

2 N2 ø8.0 C=997 (1c)

0

A

P1

40

455

15 x 30

455

29 N1 c/16

P2

15

450

15 x 30

450

29 N1 c/16

40

[illegible]

2 N5 ø8.0 C-342 (1c)

0

P12

A

P13

25

295

15 x 30

295

19 N1 c/16

30

15

27

12

SEÇÃO A-A
ESC 1:25

19 N1 ø5.0 C=90

2 N6 ø8.0 C=472 (1c)

0

1 A

P14

25

425

15 x 30

27 N1 ø16

P1

ESC 1:25

Technical drawing of a rectangular object. The vertical dimension is labeled 30 and the horizontal dimension is labeled 15. The drawing shows a rectangle with a smaller rectangle inside it, representing a hole or a recessed area.

		VB-1		VB-2		VB-3	
		VB-4		VB-5		VB-6	
		VB-7		VB-8		VB-9	
		VB-10		VB-11		VB-12	
		VB-13		VB-14		VB-15	
AÇO	N	DIAM	Q	UNIT	Q	C.TOTAL	(cm)
CA60	1	5.0	337	90		30330	
CA50	2	8.0	4	997		3988	
	3	8.0	2	515		1030	
	4	8.0	2	342		1368	
	5	8.0	2	532		1064	
	6	8.0	4	472		1858	
	7	8.0	4	312		1248	
	8	8.0	2	315		630	
	9	8.0	2	324		648	
	10	8.0	4	192		768	
	11	8.0	4	522		2088	
	12	8.0	4	517		2068	
	13	8.0	4	407		1628	
	14	8.0	1	138		138	
	15	8.0	2	363		726	
	16	8.0	2	212		424	
	17	8.0	2	229		458	
	18	8.0	2	322		644	
	19	8.0	2	336		672	
	20	8.0	2	88		176	
	21	8.0	2	258		516	
	22	8.0	2	272		544	
	23	8.0	2	233		466	
	24	8.0	2	247		494	
	25	10.0	3	238		714	
	26	10.0	1	180		180	
	27	10.0	2	532		1064	

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	236.8	102.8
	10.0	19.6	13.3
CA60	5.0	303.3	51.4
PESO TOTAL			
CA50	116.1		
CA60	51.4		

Vol. de concreto total (C-25) = 2.76 m³
Área de forma total = 46.01 m²

Technical drawing of a mechanical part, labeled "SEÇÃO A-A" and "ESC 1:25". The drawing shows a cross-section of a shaft with a central hole. The shaft has a total length of 307 units. The central hole has a diameter of 2 N9 e8.0 C=324. The shaft is supported by two bearings, P21 and P22, which are 15 x 30 units in size. The distance between the bearings is 135 units. The shaft has a diameter of 27 units. The drawing also shows a detail of the bearing P21, which is a 15 x 30 x 12 unit bearing. The shaft has a diameter of 27 units. The drawing is labeled "SEÇÃO A-A" and "ESC 1:25".

2 N10 Ø8.0 C=192 (1c)

0

A

P23

A

P24

25

145

15 x 30

145

10 N1 Ø5.0 C=90

25

30

15

27

12

2 N10 Ø8.0 C=192 (1c)

10 N1 Ø5.0 C=90

SEÇÃO A-A

ESC 1:25

SEÇÃO A-A
ESC 1:25

2 N13 ø8.0 C=407 (1c)

0

P25

25

360

15 x 30

360

23 N1 ø16

25

P19

30

15

27

12

23 N1 ø5.0 C=90

SEÇÃO A-A
ESC. 1:25

Top View:

- Top reinforcement: 2 N27 ϕ 10.0 C=532 (1c)
- Bottom reinforcement: 1 N26 ϕ 10.0 C=180 (1c)
- Beam width: 65
- Section number: 522

Side View:

- Beam height: 30
- Effective depth: 15
- Reinforcement details:
 - Top: N14 ϕ 8.0 C=138 (11)
 - Bottom: 3 N25 ϕ 10.0 C=238 (1c)
 - Stirrups: 15 x 30 (285), 18 N1 ϕ 16

Dimensions and Spacing:

- Top reinforcement spacing: 40, 135, 40, 285, 25
- Bottom reinforcement spacing: 40, 135, 40, 285, 25
- Stirrups: 15 x 30 (285), 18 N1 ϕ 16

(1c) 2 N17 ø8.0 C=229

212

19

0

P10

A

VB-2

40

175

15 x 30

160

10 N1 c/16

30

15

27

12

2 N16 ø8.0 C=212 (1c)

10 N1 ø5.0 C=50

SEÇÃO A-A

ESC 1:25

Technical drawing of a reinforced concrete beam (SEÇÃO A-A) showing dimensions and reinforcement details. The beam has a total length of 322 cm, with 2 N19 Ø8.0 bars at the top and 2 N18 Ø5.0 bars at the bottom. The cross-section is 30 cm high and 15 cm wide. The drawing includes dimensions for the beam length, reinforcement spacing, and section details.

SEÇÃO A-A
ESC 1:25

0' 242 24

2 N22 Ø8.0 c=272 (1c)

Γ A 0

P18 L A P16

25 205 15 x 30 205 13 N16 c/16

1 N20 Ø8.0 c=88

11

30 15

12 27

12 N1 Ø5.0 c=90

24 217 10 (1c)
 2 0 A
 P23 VB-6 P20
 15 180 25
 15 x 30
 180
 12 N1 c/16
 N20 ø8.0 C=88
 11
 30 15
 27 12
 12 N1 ø5.0 C=90
 SEÇÃO A-A
 ESC 1:25

TERREO - L3

ESC 1:20

15
25

22
12

9 N1 ø5.0 C=80

96
4 N2 ø10.0 C=98

100
9 N1 ø12

370
V

PORTA - L2

ESC 1:20

15
25

22
12

18 N1 ø5.0 C=80

44
4 N3 ø12.5 C=314

270
18 N1 ø15

270
V

0

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	27	80	2160
CA50	2	10.0	4	98	392
	3	12.5	4	314	1256

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	4	2.7
	12.5	12.6	13.3
CA60	5.0	21.6	3.7
PESO TOTAL			
CA50	16		
CA60	3.7		

Vol. de concreto total (C-25) = 0.14 m³
Área de forma total = 2.96 m²

P5

PORTA - L2

ESC 1:25

270

23 N1 ø5.0 C=130

23 N2 ø5.0 C=27

6 N4 ø10.0 C=268

270

23 N1 c/12

15

50

12

47

N2

BALDRAME - L1

ESC 1:25

0

VAR

20

35

6 N3 ø10.0 C=VAR

VAR

5 N1 ø5.0 C=130

5 N2 ø5.0 C=27

15

50

12

47

N2

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	28	130	3640
	2	5.0	28	27	756
CA50	3	10.0	6	VAR	VAR
	4	10.0	6	268	1608

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	22.3	15.1
CA60	5.0	44	7.5
PESO TOTAL			
CA50	15.1		
CA60	7.5		

Vol. de concreto total (C-25) = 0.24 m³
Área de forma total = 4.16 m²

P3

SUPERIOR - L4

ESC 1:20

25
40

22
37

20 N1 ø5.0 C=130
20 N3 ø5.0 C=37

N3

670

298
6 N6 ø16.0 C=298

300
20 N1 ø15

370

6 N5 ø16.0 C=112

516

98
6 N4 ø10.0 C=98

100
9 N1 ø12

270

25
40

22
37

20 N1 ø5.0 C=130
9 N2 ø5.0 C=37

N2

ESC 1:25

ESC 1:12.5

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	29	130	3770
	2	5.0	9	37	333
	3	5.0	20	37	740
CA50	4	10.0	6	98	588
	5	16.0	6	112	672
	6	16.0	6	298	1788

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	5.9	4
	16.0	24.6	42.7
CA60	5.0	48.5	8.2
PESO TOTAL			
CA50	46.7		
CA60	8.2		

Vol. de concreto total (C-25) = 0.4 m³
Área de forma total = 5.2 m²

P8
SUPERIOR - L4

ESC 1:20

15
 40
 20 N1 c/15
 6 N4 ø16.0 C=298
 298
 670

TERREO - L3

ESC 1:20

15
 40
 7 N1 c/15
 6 N3 ø16.0 C=156
 100
 270

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	27	110	2970
	2	5.0	27	27	729
CA50	3	16.0	6	156	936
	4	16.0	6	298	1788

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	16.0	27.3	47.3
CA60	5.0	37	6.3
PESO TOTAL			
CA50	47.3		
CA60	6.3		

Vol. de concreto total (C-25) = 0.24 m³
Área de forma total = 4.4 m²