

The drawing shows a rectangular reinforced concrete slab (P18) with a width of 500 units and a length of 645 units. The top view shows the slab's profile with a thickness of 40 units. The bottom view shows the reinforcement layout with various bar sizes and spacings. The slab is supported by walls on all four sides. The reinforcement details include:

- Top View:**
  - Top reinforcement: 2 N2  $\phi$  10, C=530 (left); 2 N3  $\phi$  10, C=520 (right).
  - Bottom reinforcement: 2 N1  $\phi$  12.5, C=725 (left); 2 N3  $\phi$  10, C=520 (right).
  - Vertical spacing: 40 units.
- Bottom View:**
  - Top reinforcement: 2 N4  $\phi$  10, C=335 (left); 2 N5  $\phi$  10, C=565 (right).
  - Bottom reinforcement: 2 N6  $\phi$  10, C=335 (left); 2 N7  $\phi$  10, C=260 (right).
  - Vertical spacing: 40 units.
- Reinforcement Details:**
  - Top reinforcement: 2 N2  $\phi$  10, C=530 (left); 2 N3  $\phi$  10, C=520 (right).
  - Bottom reinforcement: 2 N4  $\phi$  10, C=335 (left); 2 N5  $\phi$  10, C=565 (right).
  - Vertical spacing: 40 units.

Technical drawing of a window frame assembly, showing dimensions and component specifications.

**Top Section:**

- Left side: 130, 3 N2  $\phi$  10, C=160, 89.
- Center: 2 N4  $\phi$  16, C=265, 121.
- Right side: 400, 2 N3  $\phi$  5, C=415.

**Bottom Section:**

- Left side: 3  $\phi$  10, 2  $\phi$  5, 2  $\phi$  16, 2  $\phi$  16, 2  $\phi$  5, 4  $\phi$  10.
- Center: 20/50, 20/50.
- Right side: 2 N8, C/15, 34  $\phi$  5, 32  $\phi$  5, 4  $\phi$  10.

**Dimensions and Labels:**

- 130, 89, 121, 400, 265, 160, 415, 1070, 1040, 425, 395.
- 2 N4  $\phi$  16, C=265, 2 N3  $\phi$  5, C=415, 2 N8, C/15, 34  $\phi$  5, 32  $\phi$  5.
- 20/50, 20/50.
- V209, V207, PAR2.

Technical drawing of a reinforced concrete slab (L.01) showing reinforcement details. The drawing includes a plan view of the slab with various reinforcement bars (N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12) and their respective diameters, lengths, and center-to-center (C) distances. Section lines A-A, B-B, and C-C are indicated. The drawing also shows the slab's thickness (15 cm) and the location of the reinforcement bars relative to the slab edges and internal supports.

**Reinforcement Details:**

- N1:** 2 N1  $\phi$  12.5 C=795
- N2:** 1 N2  $\phi$  12.5 C=205
- N3:** 2 N3  $\phi$  10 C=325
- N4:** 2 N4  $\phi$  10 C=155
- N5:** 3 N5  $\phi$  10 C=170
- N6:** 4 N6  $\phi$  10 C=365
- N7:** 2 N7  $\phi$  10 C=475
- N8:** 2 N8  $\phi$  10 C=285
- N9:** 1 N9  $\phi$  10 C=165
- N10:** N10 C/25 12  $\phi$  6.3
- N11:** N11 C/15 15  $\phi$  5
- N12:** 2x6 N12  $\phi$  6.3 C=324

**Section Details:**

- A-A:** 20/80
- B-B:** 20/50
- C-C:** 20/50

**Other Details:**

- P67:** V221 4  $\phi$  10
- P58:** 3  $\phi$  10
- P50:** 2  $\phi$  10
- P45:** 3  $\phi$  10
- Dimensions:** 750, 158, 75, 140, 350, 97, 16, 270

Technical drawing of a reinforced concrete slab (P38) showing top and bottom views with reinforcement details.

**Top View (Upper Part):**

- Top edge reinforcement: 3 N2  $\phi$  10, C=160, with a dimension of 130.
- Right edge reinforcement: 4 N2  $\phi$  10, C=160, with a dimension of 130.
- Internal horizontal reinforcement: 2 N4  $\phi$  12.5, C=385, with a dimension of 184.
- Internal horizontal reinforcement: 2 N5  $\phi$  12.5, C=205, with a dimension of 93.
- Internal horizontal reinforcement: 2 N3  $\phi$  5, C=215, with a dimension of 175.
- Left edge reinforcement: 2 N1  $\phi$  5, C=275, with a dimension of 89.

**Bottom View (Lower Part):**

- Bottom edge reinforcement: 2 N7  $\phi$  10, C=320, with a dimension of 57.
- Right edge reinforcement: 2 N8  $\phi$  10, C=275, with a dimension of 132.
- Internal horizontal reinforcement: 2 N6  $\phi$  10, C=1070, with a dimension of 1040.
- Internal horizontal reinforcement: 4  $\phi$  10.
- Internal horizontal reinforcement: 4  $\phi$  12.5.
- Internal horizontal reinforcement: 2  $\phi$  5.
- Internal horizontal reinforcement: 3 N9 C/15, 34  $\phi$  5.
- Internal horizontal reinforcement: 32  $\phi$  5.
- Internal horizontal reinforcement: 4  $\phi$  10.

**Other Details:**

- Section line A-A is indicated with arrows pointing to the left and right.
- Dimensions 20/50 are shown on the right side of the slab.
- Labels P38, P28, and P19 are present at the bottom of the drawing.

Technical drawing of a rectangular plate with the following specifications:

- Overall width: 215
- Overall height: 20
- Top hole: 2 N1  $\phi$  10, C=275
- Bottom hole: 2 N2  $\phi$  10, C=245
- Side hole: 2  $\phi$  10
- Corner radius: R15
- Section line: Corte A

4. DIMENSÕES EM CENTÍMETROS, ELEVACOES EM METROS
5. CONCRETO ESTRUTURAL:  
F<sub>ck</sub> >= 30 MPa  
CONSUMO DE CIMENTO >= 320,0 kg/m<sup>3</sup>.
6. FATOR ÁGUA/CIMENTO MÁXIMO: 0,60
7. CLASSE DE AGRESSIVIDADE III - URBANA
8. MÓDULO DE ELASTICIDADE INICIAL A 28 DIAS IGUAL A 30670 MPa
9. REALIZAR OS PROCEDIMENTOS DE CURA, RETIRADA DE FORMAS E DO ESCORAMENTO CONFORME NBR 14931:2004:  
PROCEDER COM A CURA ÚMIDA POR NO MÍNIMO 07 (SETE) DIAS OU UTILIZAR A CURA QUÍMICA DOS ELEMENTOS DE CONCRETO.
10. A EXECUÇÃO DA ESTRUTURA DEVERÁ CONTAR COM O ACOMPANHAMENTO DE UM TECNÓLOGISTA DE CONCRETO
11. O ENGENHEIRO RESPONSÁVEL PELA OBRA DEVERÁ OBEDECER AS RECOMENDAÇÕES DAS NORMAS TÉCNICAS APLICÁVEIS, DEDICANDO ESPECIAL ATENÇÃO ÀS SEGUINTE ATIVIDADES:
  - 11.1. CONCRETO: PREPARO, CONTROLE, RECEBIMENTO, TRANSPORTE, LANÇAMENTO, ADENSAMENTO E CURA
  - 11.2. 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
  - 11.3. ARMADAÇÃO: LIMPEZA, MONTAGEM, COBRIMENTO (USO DE ESPACADORES PLÁSTICOS ADEQUADOS), E GARANTIA DA POSIÇÃO DAS ARMADURAS ANTES E DURANTE A CONCRETAGEM
12. COBRIMENTO MÍNIMO DA ARMADURA:  
LAJES=2,0cm; VIGAS E PILARES=2,5cm; BLOCOS=5,0cm; ESTACAS=4,0cm.
13. RECOMENDA-SE QUE OS MATERIAIS (AÇO E CONCRETO) UTILIZADOS NESTE PROJETO SEJAM SUBMETIDOS A ENSAIOS TECNOLÓGICOS
14. PREVER DRENAGEM E/OU IMPERMEABILIZAÇÃO PARA AS CORTINAS (CONTENÇÕES).
15. CONFERIR MEDIDAS NO LOCAL.

RESUMO DE AÇO				
ACO	BIT	COMPR	PESO	
	mm	m	kgf	
60A	5	353	54	
50A	6,3	118	29	
50A	10	251	155	
50A	12,5	44	43	
50A	16	5	8	
Peso Total		60A =	54 kgf	
Peso Total		50A =	235 kgf	

6 N9  $\phi$  5 C=133

CONFIGURACAO DAS PENAS - FORMATO A1 (341 x 54mm)						
RED	YELLOW	GREEN	CYAN	BLUE	MAGENTA	WHITE
0.25	0.50	0.13	0.30	0.40	1.0	0.80
						0.18