

The drawing illustrates a cable tray system layout. The top view shows a main horizontal tray with multiple parallel cables. Key dimensions and specifications include:

- Top View Dimensions:**
  - Overall length: 355
  - Section 1: 4 N1 Ø 10, C=405
  - Section 2: 2 N2 Ø 16, C=919
  - Section 3: 2 N3 Ø 16, C=325
  - Section 4: 2 N4 Ø 16, C=270
  - Section 5: 2 N6 Ø 16, C=315
  - Section 6: 4 N5 Ø 10, C=382
  - Section 7: 2 N7 Ø 16, C=560
  - Section 8: 4 N9 Ø 10, C=515
  - Section 9: 2 N10 Ø 16, C=545
  - Section 10: 2 N11 Ø 16, C=360
  - Section 11: 2x7 N15 Ø 6.3, C=508
  - Section 12: 2x7 N13 Ø 6.3, C=527
  - Section 13: 2x7 N14 Ø 6.3, C=522
  - Section 14: 2x7 N16 Ø 6.3, C=522
  - Section 15: 2x7 N17 Ø 6.3, C=527
  - Section 16: 2x7 N18 Ø 6.3, C=527
  - Section 17: 2x7 N19 Ø 6.3, C=527
  - Section 18: 2x7 N20 Ø 6.3, C=527
  - Section 19: 2x7 N21 Ø 6.3, C=527
  - Section 20: 2x7 N22 Ø 6.3, C=527
  - Section 21: 2x7 N23 Ø 6.3, C=527
  - Section 22: 2x7 N24 Ø 6.3, C=527
  - Section 23: 2x7 N25 Ø 6.3, C=527
  - Section 24: 2x7 N26 Ø 6.3, C=527
  - Section 25: 2x7 N27 Ø 6.3, C=527
  - Section 26: 2x7 N28 Ø 6.3, C=527
  - Section 27: 2x7 N29 Ø 6.3, C=527
  - Section 28: 2x7 N30 Ø 6.3, C=527
  - Section 29: 2x7 N31 Ø 6.3, C=527
  - Section 30: 2x7 N32 Ø 6.3, C=527
  - Section 31: 2x7 N33 Ø 6.3, C=527
  - Section 32: 2x7 N34 Ø 6.3, C=527
  - Section 33: 2x7 N35 Ø 6.3, C=527
  - Section 34: 2x7 N36 Ø 6.3, C=527
  - Section 35: 2x7 N37 Ø 6.3, C=527
  - Section 36: 2x7 N38 Ø 6.3, C=527
  - Section 37: 2x7 N39 Ø 6.3, C=527
  - Section 38: 2x7 N40 Ø 6.3, C=527
  - Section 39: 2x7 N41 Ø 6.3, C=527
  - Section 40: 2x7 N42 Ø 6.3, C=527
  - Section 41: 2x7 N43 Ø 6.3, C=527
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  - Section 48: 2x7 N50 Ø 6.3, C=527
  - Section 49: 2x7 N51 Ø 6.3, C=527
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  - Section 55: 2x7 N57 Ø 6.3, C=527
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  - Section 66: 2x7 N68 Ø 6.3, C=527
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  - Section 133: 2x7 N135 Ø 6.3, C=527
  - Section 134: 2x7 N136 Ø 6.3, C=527
  - Section 135: 2x7 N137 Ø 6.3, C=527
  - Section 136: 2x7 N138 Ø 6.3, C=527
  - Section 137: 2x7 N139 Ø 6.3, C=527
  - Section 13

Technical drawing of a rectangular plate. The top view shows a rectangle with a central hole. The hole is defined by a circle with a diameter of 6.3. The plate has a width of 25 and a height of 65. The top edge is slanted. The drawing includes dimensions and material specifications: 6 Ø 16, 7x2 Ø 6.3, 4 Ø 16, 25, 65, 98 N12 Ø 6.3, and C=196.

Diagram illustrating the calculation of reinforcement area ( $A_s$ ) for a beam, showing two cases: rectangular and T-beam.

**Rectangular Beam:**

- Formula:  $2 N1 \varnothing 10 C=360$
- Variables:
  - $N1$ : quantidade de barras (quantity of bars)
  - $\varnothing 10$ : diâmetro da barra em milímetros (bar diameter in millimeters)
  - $C$ : comprimento da barra em centímetros (bar length in centimeters)
  - $360$ : posição da ferragem (reinforcement position)

**T-beam:**

- Formula:  $2X2 N4 \varnothing 5 C=215$
- Variables:
  - $N4$ : quantidade de barras de armadura de pele em cada face da viga (quantity of skin reinforcement bars on each side of the beam)
  - $\varnothing 5$ : armadura de pele em ambos os lados da viga (skin reinforcement on both sides of the beam)
  - $C$ : posição da barra (bar position)
  - $215$ : comprimento total da barra em centímetros (total bar length in centimeters)

Materiais:	Recobrimentos:
- Aço.....: CA50 e CA60	- Vigas.....: 2.5cm
- Concreto Estrutura....: 30 MPa (300 kgf/cm²)	- Pilares.....: 2.5cm
- Deve ser mantido cura úmida do concreto por 7 dias	- Lajes.....: 2.0cm
- Deve ser mantido o escoramento por no mínimo por 21 dias	- Sapatas.....: 5.0cm
- Só poderão ser executadas paredes após 28 dias da concretagem	
- Deve ser utilizado espaçadores plásticos para garantir o recobrimento dos elementos	
- Todas as cotas em centímetros, exceto cotas de níveis que estão em metros	

[illegible]

Technical drawing of a rectangular plate. The drawing shows a top view and a side view. The top view is a rectangle with a width of 80 and a height of 196. It features a central vertical slot with a width of 25. The slot is defined by two vertical lines, each with a diameter of 6.3. The distance from the center of the slot to the nearest edge is 5. The side view is a rectangle with a height of 65 and a width of 25. The drawing is labeled with dimensions and hole specifications: 80, N11, Ø 6.3, C=196, 5 Ø 16, 7x2 Ø 6.3, and 3 Ø 16.

Technical drawing of a rectangular reinforced concrete slab. The top view shows a rectangle with dimensions 4 m by 12.5 m. It features 8 N11 bars along the long edge (top and bottom) and 7x2 Ø6.3 bars along the short edge (left and right). The side view shows a vertical slab with a height of 65 cm and a width of 25 cm.

