

Technical drawing of a square column with a rectangular opening. The drawing includes three views: a front view, a side view, and a detail view of the opening.

- Front View:** Shows a square column with a side length of 60 cm. The opening is a black rectangle with a width of 14 cm and a height of 30 cm. The distance from the top of the column to the top of the opening is 75 cm. The distance from the bottom of the column to the bottom of the opening is 13 cm. The distance from the side of the column to the side of the opening is 6 cm. The opening is labeled "4 N2 C/13".
- Side View:** Shows the profile of the column with a total height of 14 cm. The opening is 14 cm wide and 69 cm high. The distance from the top of the column to the top of the opening is 14 cm. The distance from the bottom of the column to the bottom of the opening is 13 cm. The opening is labeled "4 N2 Ø 10 C/13 C=96".
- Detail View:** Shows a cross-section of the opening with a width of 12 cm and a height of 53 cm. The opening is labeled "6 N1 Ø 10 C/13 C=77".
- Labels:** The drawing includes labels for the opening: "4 N2 C/13" and "4 N2 Ø 10 C/13 C=96".

The drawing illustrates the reinforcement details for a reinforced concrete slab (Laje) with a central column. The top view shows a square slab with a side length of 65 units. A central column has a width of 14 units. The slab is reinforced with 5 N2 bars at the top and 5 N2 bars at the bottom, with a spacing of 14 units. The side view shows a slab thickness of 80 units. The cross-section view shows a slab with a width of 35 units and a height of 14 units. The reinforcement consists of 5 N2 bars at the top and 5 N2 bars at the bottom, with a spacing of 14 units. The slab is supported by a central column and a side wall. The reinforcement is labeled as 5 N2  $\phi$  10 C/14.

The drawing illustrates the construction details of a concrete slab (Laje) with the following specifications:

- Top View:** Shows a square slab with a central square opening. The overall dimensions are 95 (width) by 115 (height). The central opening is 30 (width) by 50 (height). The slab is reinforced with 8 N1 C/14 bars (top) and 7 N2 C/14 bars (bottom).
- Side View:** Shows the slab's profile with a total thickness of 14. The top surface is 35 wide. The bottom surface is 15 wide. The slab is reinforced with 8 N1 C/14 bars (top) and 7 N2  $\varnothing$  10 C/14 (bottom).
- Cross-section View:** Shows the slab's profile with a total thickness of 12. The top surface is 88 wide. The bottom surface is 812 wide. The slab is reinforced with 8 N1  $\varnothing$  10 C/14 bars (top) and 7 N2 C/14 bars (bottom).
- Reinforcement Details:** The drawing includes a detail of the reinforcement bars (N1, N2) and a detail of the concrete slab (Laje) showing the reinforcement layout.

RESUMO AÇO CA 50-60			
AÇO	BIT (mm)	COMPR (m)	PESO (kg)
50	10	615	388
Peso Total	50	=	388 kg

Technical drawing of a square column with a square core and a trapezoidal base. The drawing includes three views: a top view, a side view, and a base view.

**Top View:** A square column with a square core. The outer square has a side length of 105. The inner square core has a side length of 30. The distance between the inner and outer squares is 35. The column is reinforced with 8 N1 C/14 bars. The base of the column is 7 N2 C/14.

**Side View:** A trapezoidal column with a top width of 35 and a bottom width of 103. The height is 14. The column is reinforced with 7 N2 Ø 10 C/14 bars. The base is 7 N2 Ø 10 C/14. The column is labeled "CAMADA DE REGULARIZAÇÃO" (Regularization Layer).

**Base View:** A trapezoidal base with a top width of 35 and a bottom width of 98. The height is 12. The base is reinforced with 7 N2 C/14 bars. The base is labeled "CAMADA DE REGULARIZAÇÃO" (Regularization Layer).

Technical drawing of a square column with a square core, showing top, front, and side views with dimensions and reinforcement details.

**Top View:** Square column with a square core. Outer dimensions: 85 (height) x 80 (width). Inner dimensions: 30 (height) x 30 (width). Reinforcement: 6 N2 C/14 (outer), 6 N1 C/14 (inner).

**Front View:** Shows the column's profile with a top flange of 35, a main body of 78, and a base of 14. Reinforcement: 6 N2  $\phi$  10 C/14  $\phi$  = 06.

**Side View:** Shows the column's profile with a top flange of 35, a main body of 78, and a base of 14. Reinforcement: 6 N1 C/14.

**Reinforcement Details:** CAMADA DE REGULARIZAÇÃO (Regularization Layer) is indicated at the base of the column.

Technical drawing of a square column with a square core. The drawing includes three views: a front view, a side view, and a detail view of the core.

- Front View:** A square column with a square core. The outer square has a side length of 90 cm. The inner square core has a side length of 30 cm. The distance between the core and the column face is 14 cm. The total height of the column is 105 cm. The column is reinforced with 6 N2 bars (6 N2 C/15) and 7 N1 bars (7 N1 C/15).
- Side View:** A cross-section of the column showing the core and the surrounding concrete. The core is 30 cm wide. The distance between the core and the column face is 14 cm. The total width of the column is 90 cm. The height of the column is 105 cm. The column is reinforced with 6 N2 bars (6 N2 C/15) and 7 N1 bars (7 N1 C/15).
- Detail View:** A detail view of the core showing the reinforcement bars. The core is 30 cm wide. The distance between the core and the column face is 14 cm. The total width of the column is 90 cm. The height of the column is 105 cm. The column is reinforced with 6 N2 bars (6 N2 C/15) and 7 N1 bars (7 N1 C/15).

The drawing illustrates the structural details of a reinforced concrete slab (Laje) with the following specifications:

- Top View:** A square slab with a side length of 150. It features a central square column with a side length of 30. The slab is divided into four triangular sections by diagonal reinforcement bars. The distance from the column edge to the slab edge is 10 N1 C/15.
- Side View:** Shows the slab's profile with a total thickness of 143. The top surface is at a height of 35. The bottom surface is at a height of 10 N1 C/15. The slab is supported by a wall with a thickness of 15. The bottom reinforcement is at a height of 20. The bottom surface is labeled "CAMADA DE REGULARIZAÇÃO".
- Cross-section View:** Shows the slab's profile with a total thickness of 143. The top surface is at a height of 35. The bottom surface is at a height of 10 N1 C/15. The slab is supported by a wall with a thickness of 15. The bottom reinforcement is at a height of 20. The bottom surface is labeled "CAMADA DE REGULARIZAÇÃO".

Technical drawing of a reinforced concrete slab (Laje) showing three views: top view, side view, and cross-section view.

**Top View:** A square slab with overall dimensions of 150 (width) by 135 (height). A central square hole has a side length of 30. The distance from the center of the hole to the nearest edge is 14. The slab is reinforced with 9 N1 bars at 15 cm spacing (9 N1 C/15) in both directions. The distance between the centerlines of the reinforcement bars is 10 N2 C/15.

**Side View:** Shows the slab thickness of 35. The reinforcement consists of 9 N1 bars at 15 cm spacing (9 N1 C/15) and 10 N2 bars at 15 cm spacing (10 N2 C/15). The total height of the reinforcement cage is 128. The distance from the top edge to the centerline of the top reinforcement is 35. The distance from the bottom edge to the centerline of the bottom reinforcement is 20. The distance between the centerlines of the reinforcement bars is 10 N2 C/15.

**Cross-section View:** Shows the slab thickness of 35. The reinforcement consists of 9 N1 bars at 15 cm spacing (9 N1 C/15) and 10 N2 bars at 15 cm spacing (10 N2 C/15). The total height of the reinforcement cage is 128. The distance from the top edge to the centerline of the top reinforcement is 35. The distance from the bottom edge to the centerline of the bottom reinforcement is 20. The distance between the centerlines of the reinforcement bars is 10 N2 C/15.

**Reinforcement Details:** The slab is reinforced with 9 N1 bars at 15 cm spacing (9 N1 C/15) in both directions. The distance between the centerlines of the reinforcement bars is 10 N2 C/15. The total height of the reinforcement cage is 128. The distance from the top edge to the centerline of the top reinforcement is 35. The distance from the bottom edge to the centerline of the bottom reinforcement is 20. The distance between the centerlines of the reinforcement bars is 10 N2 C/15.

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**DAE**  
DEPARTAMENTO DE ARQUITETURA E ENGENHARIA



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<p>A PROPRIEDADE INTELECTUAL DO PRESENTE PROJETO É RESERVADA AO SEUS AUTORES, DE ACORDO COM A LEGISLAÇÃO PERTINENTE. O USO DESTES PROJETO OU DE QUALQUER DE SEUS ELEMENTOS, QUE NÃO FORMAR OS DEBENTRIDORES, SERÃO CONSIDERADOS COMO APROPRIAÇÃO ILÍCITA E SERÃO APLICADAS AS LEIS QUE DEFENDEM DIOS DIREITOS A TODOS OS EFEITOS</p>		DATA:	30/07/2012	
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