

ESC 1:50

2 N18 ϕ 12.5 C=262 (1c)

221

1 N17 ϕ 12.5 C=248 (2c)

214

11

P11

40

187

15 x 30

187

13 N1 c/15

221

2 N2 ϕ 8.0 C=237 (1c)

Technical drawing of a 15x30x202 mm plate. The drawing shows a top view with dimensions in millimeters. The plate has a total width of 30 mm and a total length of 202 mm. Key features include:

- Two N20 holes with a diameter of 12.5 mm and a center-to-center distance of C=250 (1c) at the top.
- One N19 hole with a diameter of 12.5 mm and a center-to-center distance of C=236 (2c) at the top.
- A 11 mm wide slot on the left side.
- A 15x30 mm rectangular area in the center.
- Two N12 holes with a diameter of 8.0 mm and a center-to-center distance of C=225 (1c) at the bottom.
- A 40 mm wide slot on the right side.
- A 175 mm dimension for the central rectangular area.
- A 10 mm dimension for the bottom edge.

ESC 1:50

23

11

P37

80

15

22 N

10

ESC 1:50

7

23

A

11

P28

30

390.5

15 x 30

390.5

27 N1 c/

10

ESC 1:50

23

A

11

P16

A

30

377.5

15 x 30

377.5

26 N1 c/1

10

VB55	VB56	VB57
VB61	VB59	VB60
ABO		
CAO	QUANT	UNIT
CA50	(Barras)	C.TOTAL
N	DIAM (mm)	(cm)
1	5.0	26286
2	8.0	237
3	8.0	225
4	8.0	227
5	8.0	506
6	8.0	831
7	8.0	426
8	8.0	1150
9	8.0	177
10	8.0	834
11	8.0	424
12	8.0	832
13	8.0	1148
14	8.0	2044
15	8.0	203
16	8.0	208
17	12.5	1140
18	12.5	282
19	12.5	236
20	12.5	250

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	225.2	97.7
	12.5	15.1	16
CA60	5.0	262.9	44.6
PESO TOTAL (kg)			
CA50	113.7		
CA60	44.6		

[illegible]

CLASSE DE AGRESSIVIDADE AMBIENTAL (NBR 6118: 2014)	
II - MODERADA URBANA	<p>FATORES ATENUANTES:</p> <ul style="list-style-type: none"> - Controle Rigido de qualidade e medidas na obra, - Ambientes revestidos com argamassa e pintura.
COBRIMENTOS:	CONCRETO ADOTADO:
PLANELA: 1,5m	C30 Fck = 30MPa
VIGAS: 3,0m	Ecs = 260716 Kg/cm²
LAJES: 2,5m	
PLUNDACESS: 5m	
	FATOR AGUA/CEMENTO DO CONCRETO: $\alpha/c \leq 0,55$





Nome	Vigilância			Nome	Seleção		
	Seção	Elevação (cm)	Nível (cm)		Seção	Elevação (cm)	Nível (cm)
V1	V530	0	316	P1	P53	15 x 30	0
V2	V530	0	316	P2	P53	15 x 30	0
V3	V530	0	316	P3	P53	15 x 30	0
V4	V530	0	316	P4	P53	15 x 30	0
V5	V530	0	316	P5	P53	15 x 30	0
V6	V530	0	316	P6	P53	15 x 30	0
V7	V530	0	316	P7	P53	15 x 30	0
V8	V530	0	316	P8	P53	15 x 30	0
V9	V530	0	316	P9	P53	15 x 30	0
V10	V530	0	316	P10	P53	15 x 30	0
V11	V530	0	316	P11	P53	15 x 30	0
V12	V530	0	316	P12	P53	15 x 30	0
V13	V530	0	316	P13	P53	15 x 30	0
V14	V530	0	316	P14	P53	15 x 30	0
V15	V530	0	316	P15	P53	15 x 30	0
V16	V530	0	316	P16	P53	15 x 30	0
V17	V530	0	316	P17	P53	15 x 30	0
V18	V530	0	316	P18	P53	15 x 30	0
V19	V530	0	316	P19	P53	15 x 30	0
V20	V530	0	316	P20	P53	15 x 30	0
V21	V530	0	316	P21	P53	15 x 30	0
V22	V530	0	316	P22	P53	15 x 30	0
V23	V530	0	316	P23	P53	15 x 30	0
V24	V530	0	316	P24	P53	15 x 30	0
V25	V530	0	316	P25	P53	15 x 30	0
V26	V530	0	316	P26	P53	15 x 30	0
V27	V530	0	316	P27	P53	15 x 30	0
V28	V530	0	316	P28	P53	15 x 30	0
V29	V530	0	316	P29	P53	15 x 30	0
V30	V530	0	316	P30	P53	15 x 30	0
V31	V530	0	316	P31	P53	15 x 30	0
V32	V530	0	316	P32	P53	15 x 30	0
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V34	V530	0	316	P34	P53	15 x 30	0
V35	V530	0	316	P35	P53	15 x 30	0
V36	V530	0	316	P36	P53	15 x 30	0
V37	V530	0	316	P37	P53	15 x 30	0
V38	V530	0	316	P38	P53	15 x 30	0
V39	V530	0	316	P39	P53	15 x 30	0
V40	V530	0	316	P40	P53	15 x 30	0
V41	V530	0	316	P41	P53	15 x 30	0
V42	V530	30	346	P42	P53	15 x 30	0
V43	V530	0	316	P43	P53	15 x 30	0
V44	V530	0	316	P44	P53	15 x 30	0
V45	V530	0	316	P45	P53	15 x 30	0
V46	V530	0	316	P46	P53	15 x 30	0
V47	V530	0	316	P47	P53	15 x 30	0
V48	V530	0	316	P48	P53	15 x 30	0
V49	V530	0	316	P49	P53	15 x 30	0
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V57	V530	0	316	P57	P53	15 x 30	0
V58	V530	0	316	P58	P53	15 x 30	0
V59	V530	0	316	P59	P53	15 x 30	0
V60	V530	0	316	P60	P53	15 x 30	0
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V67	V530	0	316	P67	P53	15 x 30	0
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V69	V530	0	316	P69	P53	15 x 30	0
V70	V530	0	316	P70	P53	15 x 30	0
V71	V530	0	316	P71	P53	15 x 30	0
V72	V530	0	316	P72	P53	15 x 30	0
V73	V530	0	316				
V74	V530	0	316				
V75	V530	0	316				

Name	Type	Dados		Lotes		Subseção (acumul)		
		Ativa	Elimin	Novo	Propr	Adicional	Acumul	Localiza
L1	Triplicado	14	0	316	188	100	150	-
L2	Triplicado	14	0	316	188	100	150	-
L3	Triplicado	14	0	316	188	100	150	-
L4	Triplicado	14	0	316	188	100	150	-
L5	Triplicado	14	0	316	188	100	150	-
L6	Triplicado	14	0	316	188	100	150	-
L7	Triplicado	14	0	316	188	100	150	-
L8	Triplicado	14	0	316	188	100	150	-
L9	Triplicado	14	0	316	188	100	150	-
L10	Triplicado	14	0	316	188	100	150	-
L11	Triplicado	14	0	316	188	100	150	-
L12	Triplicado	14	0	316	188	100	150	-
L13	Triplicado	14	0	316	188	100	150	-
L14	Triplicado	14	0	316	188	100	150	-
L15	Triplicado	14	0	316	188	100	150	-
L16	Triplicado	14	0	316	188	100	150	-
L17	Triplicado	14	0	316	188	100	150	-
L18	Triplicado	14	0	316	188	100	150	-
L19	Triplicado	14	0	316	188	100	150	-

Características dos materiais			
f_{ck} (kgf/cm^2)	E_{cs} (kgf/cm^2)	f_{ct} (kgf/cm^2)	Abatimento (cm)
300	260716	29	5,00

Dimensão máxima do agregado = 19 mm

Blocos de enchimento						
Detalhe	Tipo	Nome	Dimensões(cm)			Quantidade
			hb	bx	by	
1	EPS Unidirecional	B840/40	8	40	40	332

Legenda dos Pilares	
	Pilar que morre
	Pilar que passa
	Pilar que nasce
	Pilar com mudança de seção

Detalhe 1 (esc. 1:30)

[illegible]

Nº	ALTERAÇÃO/REVISÕES	REVISADO POR	DATA

Engº. Fredrico Damasceno Pinheiro
CREA 270082778-3



dipop@ifs.edu.br TEL: (79)3711-3139

PROJETO ESTRUTURAL
CAMPUS JAPARATUBA/SE

INSTITUTO FEDERAL DE SERGIPE - CAMPUS JAPARATUBA

ROD. DEP. REINALDO MOURA, S/N - JAPARATUBA/SE

CAMPUS:	OBRA:	ESPECIALIDADE:	FASE:	SERIAL:	QUANTITATIVO:	REVISÃO:													
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ESCALA: 1:100

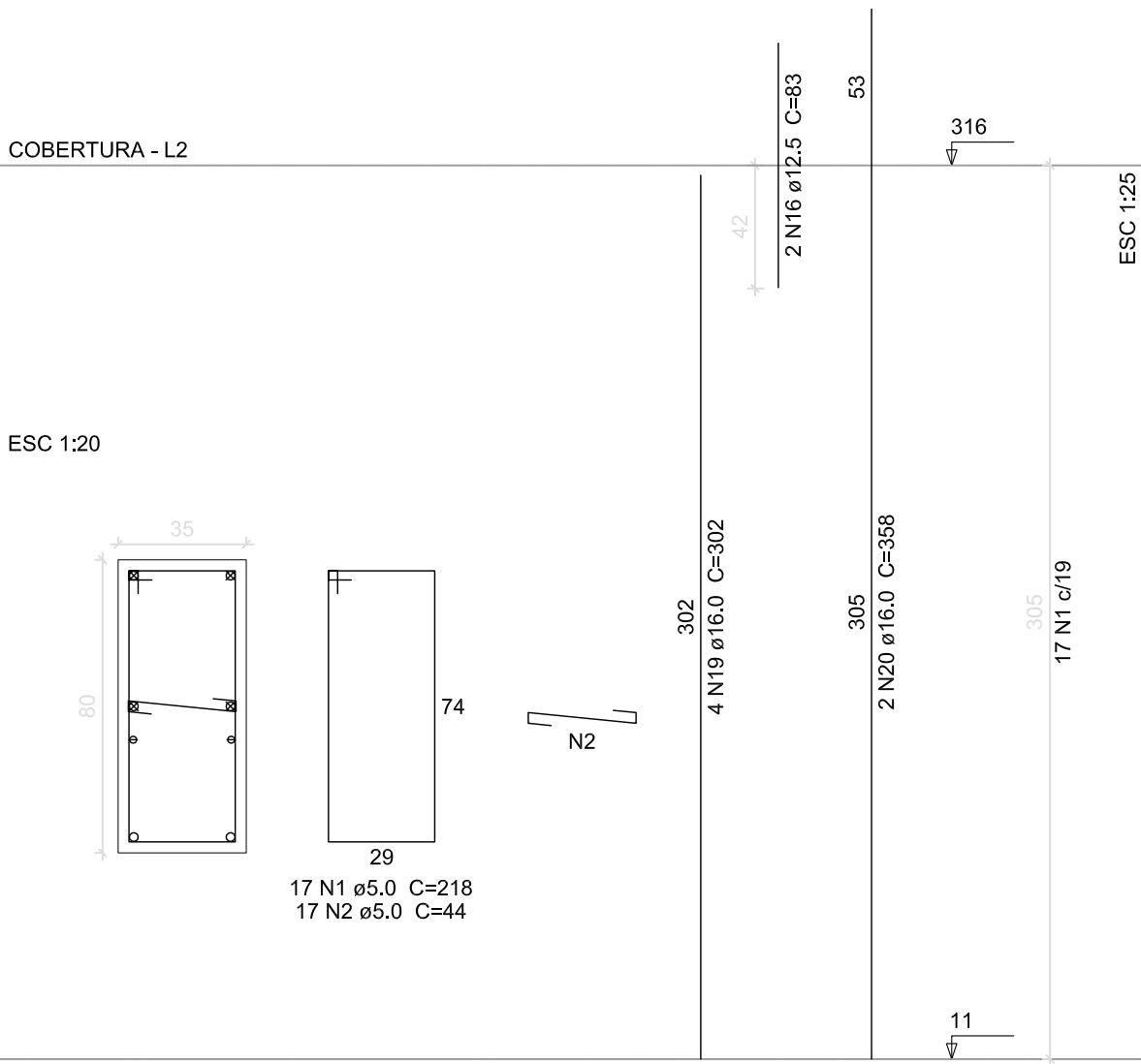
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PRANCHA

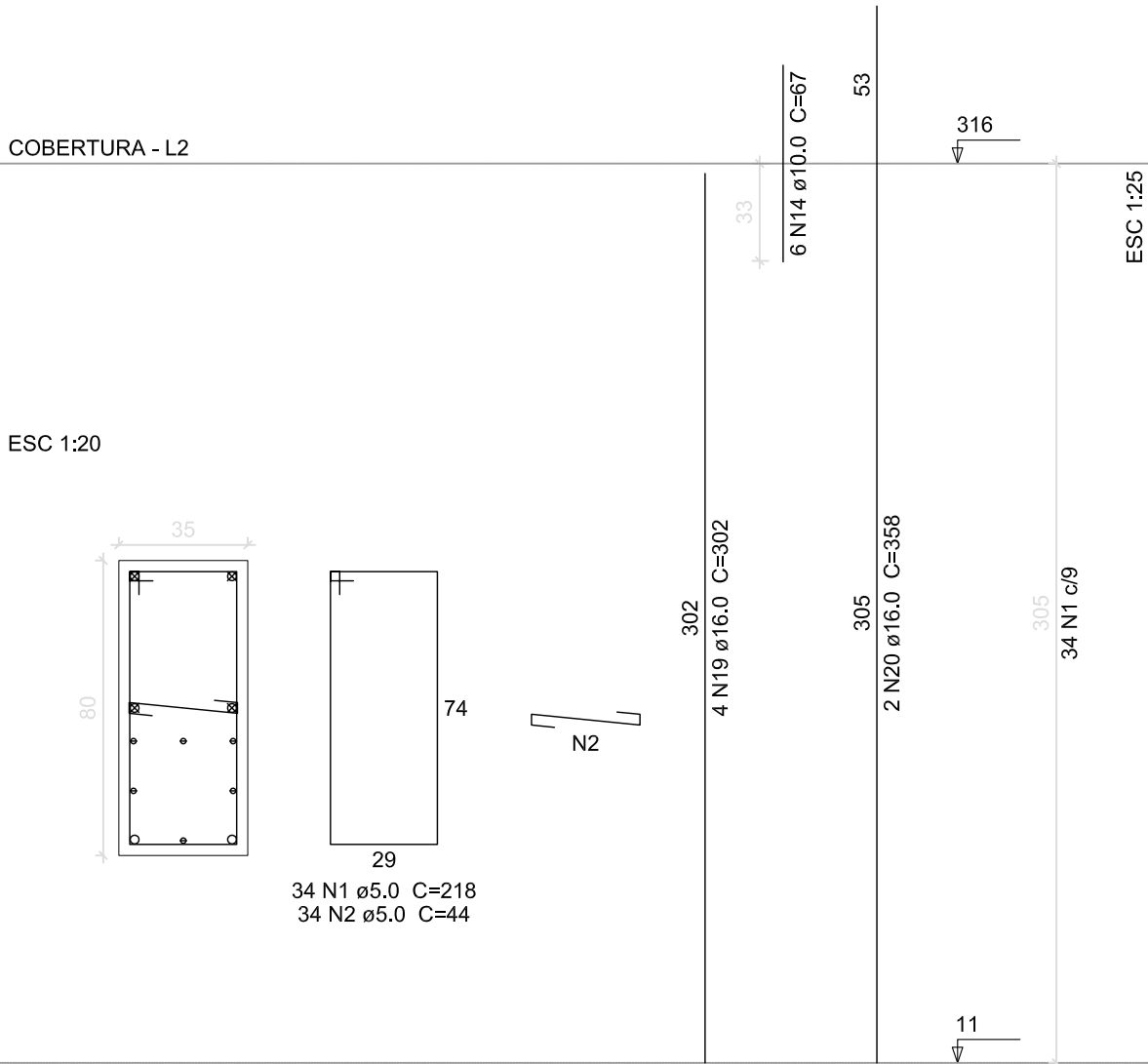
07/14

CAMPUS:	OBRA:	ESPECIALIDADE:	FASE:	SERIAL:	QUANTITATIVO:	REVISÃO:
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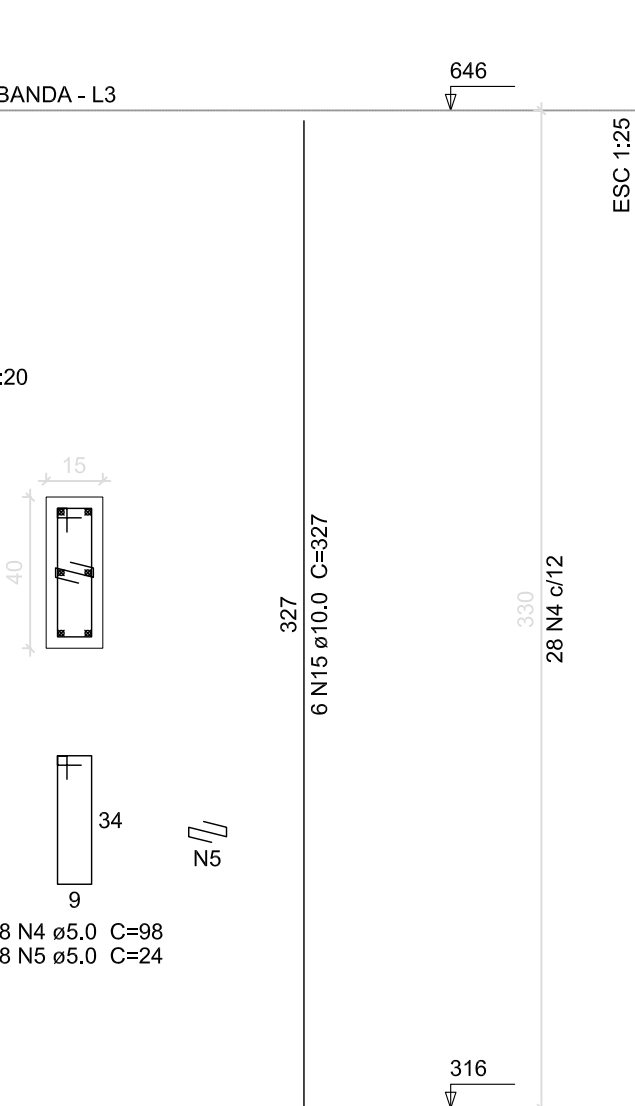
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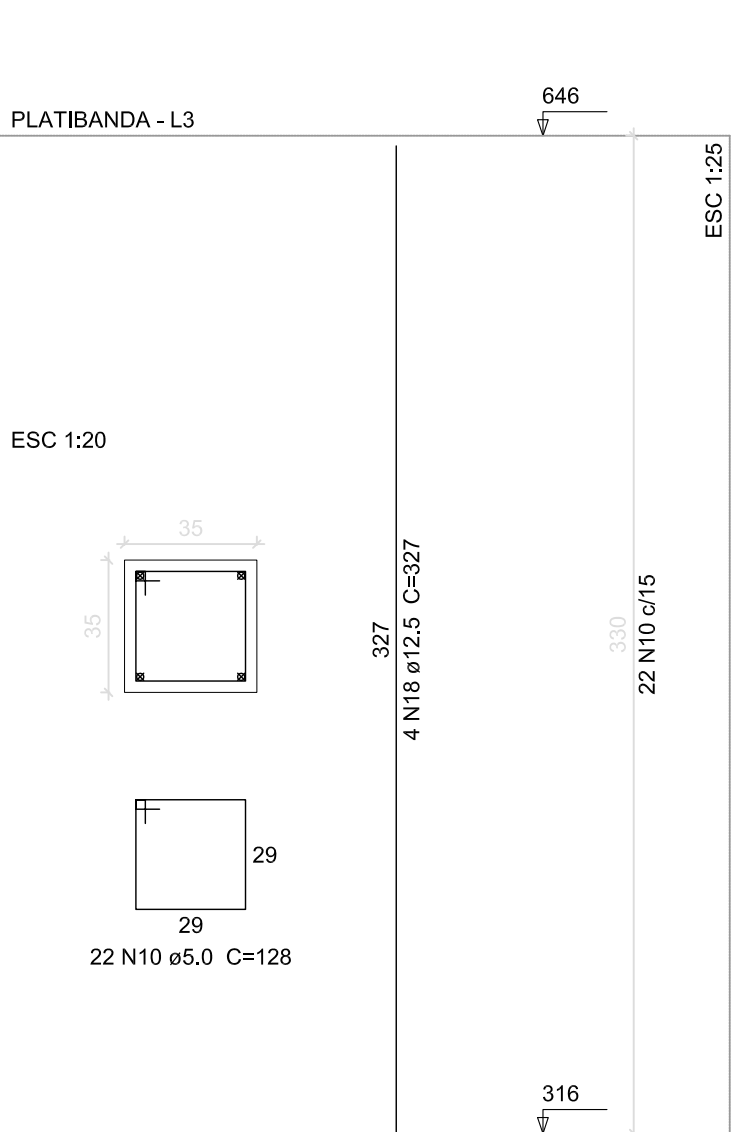
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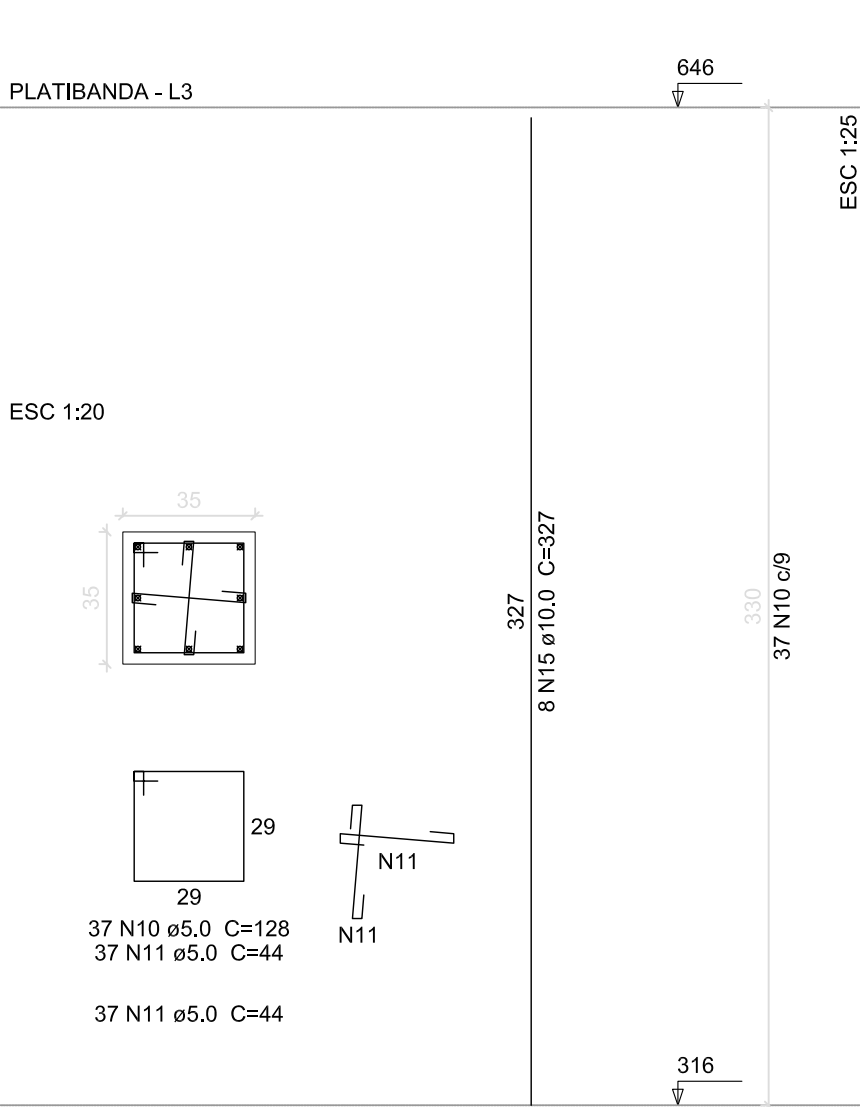
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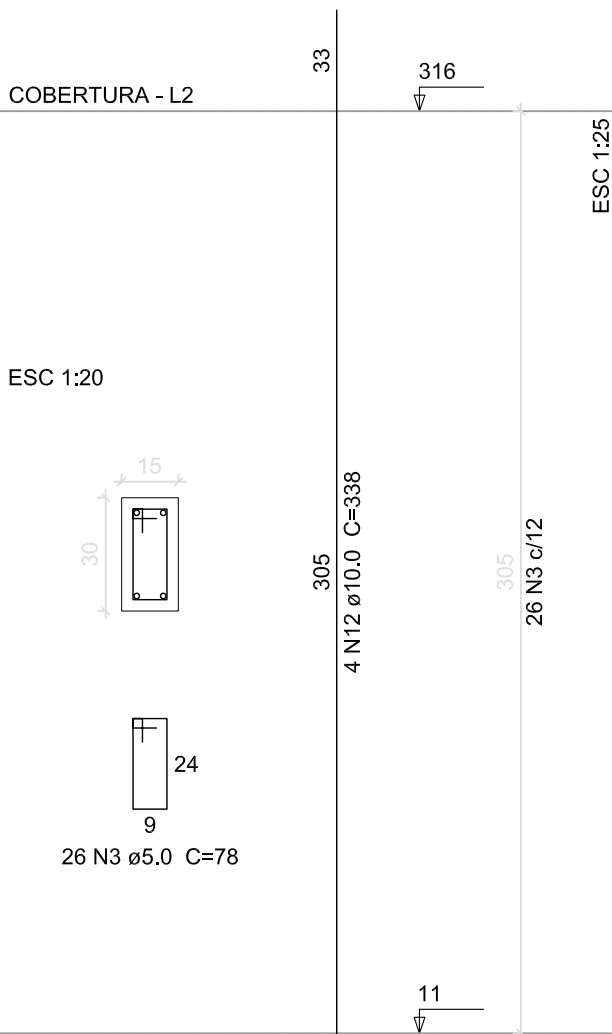
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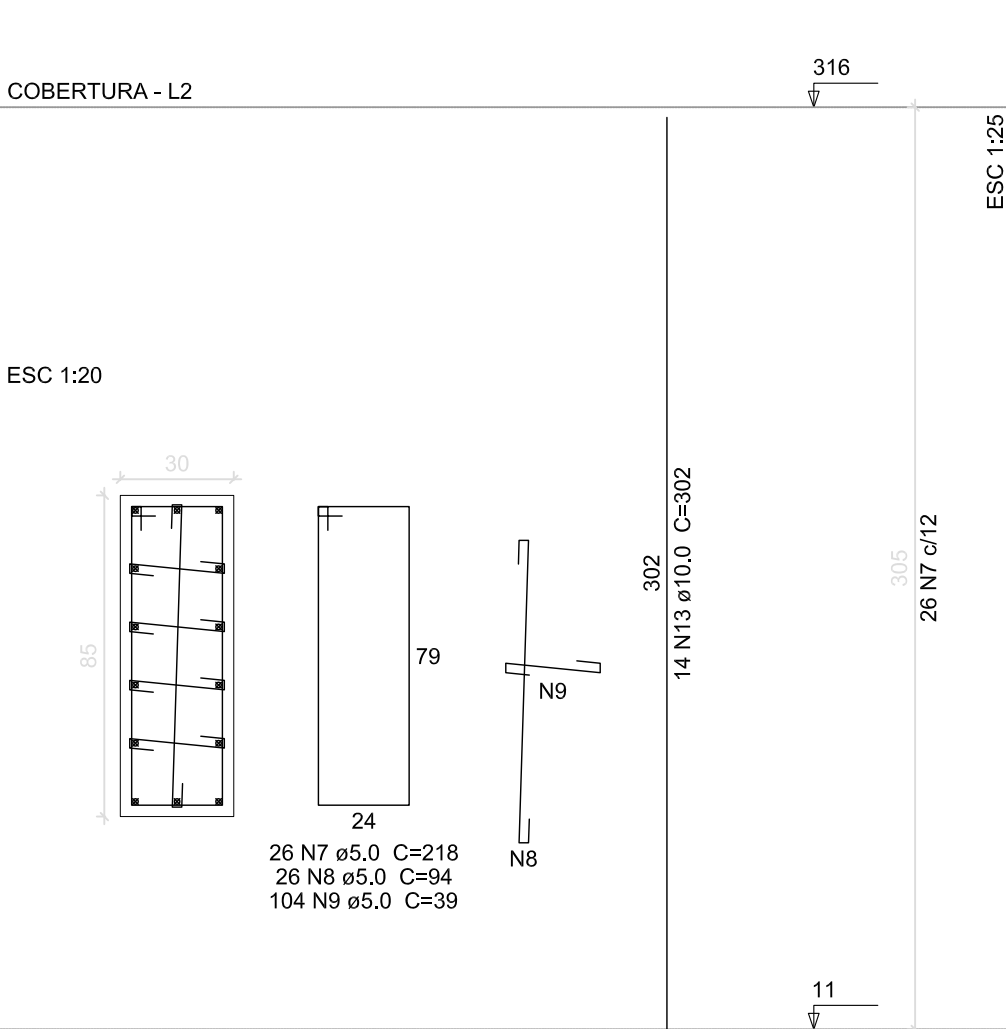
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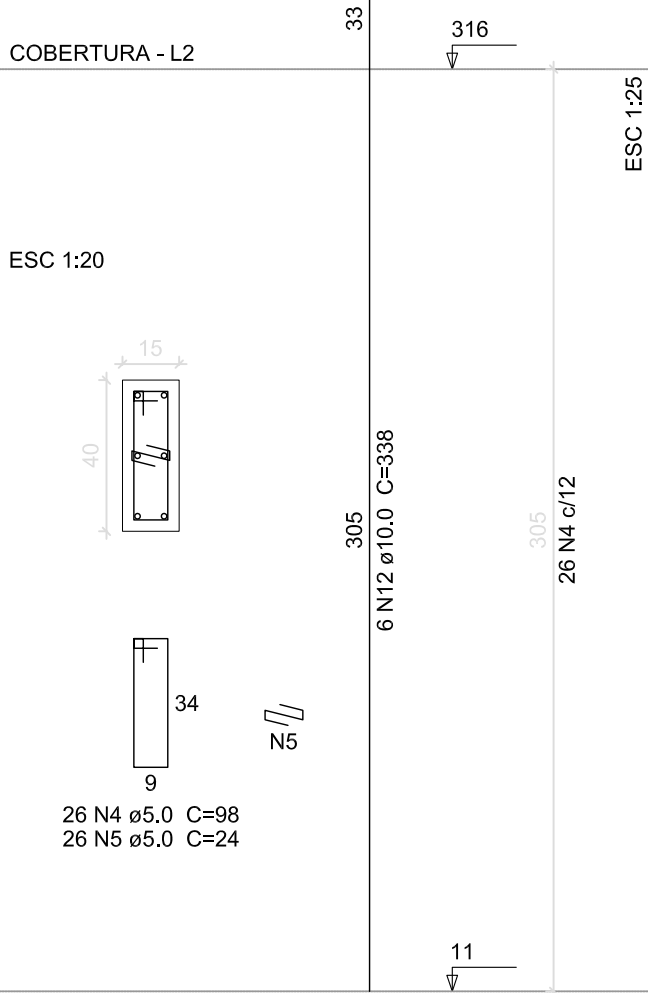
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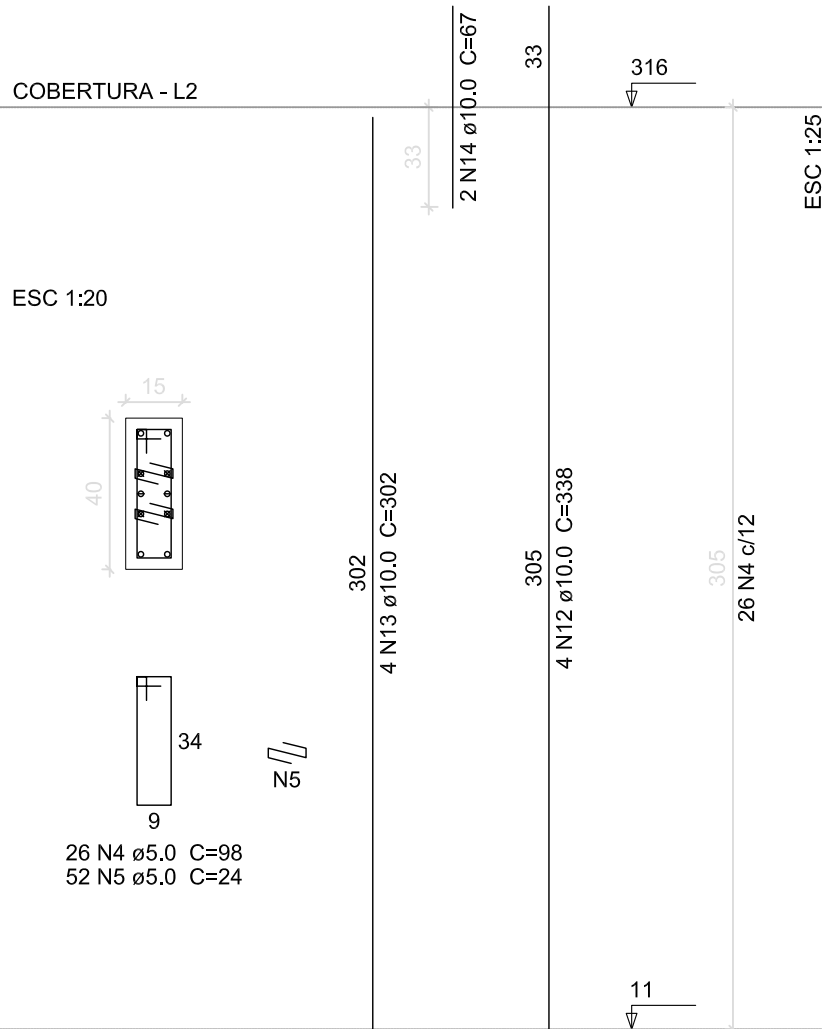
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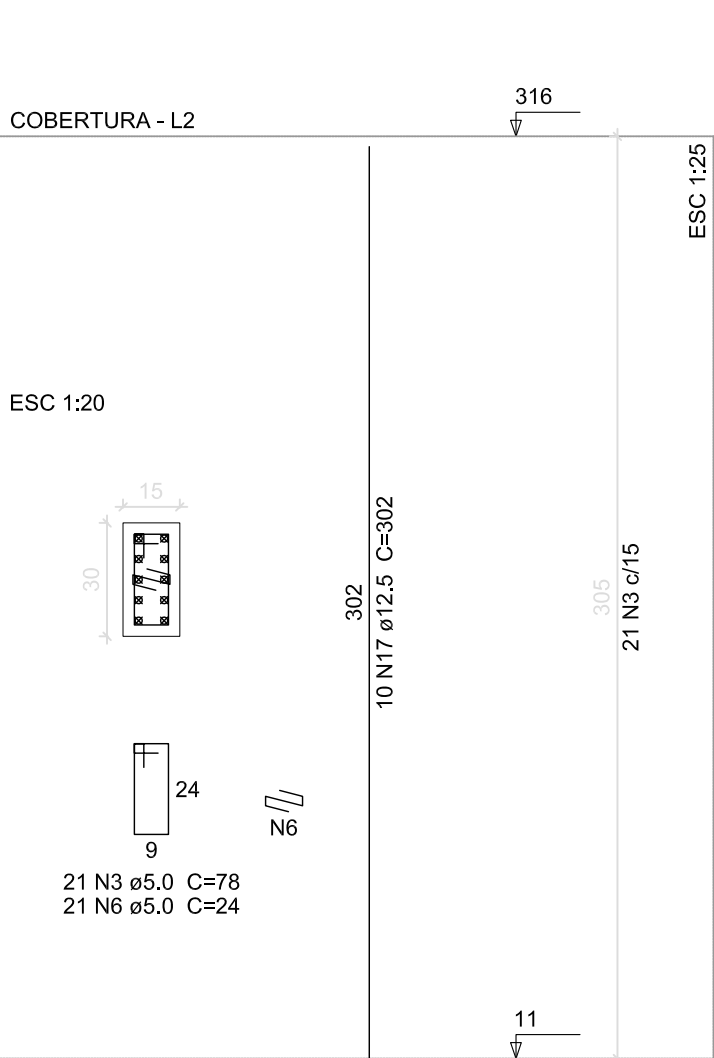
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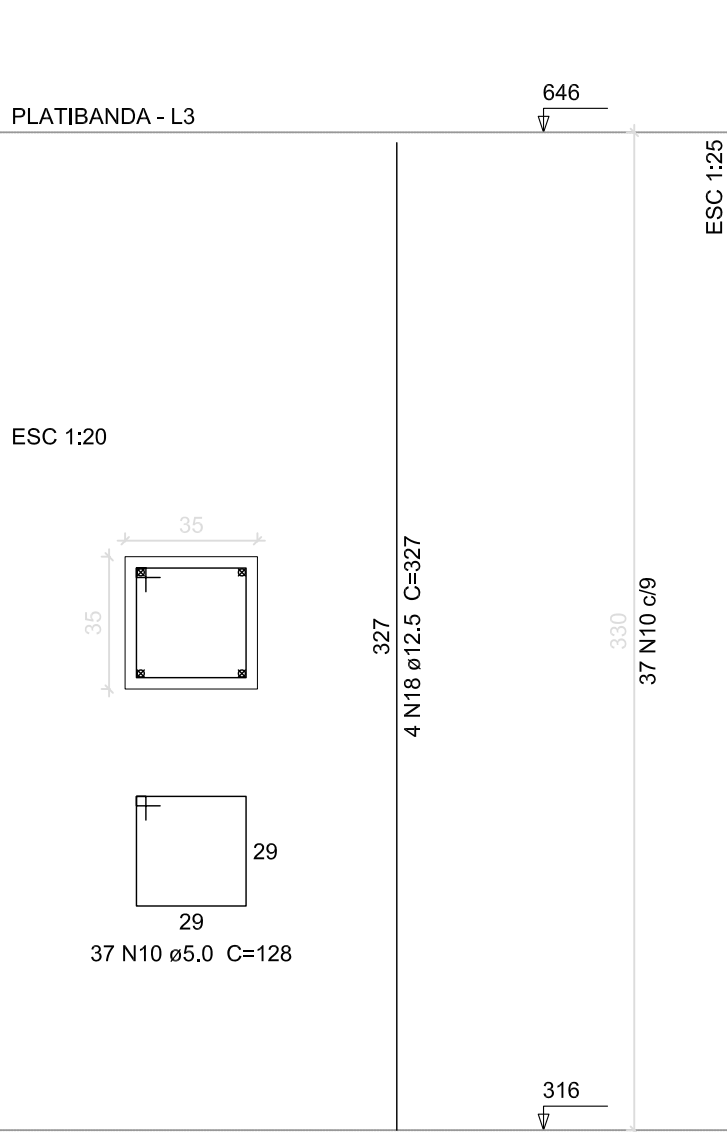
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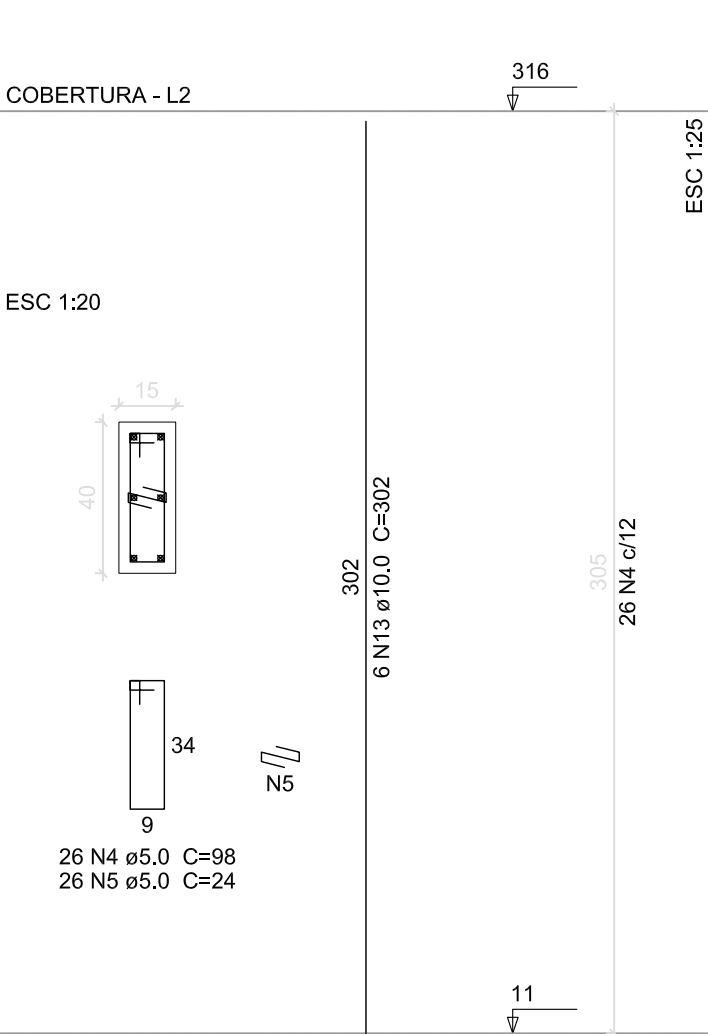
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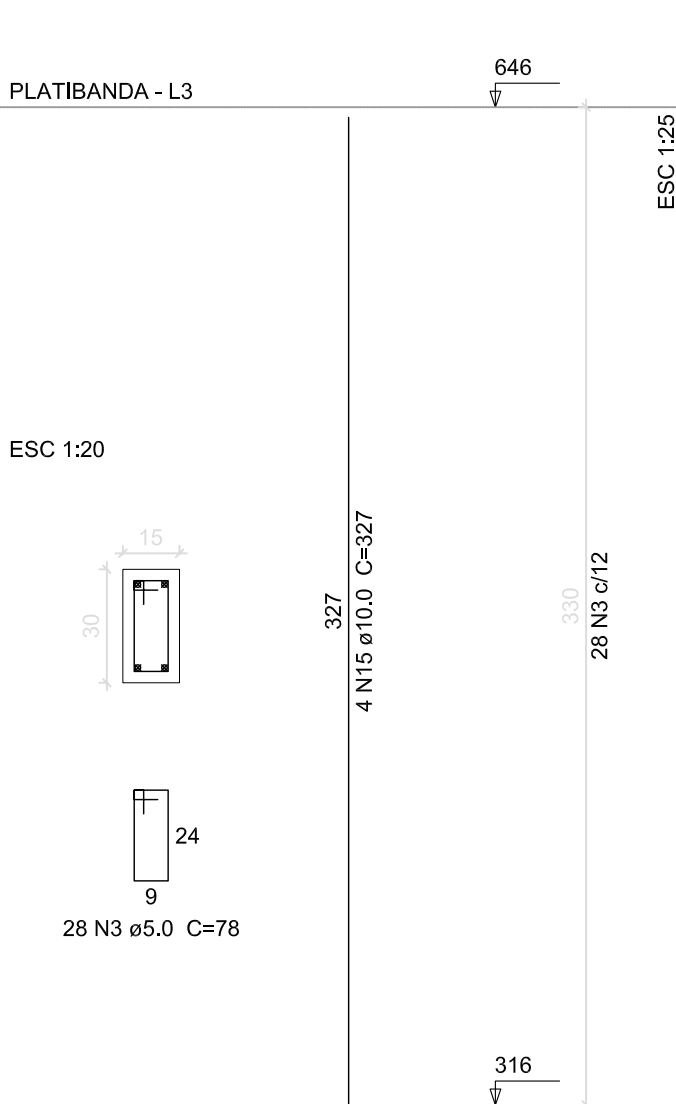
P1



P14=P22=P30=P38=P41=P49=P57=P60



P2=P70



Relação do aço


COBERTURA:		18xP1	2xP2		
		17xP3	20xP4		
		P8	8xP14		
		2xP36	2xP37		
		2xP63			
PLATIBANDA:		P1	2xP2		
		19xP3	17xP6		
		2xP36			
AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	374	218	81532
	2	5.0	374	44	16456
	3	5.0	649	78	50622
	4	5.0	1234	98	120932
	5	5.0	1286	24	30864
	6	5.0	21	24	504
	7	5.0	52	218	11336
	8	5.0	52	94	4888
	9	5.0	208	39	8112
	10	5.0	485	128	62080
CA50	11	5.0	148	44	6512
	12	10.0	118	338	39864
	13	10.0	164	302	49528
	14	10.0	16	67	1072
	15	10.0	138	327	45126
	16	12.5	36	83	2988
	17	12.5	10	302	3020
	18	12.5	72	327	23544
	19	16.0	80	302	24160
	20	16.0	40	358	14320

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	1356.1	919.7
	12.5	295.6	313.2
	16.0	384.8	668.1
CA60	5.0	3938.4	667.7
PESO TOTAL (kg)			
CA50	1900.9		
CA60	667.7		

Volume de concreto (C=30) = 38.88 m³
Área de forma = 475.36 m²


Nº	ALTERAÇÃO/REVISÕES	REVISADO POR	DATA
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INSTITUTO FEDERAL
SERGIPE

AUTOR DO PROJETO:

Engº. Fredrico Damasceno Pinheiro
CREA 270082778-3



AD
ENGENHARIA

ENDEREÇO:

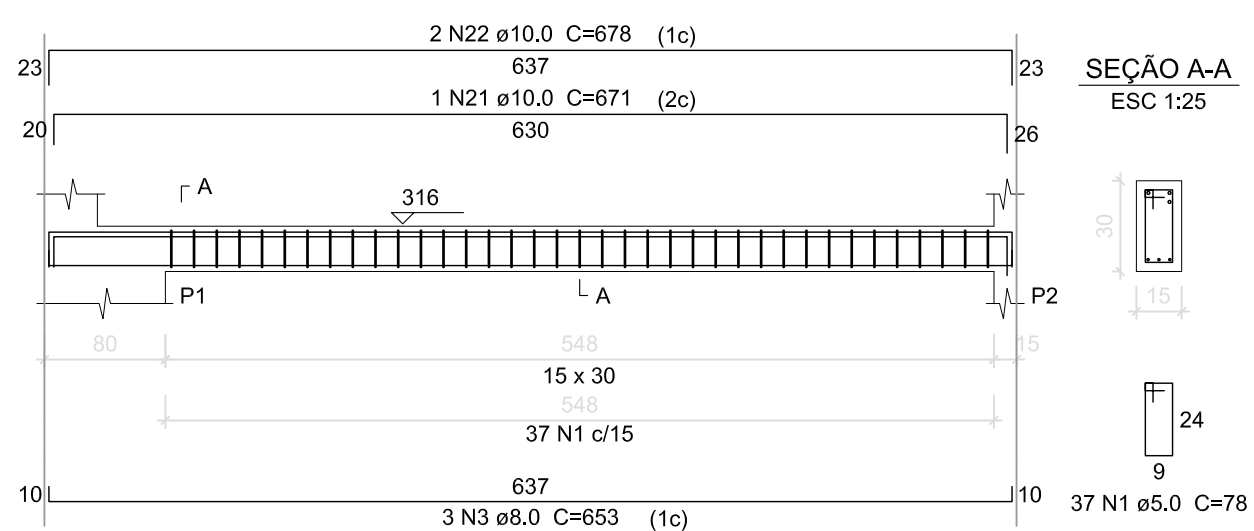
Rua Dom José Thomaz, 194 - Bairro São José - Aracaju/SE
dipop@ifs.edu.br

TEL: (79)3711-3139

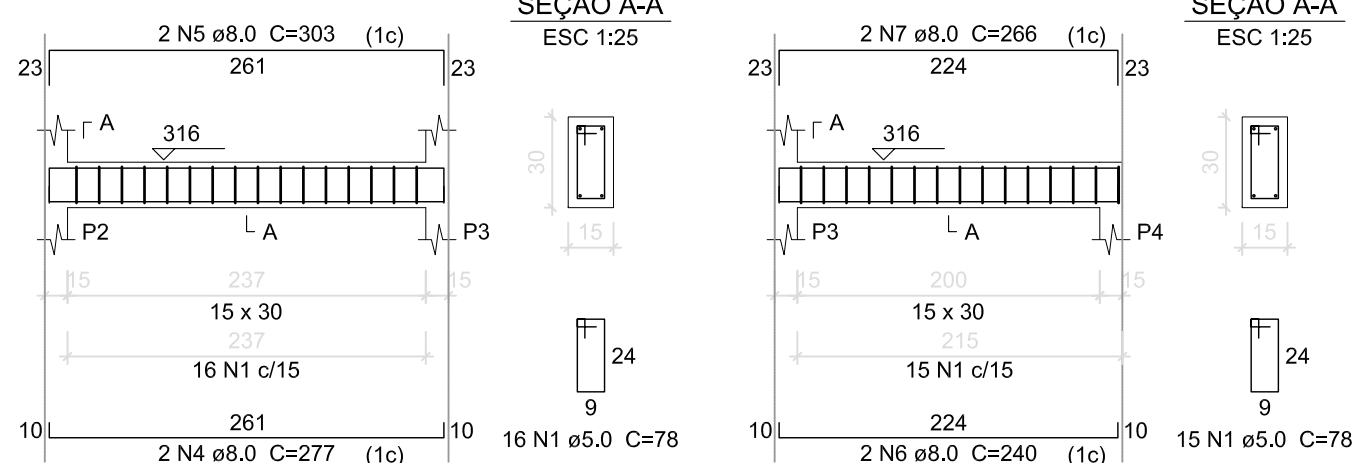
PROJETO ESTRUTURAL CAMPUS JAPARATUBA/SE

CLIENTE:		INSTITUTO FEDERAL DE SERGIPE - CAMPUS JAPARATUBA	
ENDEREÇO:		ROD. DEP. REINALDO MOURA, S/N - JAPARATUBA/SE	
PLANTA:		BLOCO ADMINISTRATIVO DETALHE ARMAÇÃO DOS PILARES	
CAMPO:		J A P C A M E S T P E O O B O I 4 R O I	
ESCALA:		1:100	
DATA:		MAIO/2025	
PRANCHA:		08/14	

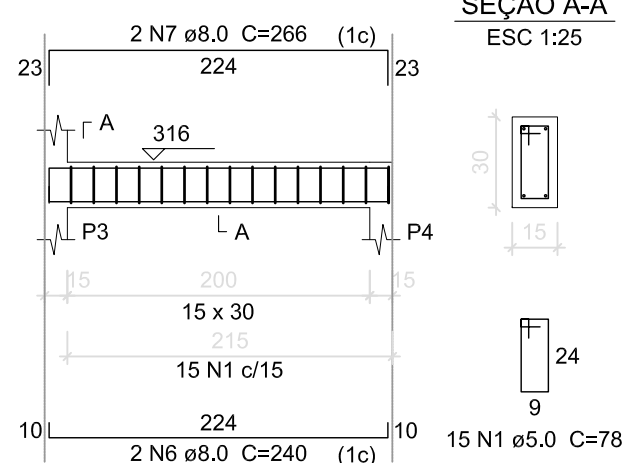
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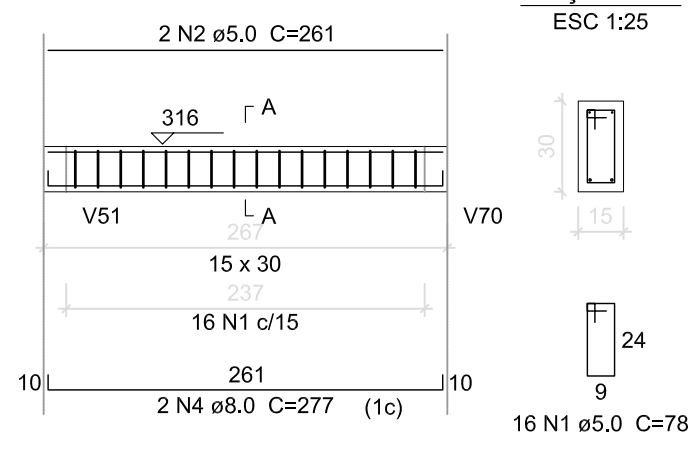
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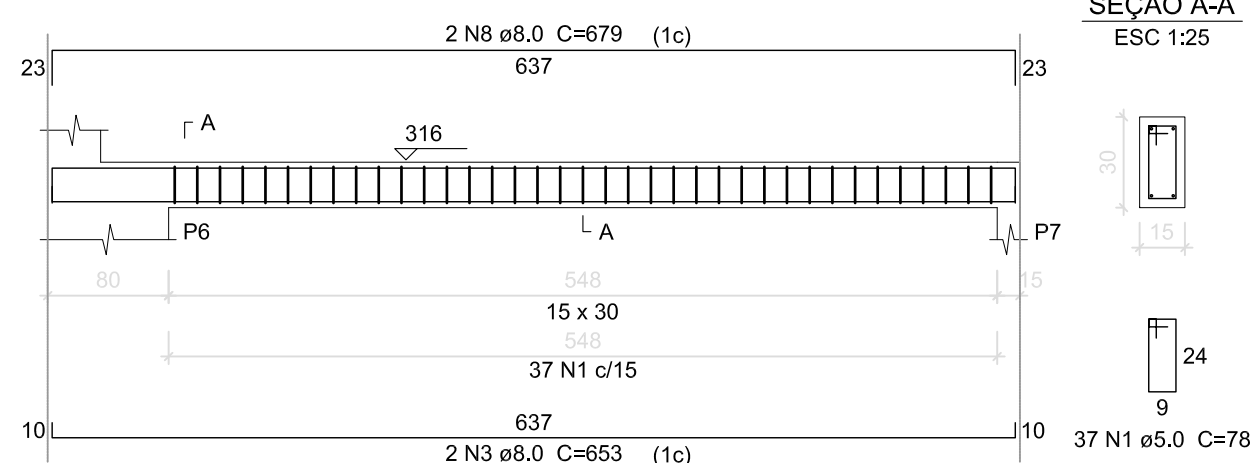
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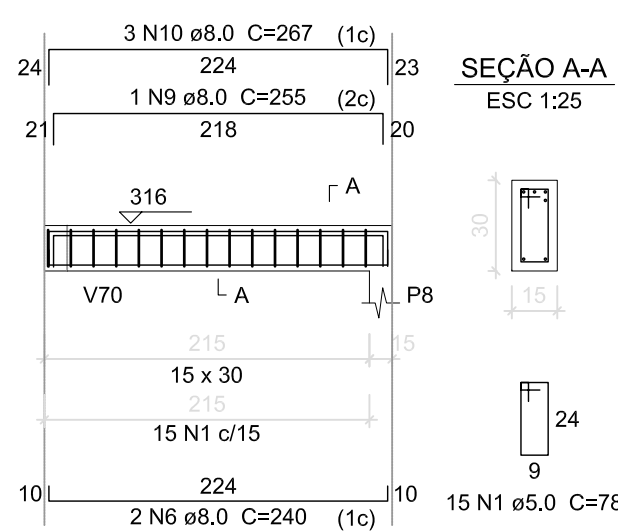
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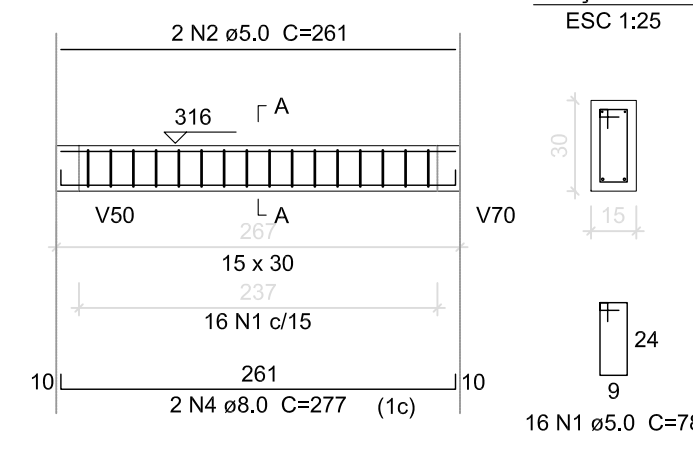
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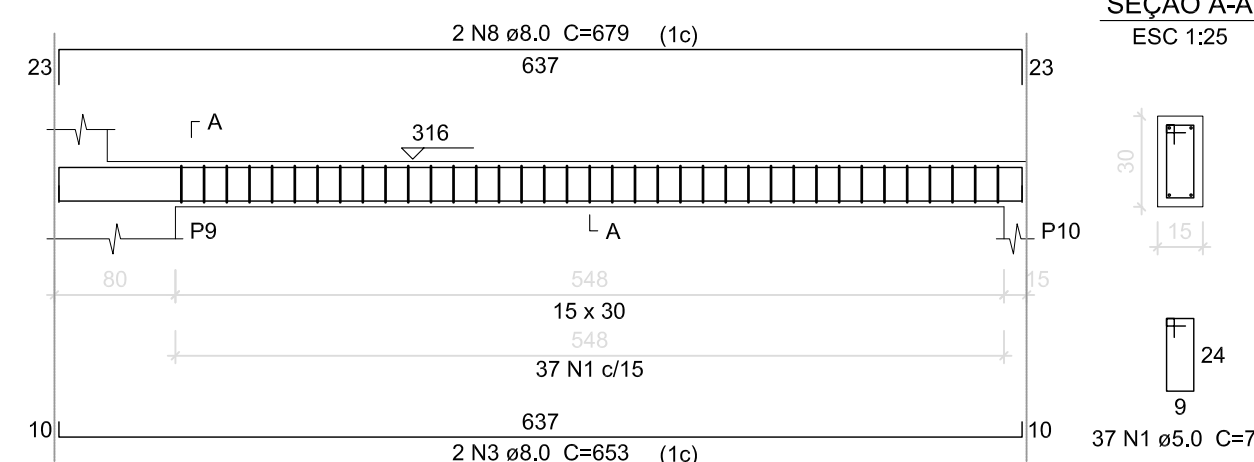
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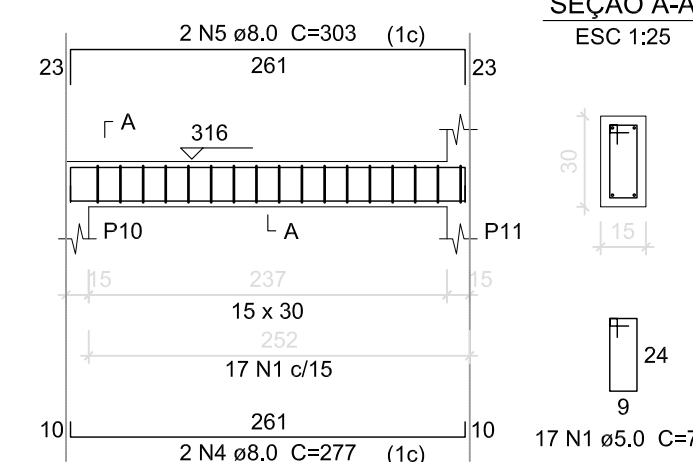
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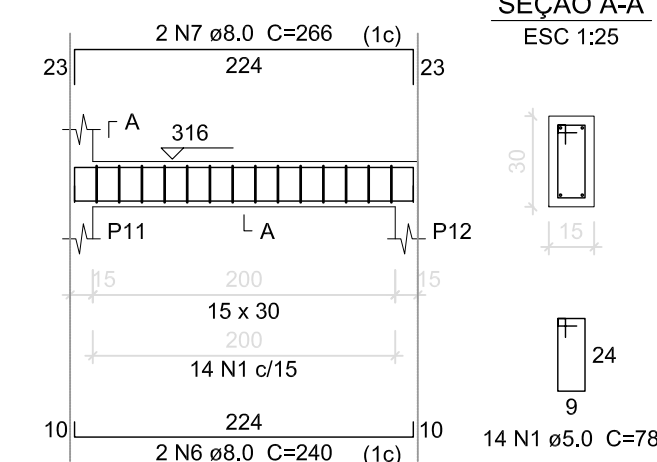
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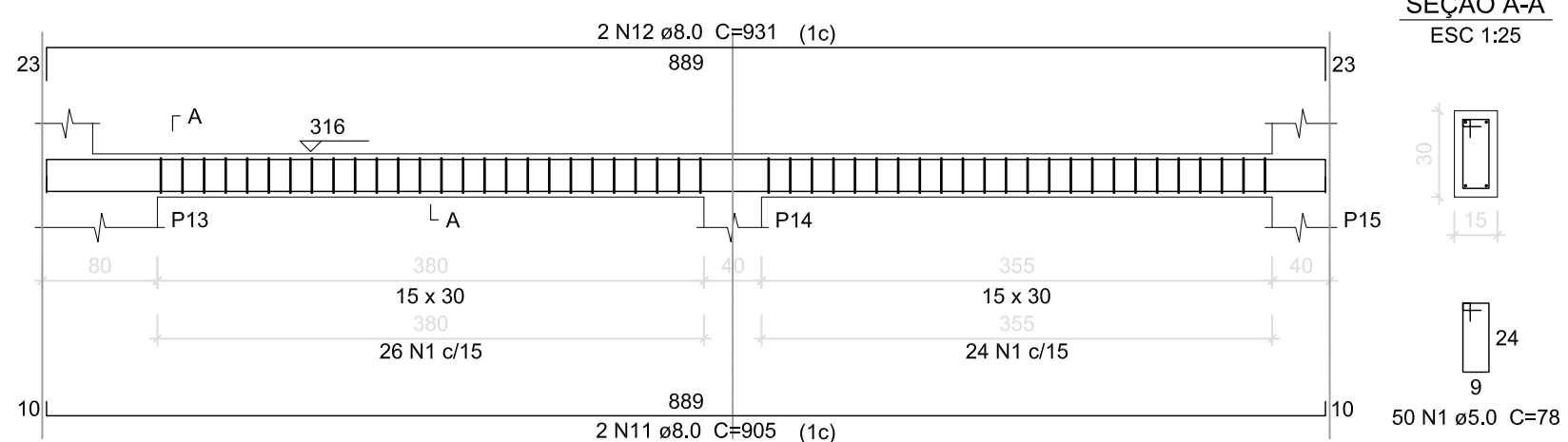
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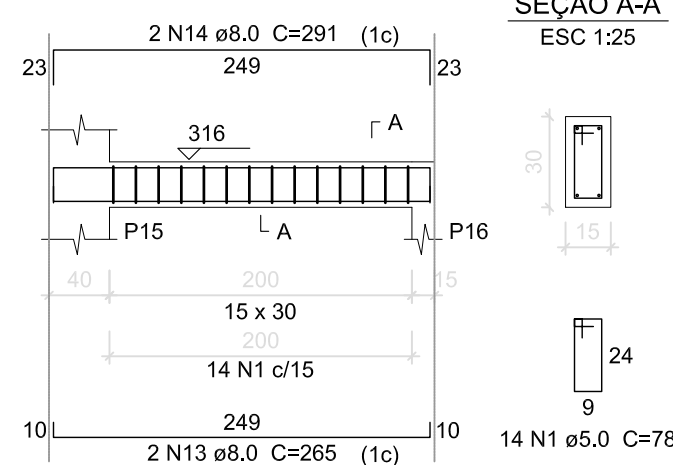
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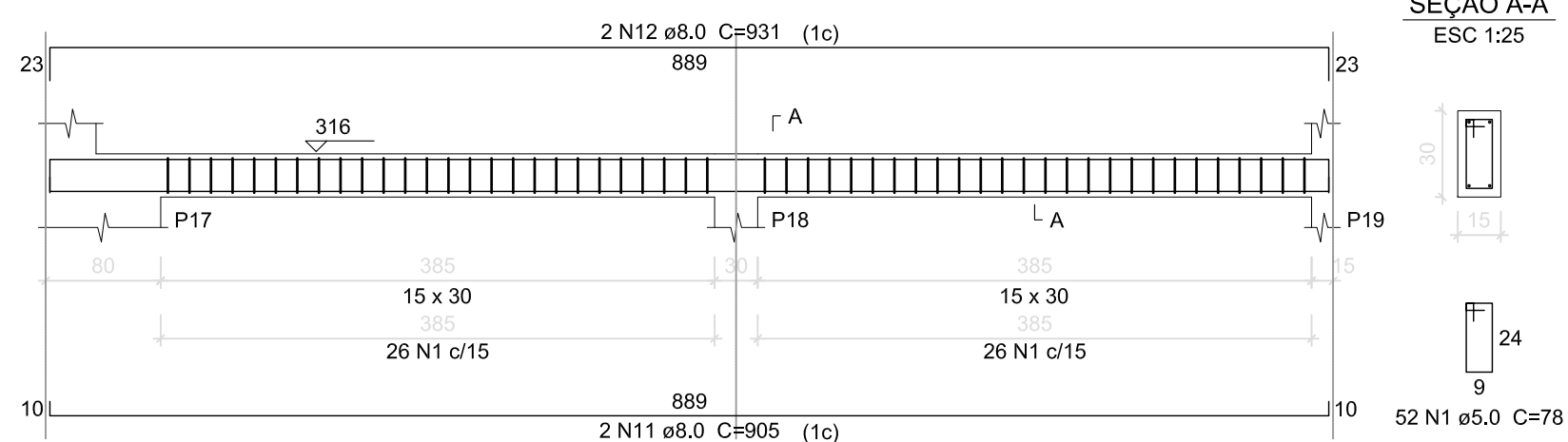
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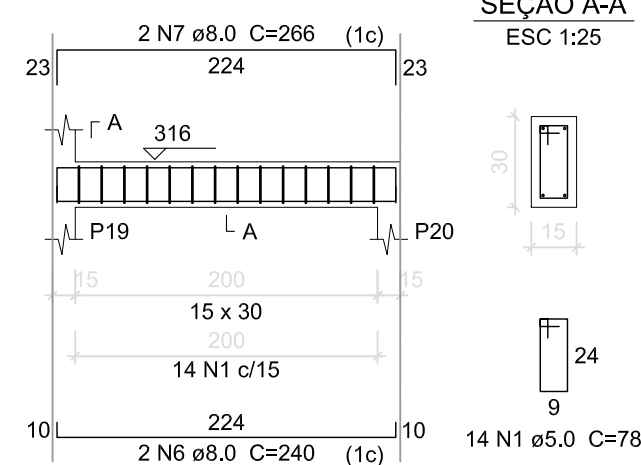
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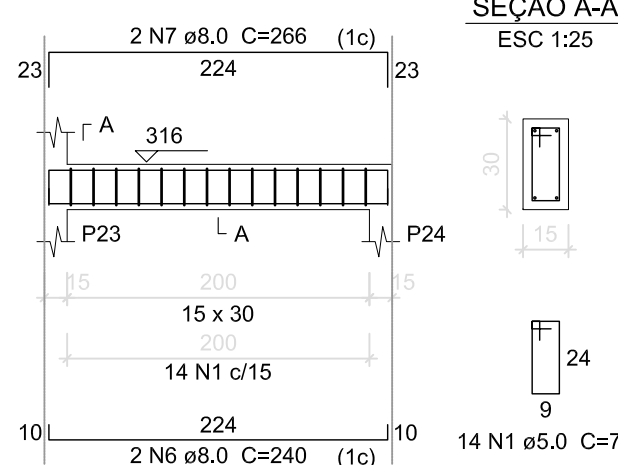
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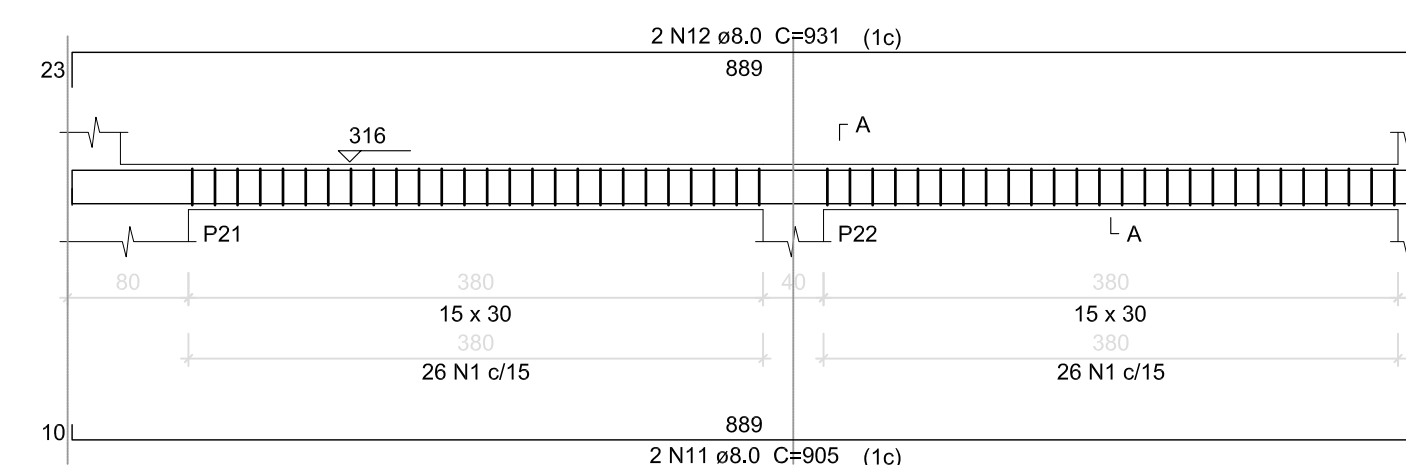
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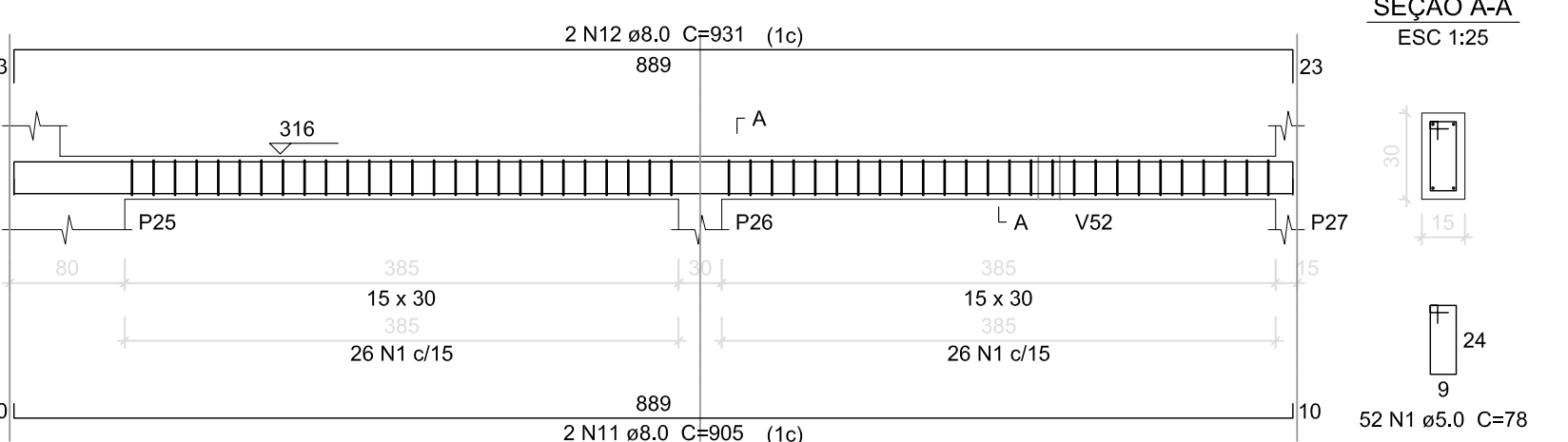
V15 (15 x 30)



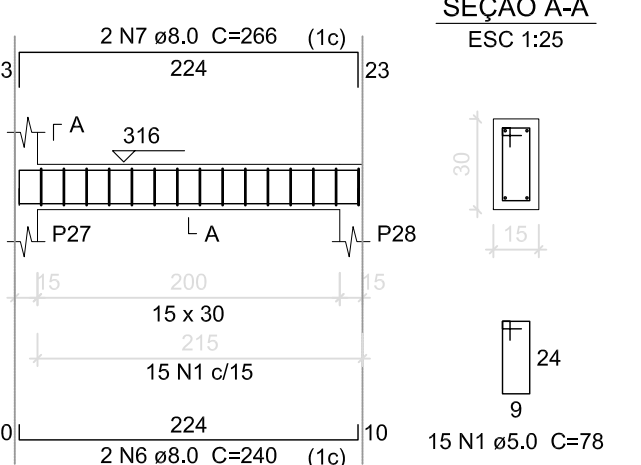
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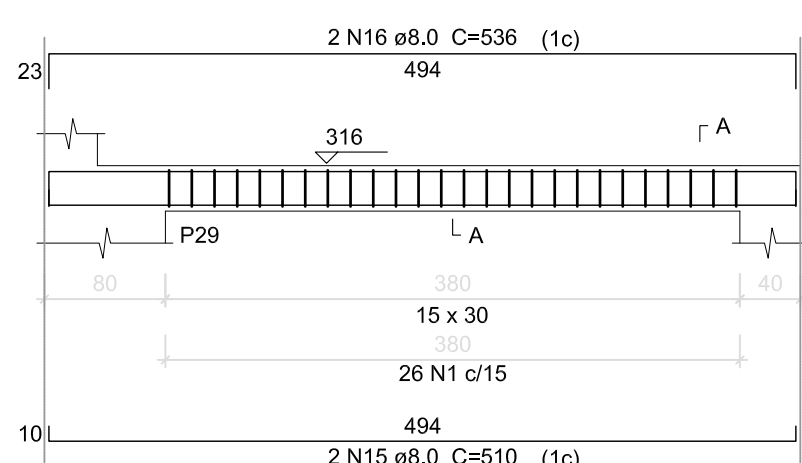
V17 (15 x 30)



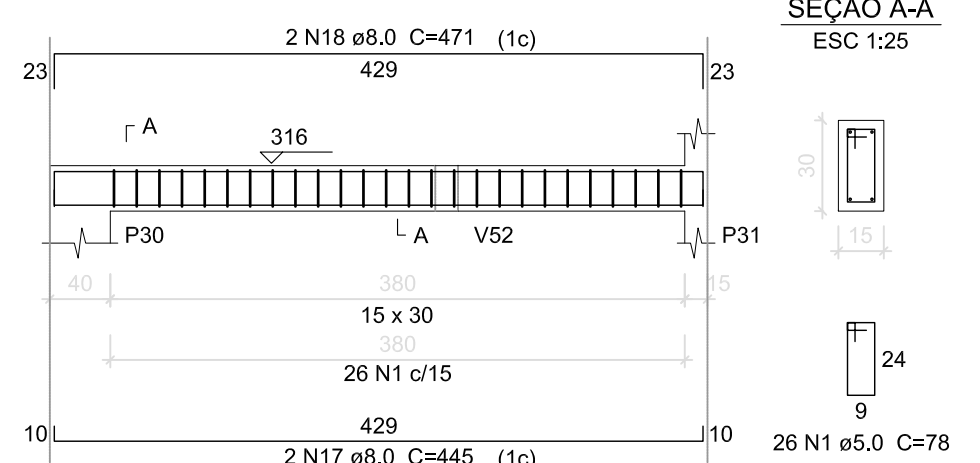
V18 (15 x 30)



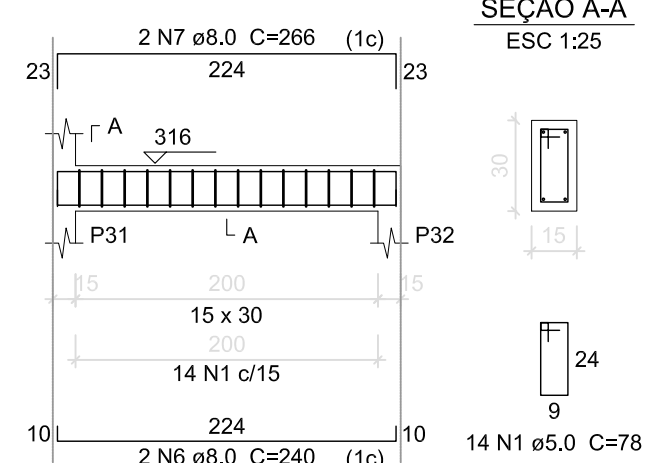
V19 (15 x 30)



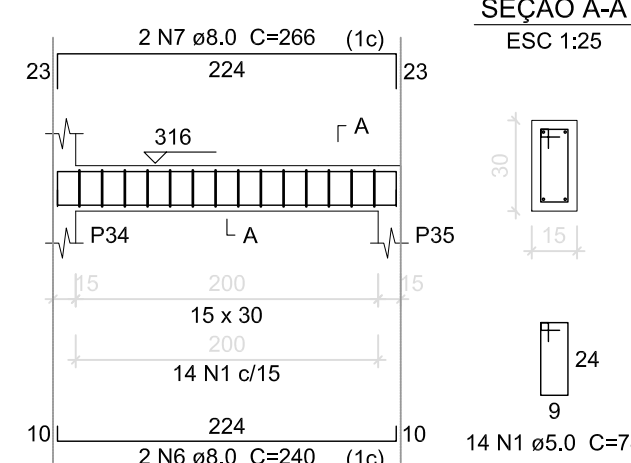
V20 (15 x 30)



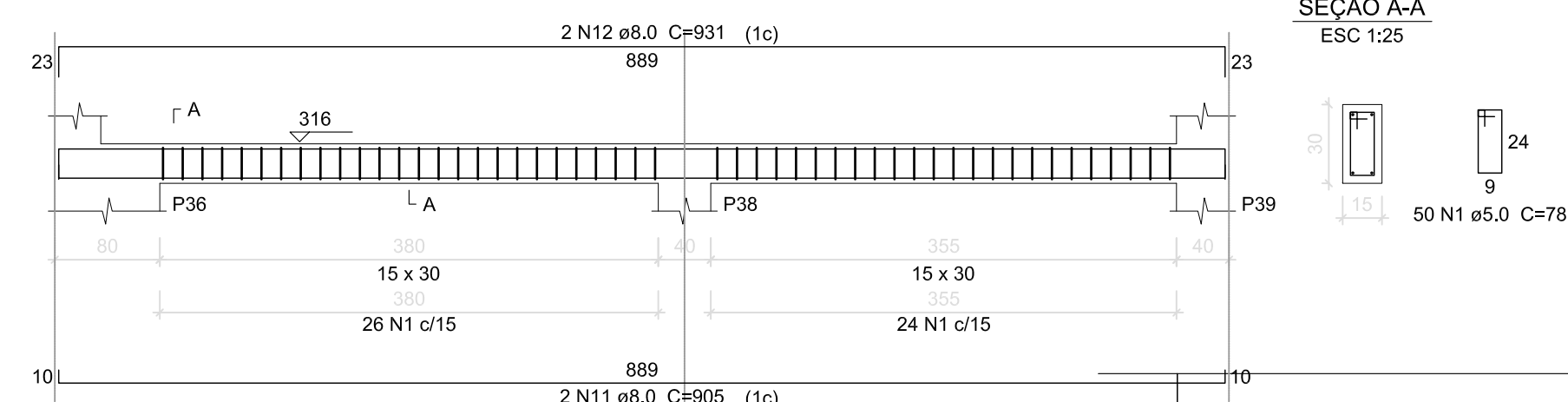
V21 (15 x 30)



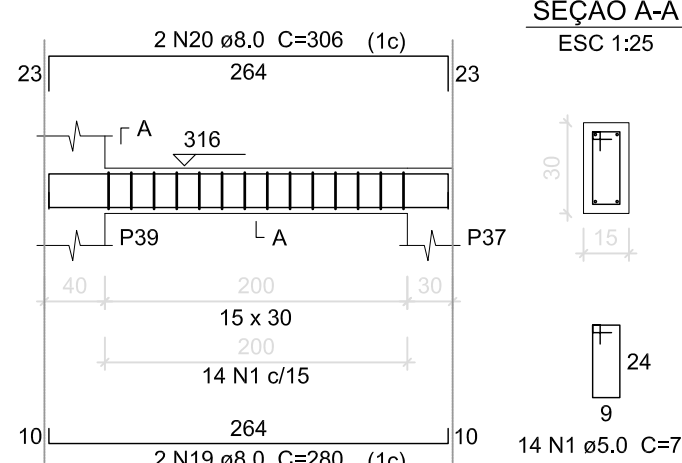
V22 (15 x 30)



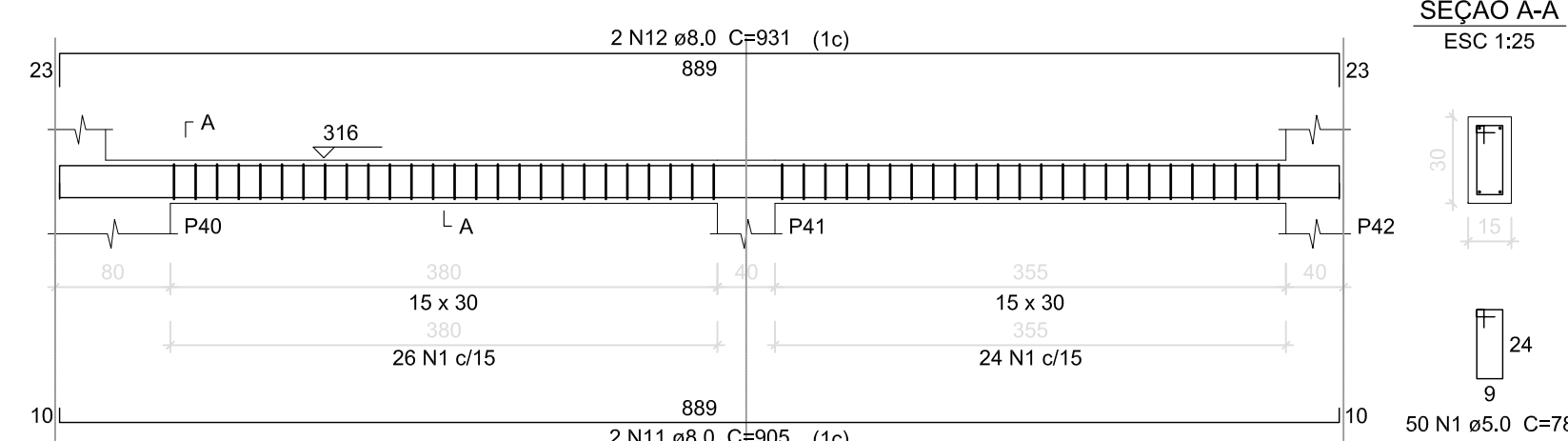
V23 (15 x 30)



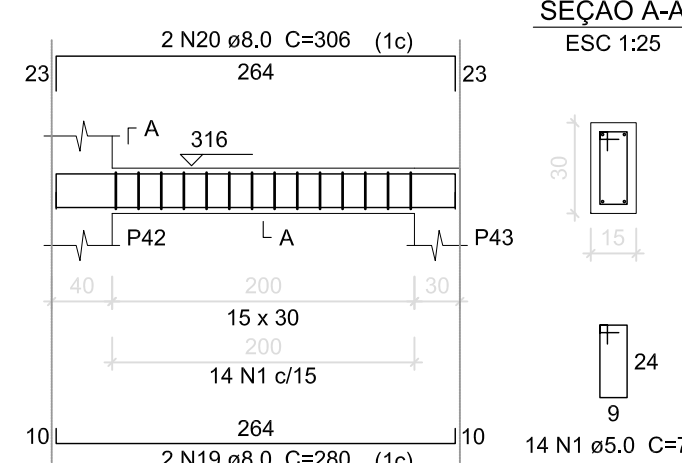
V24 (15 x 30)



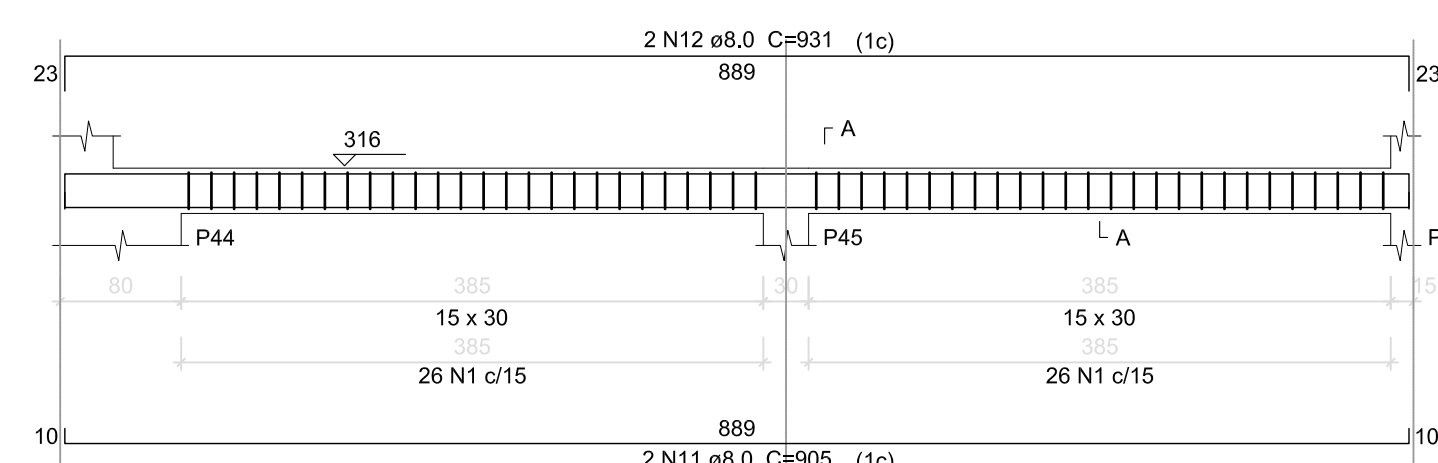
V25 (15 x 30)



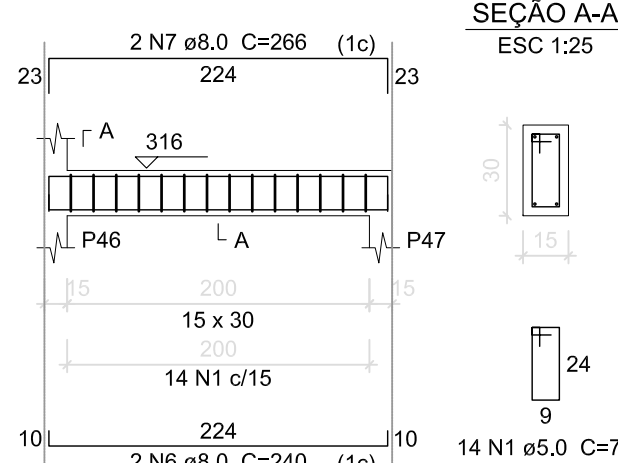
V26 (15 x 30)



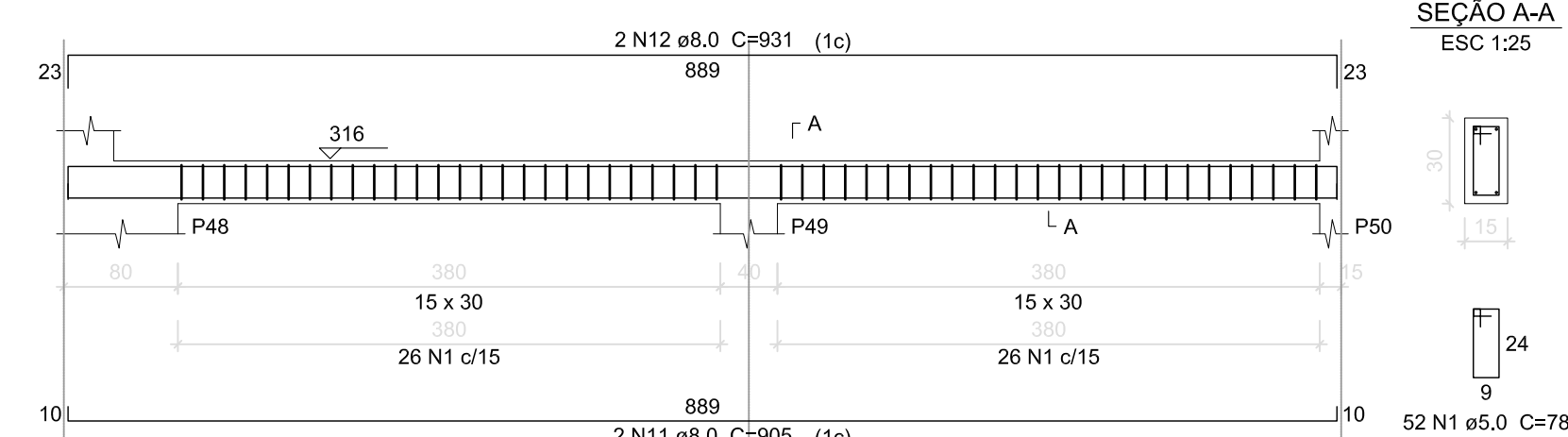
V27 (15 x 30)



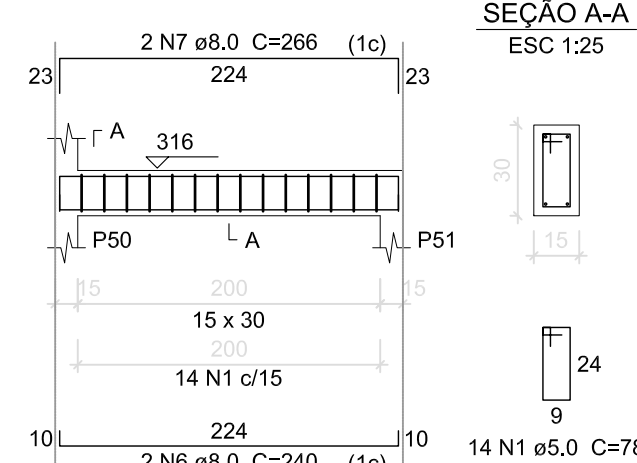
V28 (15 x 30)



V29 (15 x 30)



V30 (15 x 30)



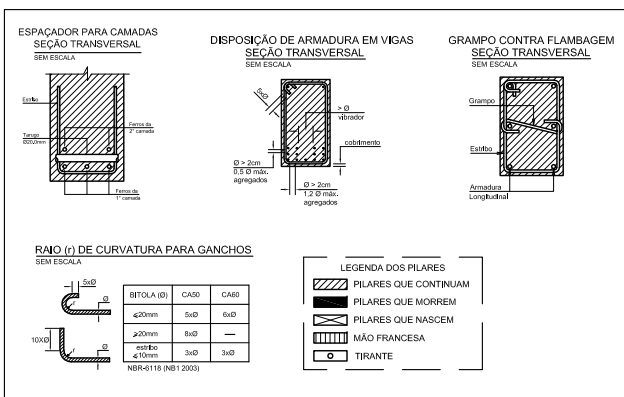
Relação do aço

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
V1	1	5.0	823	78	64194
V4	2	5.0	4	261	1044
V7	3	8.0	7	653	4571
V10	4	8.0	8	277	2216
V13	5	8.0	4	303	1212
V16	6	8.0	20	240	4800
V19	7	8.0	18	266	4788
V22	8	8.0	4	679	2716
V25	9	8.0	1	255	255
V28	10	8.0	3	267	801
V11	11	8.0	16	905	14480
V14	12	8.0	16	931	14896
V17	13	8.0	2	265	530
V20	14	8.0	2	291	582
V23	15	8.0	2	510	1020
V26	16	8.0	2	536	1072
V29	17	8.0	2	445	890
V3	18	8.0	2	471	942
V6	19	8.0	4	280	1120
V9	20	8.0	4	306	1224
V12	21	10.0	1	671	671
V15	22	10.0	2	678	1356

Resumo do aço


AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	581.2	252.2
CA50	10.0	13.7	13.7
CA60	5.0	652.4	110.6
PESO TOTAL (kg)			
CA50		266	
CA60		110.6	

Volume de concreto (C-30) = 6.38 m³
Área de forma = 106.4 m²




CLASSE DE AGRESSIVIDADE AMBIENTAL	FATORES ATENUANTES:
II - MODERADA URBANA	- Corrosão rápida em condições de exposição ao ar. - Acidentes envolvendo com o equipamento a projeto.
CONCRETO ADOTADO:	C30 Fck = 30MPa Ecs = 260716 N/mm² FATOR AGRESSIVIDADE DO CONCRETO: Acs ≤ 0.55

Nº	ALTERAÇÃO/REVISÕES	REVISADO POR	DATA
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INSTITUTO FEDERAL
SERGIPE

AUTOR DO PROJETO:
Engº. Fredrico Damasceno Pinheiro
CREA 270082778-3



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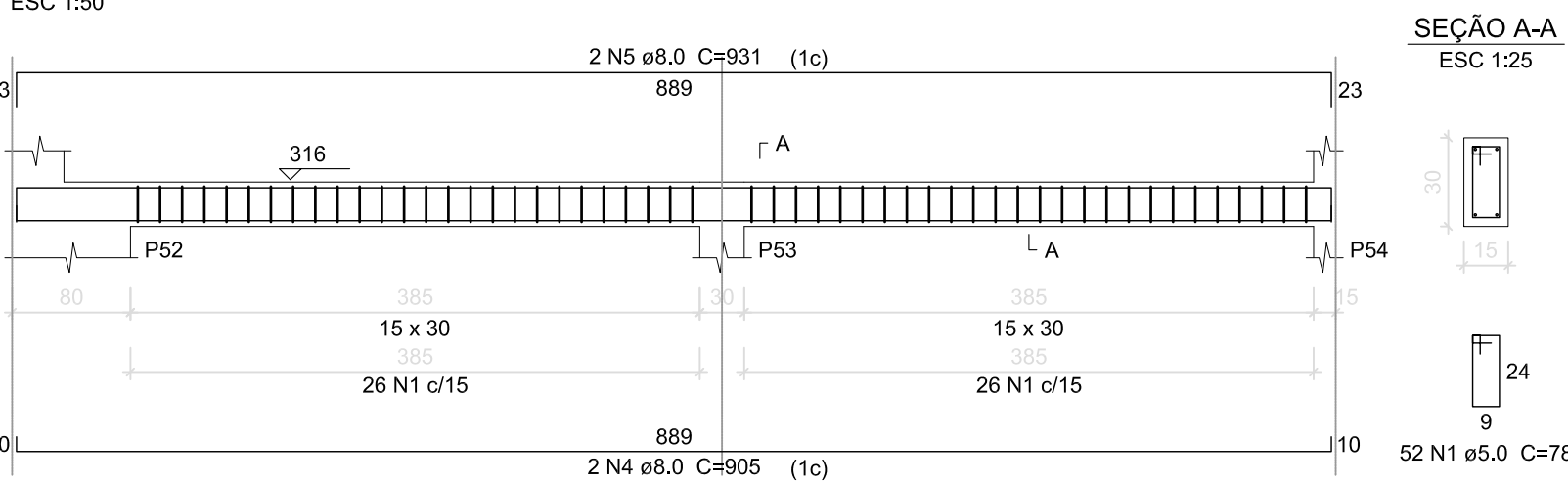
ENDEREÇO:
Rua Dom José Thomaz, 194 - Bairro São José - Aracaju/SE
dipop@ifs.edu.br

TEL: (79)3711-3139

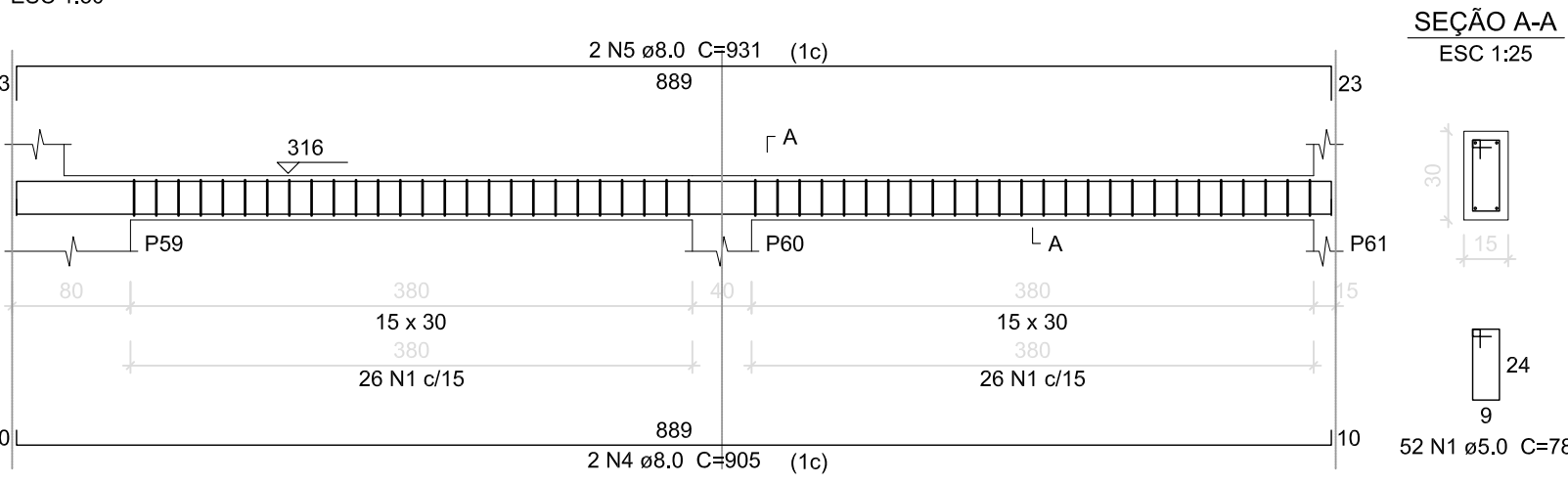
PROJETO ESTRUTURAL CAMPUS JAPARATUBA/SE

CLIENTE:	INSTITUTO FEDERAL DE SERGIPE - CAMPUS JAPARATUBA	ESCALA:	1:100
ENDEREÇO:	ROD. DEP. REINALDO MOURA, S/N - JAPARATUBA/SE	DATA:	MAIO/2025
PLANTA:	BLOCO ADMINISTRATIVO ARMAÇÃO VIGAS PAV. COBERTURA	PRANCHA:	09/14
CADENHO:	OPR. ESPECIALIDADE FASE SERIAL QUANTITATIVO REVISÃO		
JAP	CAM	EST	PE 009 014 001

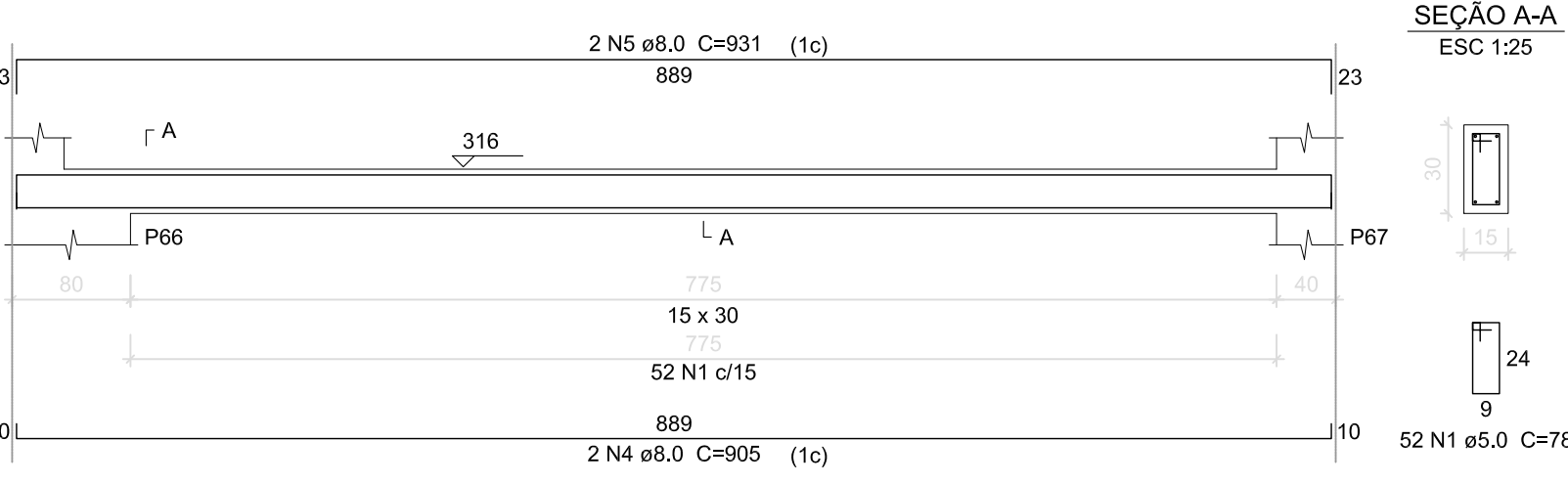
V31 (15 x 30)



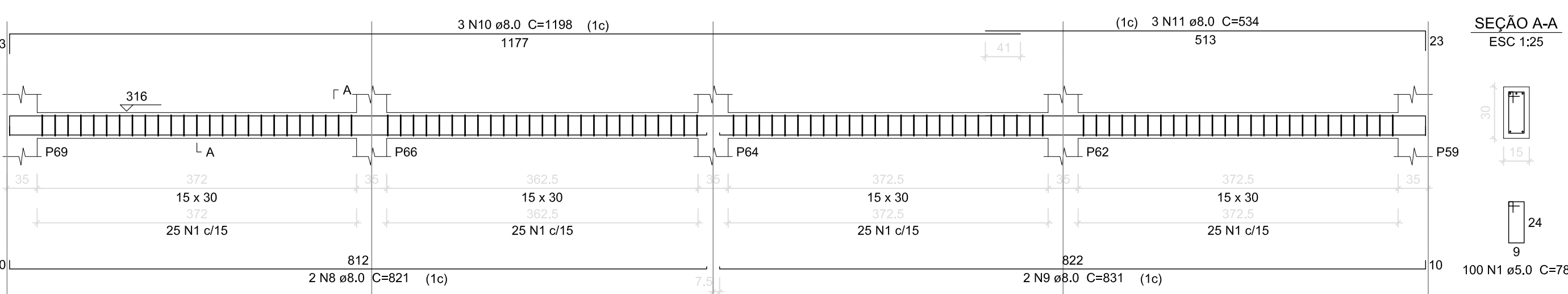
V34 (15 x 30)



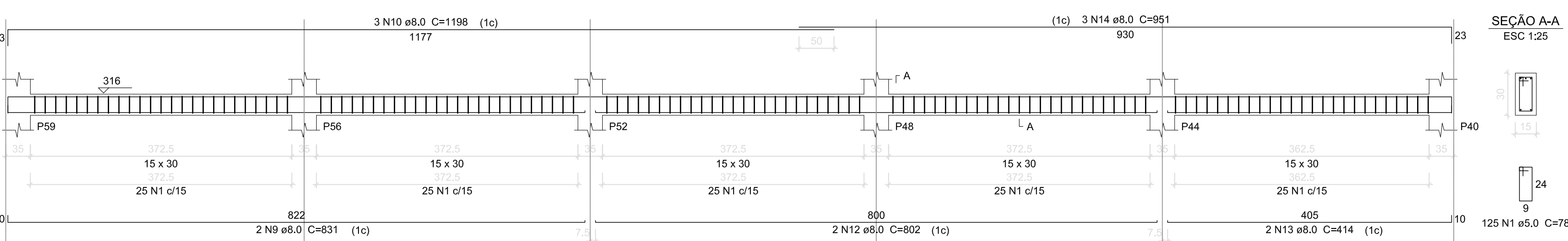
V37 (15 x 30)



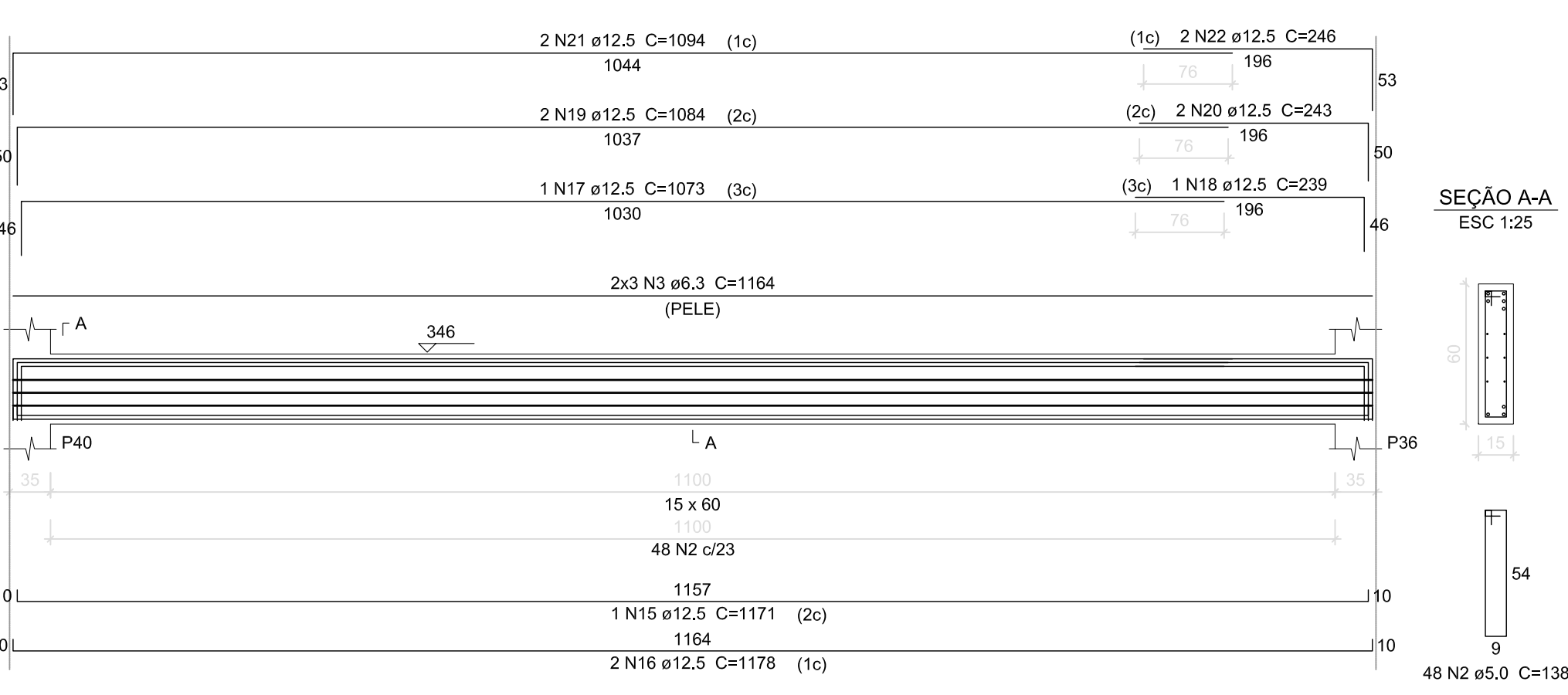
V40 (15 x 30)



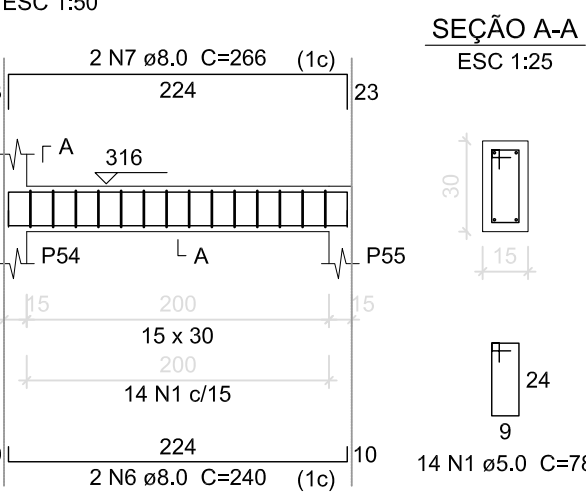
V41 (15 x 30)



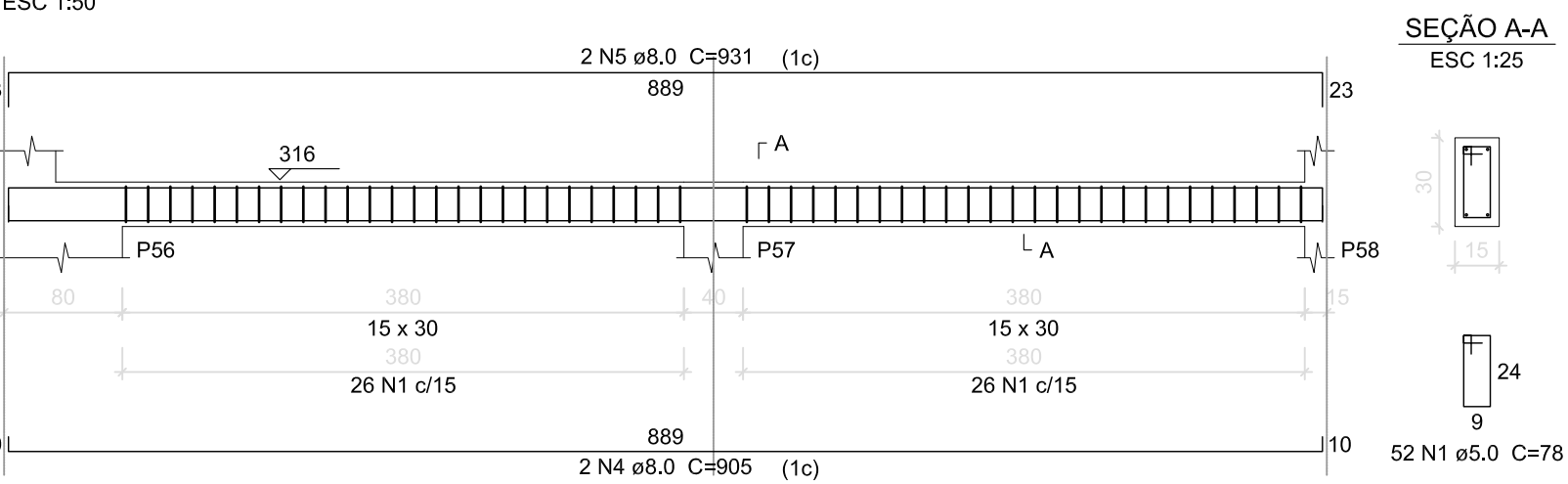
V42 (15 x 60)



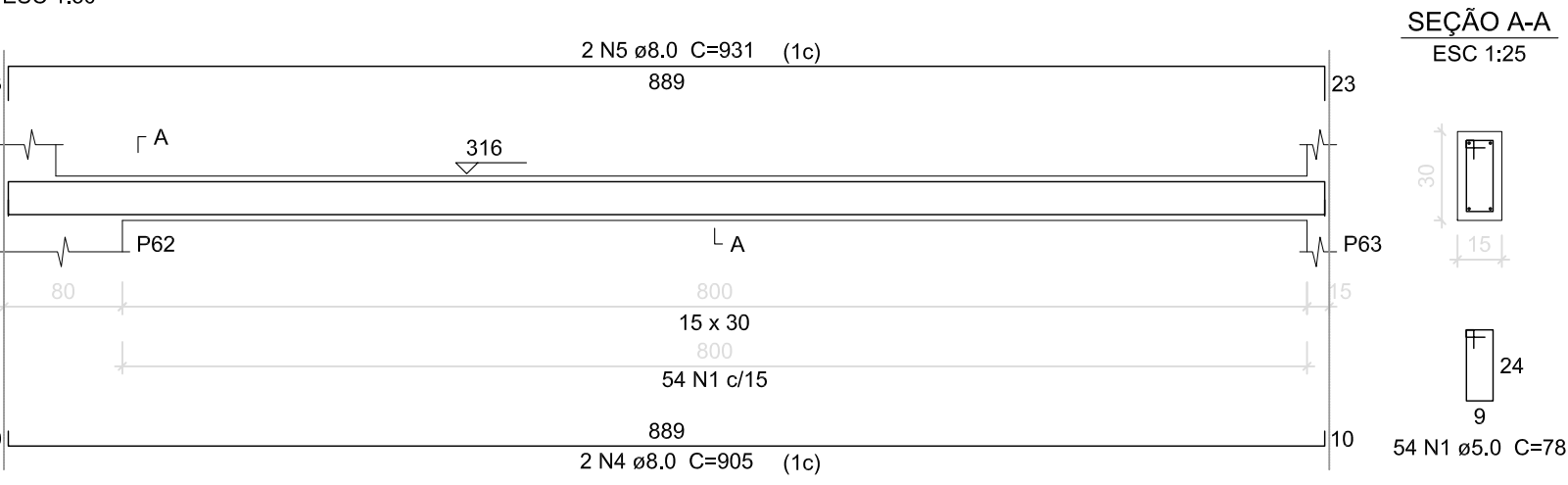
V32 (15 x 30)



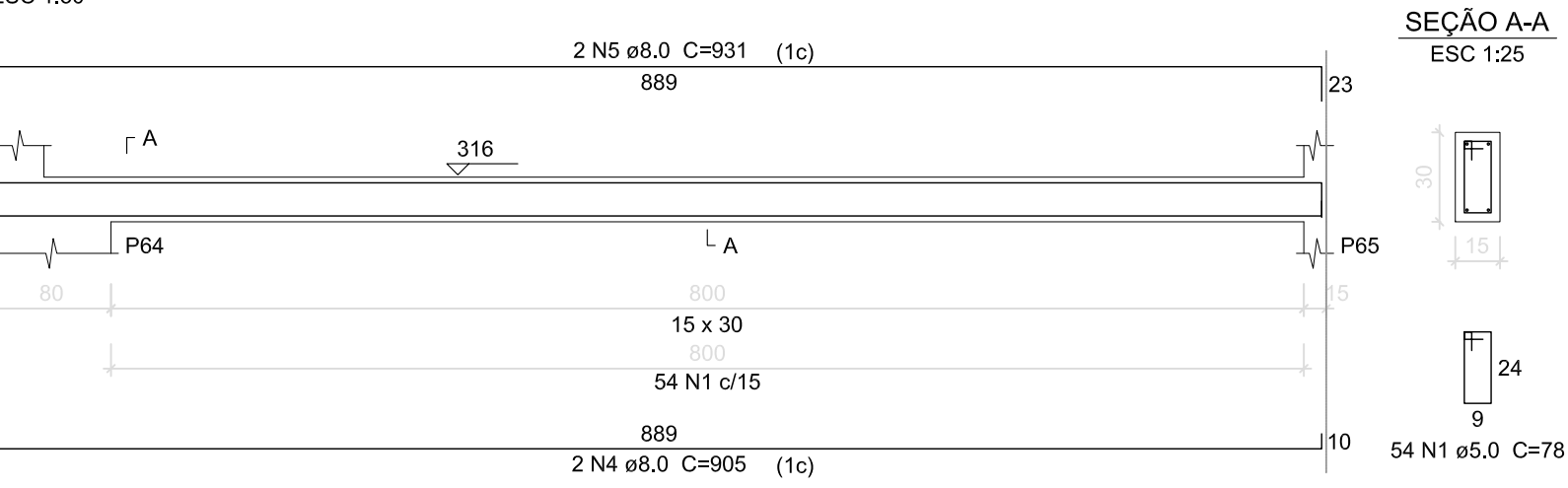
V33 (15 x 30)



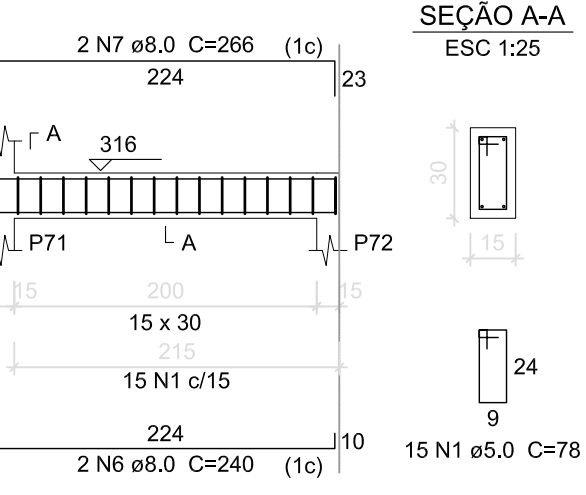
V35 (15 x 30)



V36 (15 x 30)



V39 (15 x 30)



Relação do aço


AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
V31	1	5.0	622	78	48516
V34	2	5.0	48	138	6624
V37	3	6.3	6	1164	6984
V40	4	8.0	14	905	12670
	5	8.0	14	931	13034
	6	8.0	4	240	960
	7	8.0	4	266	1064
	8	8.0	2	821	1642
	9	8.0	4	831	3324
	10	8.0	6	1198	7188
	11	8.0	3	534	1602
	12	8.0	2	802	1604
	13	8.0	2	414	828
	14	8.0	3	951	2853
	15	12.5	1	1171	1171
	16	12.5	2	1178	2356
	17	12.5	1	1073	1073
	18	12.5	1	239	239
	19	12.5	2	1084	2168
	20	12.5	2	243	486
	21	12.5	2	1094	2188
	22	12.5	2	246	492

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.3	69.9	18.8
	8.0	467.7	203
	12.5	101.8	107.8
CA60	5.0	551.4	93.5
PESO TOTAL (kg)			
CA50	329.6		
CA60	93.5		

Volume de concreto (C-30) = 5,75 m³
Área de forma = 94,11 m²


Nº	ALTERAÇÃO/REVISÕES	REVISADO POR	DATA
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INSTITUTO FEDERAL
SERGIPE

AUTOR DO PROJETO:

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Rua Dom José Thomaz, 194 - Bairro São José - Aracaju/SE
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TEL: (79)3711-3139

PROJETO ESTRUTURAL
CAMPUS JAPARATUBA/SE

CLIENTE:		INSTITUTO FEDERAL DE SERGIPE - CAMPUS JAPARATUBA			
ENDEREÇO:		ROD. DEP. REINALDO MOURA, S/N - JAPARATUBA/SE		ESCALA: 1:100	
PLANTA:		BLOCO ADMINISTRATIVO ARMAÇÃO VIGAS PAV. COBERTURA		DATA: MAIO/2025	
				PRANCHA: 10/14	
CAMPO:	ORDEM:	ESPECIFICAÇÃO:	FASE:	SERIAL:	QUANTIDADE:
JAP	CAM	EST	PE	Q10	Q14
					R01