated. The drawing is labeled V275 and V27.

Technical drawing of a rectangular plate. The overall dimensions are 200x100. There are two holes, each with a diameter of 5. The holes are positioned 20 units from the top and bottom edges and 50 units from the left and right edges.

5 N3 ϕ 5 C=133

2x67 N9 ϕ 5 C=149

A schematic diagram of a three-phase transformer. It consists of a rectangular magnetic core with four vertical legs. Three vertical windings are shown on the right-hand legs, each represented by a vertical rectangle with a central vertical line. The top and bottom horizontal sections of the core are connected to a common busbar on the left, which is labeled with a horizontal line and a vertical line extending to the left.

2x42 N9 Ø 5 C=149

2x25 N9 Ø 5 C=149

[illegible]

- 3 ϕ

6x2

- 2 ϕ

Diagram of a rectangular section with dimensions and reinforcement details:

- Top width: $= \frac{2}{2} \phi$
- Right height: $= 6 \times 2$
- Bottom width: $= 3 \phi$

21 N11 ϕ 6.3 C=194 29 N11 ϕ 6.3 C=194

9 N11 Ø 6.3 C=194

1. DIMENSÕES EM CENTÍMETROS, ELEVAÇÕES EM METROS
2. CONCRETO ESTRUTURAL:
F_{ck} >= 20 MPa (ESTACAS TIPO RAIZ) - ARGAMASSA:
CONSUMO DE CIMENTO >= 600,0kg/m3; RELAÇÃO A/C ENTRE 0,5 E 0,6;
AGREGADO - AREIA.
F_{ck} >= 30 MPa (DEMAIS ELEMENTOS ESTRUTURAIS): CONSUMO DE CIMENTO
CONSUMO DE CIMENTO >= 320,0kg/m3.
3. FATOR ÁGUA/CIMENTO MÁXIMO: 0,60
4. CLASSE DE AGRESSIVIDADE II - URBANA
5. MÓDULO DE ELASTICIDADE INICIAL A 28 DIAS IGUAL A 30670 MPa
E REALIZAR OS PROCEDIMENTOS DE CURA, RETIRADA DE FORMAS E DO
ESCORAMENTO CONFORME NBR 14931:2004 E MEMORIAL DESCRITIVO.
PROCEDER COM A CURA ÚMIDA POR NO MÍNIMO 07 (SETE) DIAS OU
UTILIZAR A CURA QUÍMICA DOS ELEMENTOS DE CONCRETO.
7. A EXECUÇÃO DA ESTRUTURA DEVERÁ CONTAR COM O ACOMPANHAMENTO DE UM
TECNOLOGISTA DE CONCRETO
8. O ENGENHEIRO RESPONSÁVEL PELA OBRA DEVERÁ OBEDECER AS
RECOMENDAÇÕES DAS NORMAS TÉCNICAS APLICÁVEIS, DEDICANDO ESPECIAL
ATENÇÃO AS SEGUINTES ATIVIDADES:
 - 8.1. CONCRETO: PREPARO, CONTROLE, RECEBIMENTO, TRANSPORTE,
LANÇAMENTO, ADENSAMENTO E CURA
 - 8.2. FORMA: CONFERÊNCIA DAS MEDIDAS E POSIÇÕES, LIMPEZA,
ESTANQUEIDADE, SATURAÇÃO DAS FORMAS ABSORVENTES (RETIRAR
EXCESSO DE ÁGUA), CUIDADO COM O USO DOS DESMOLDANTES
E RETIRADA DAS FORMAS
 - 8.3. ARMAÇÃO: LIMPEZA, MONTAGEM, COBRIMENTO (USO DE ESPAÇADORES
PLÁSTICOS ADEQUADOS), E GARANTIA DA POSIÇÃO DAS ARMADURAS
ANTES E DURANTE A CONCRETAGEM
9. COBRIMENTO MÍNIMO DA ARMADURA:
LAJES=2,0cm; COLUNAS E PILARES=2,5cm; BLOCOS=5,0cm; ESTACAS=4,0cm.
OBRA COM RÍGIDO CONTROLE DE QUALIDADE.
10. RECOMENDA-SE QUE OS MATERIAIS (AÇO E CONCRETO) UTILIZADOS
NESTE PROJETO SEJAM SUBMETIDOS A ENSAIOS TECNOLÓGICOS
11. PREVER DRENAGEM E/OU IMPERMEABILIZAÇÃO PARA AS CORTINAS
(CONTENÇÕES).
12. CONFERIR MEDIDAS NO LOCAL.

RESUMO DE AÇO				
AÇO	BIT	COMPR	PESO	
	mm	m	kgf	
60A	5	450	69	85
50A	6,3	347	5	2
50A	8	6		
50A	10	150		92
50A	12,5	106		102
50A	16	80		126
50A	20	94		231
Peso Total	60A =		69	kgf
Peso Total	50A =		639	kgf

	REVISÕES
--	----------

ENDEREÇO:	ÁREA TERRENO:
RUA JOSÉ CALIL AHOUGI, LOTE F, BAIXADA DO PARAIBUNA	2.956,30m ²
	ÁREA CONSTRUÍDA
	7.266,36m ²
PROPRIETÁRIO:	CNPJ:
	20.971.057/0001-
PROCURADORIA GERAL DE JUSTIÇA DO ESTADO DE MINAS GERAIS	

EMPRESA:	CNPJ:
<p>ENGENHEIRO FABRÍCIO SILVA LIMA</p> <p>CREA: 80.082/D-MG</p> <p>EFICÁCIA PROJETOS E CONSULTORIA LTDA</p>	06.301.115/0001-0
RESPONSÁVEL TÉCNICO:	CREA:
NELSON URIAS PINTO GARIGLIO DA SILVA	82.624/D-MG

CONTEÚDO: ARMAÇÃO DE VIGAS - 2o PAVIMENTO - 04/13	DATA: 31/07/20	FOLHA: 57/12
	ESCALA: INDICADA	

CONFIGURACAO DAS PENAS - FORMATO A1 (641 x 960mm)					
RED	YELLOW	GREEN	CYAN	BLUE	WHITE
0.25	0.50	0.13	0.30	0.40	1.0
					0.80
					0.18