VB83
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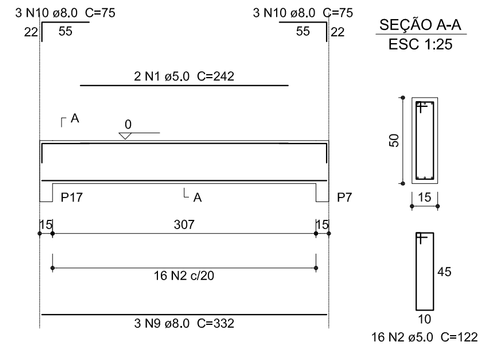

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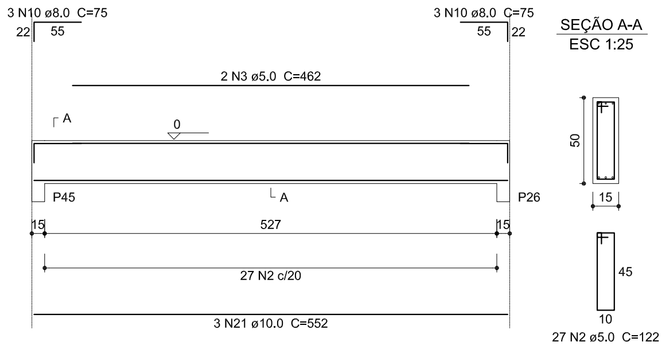

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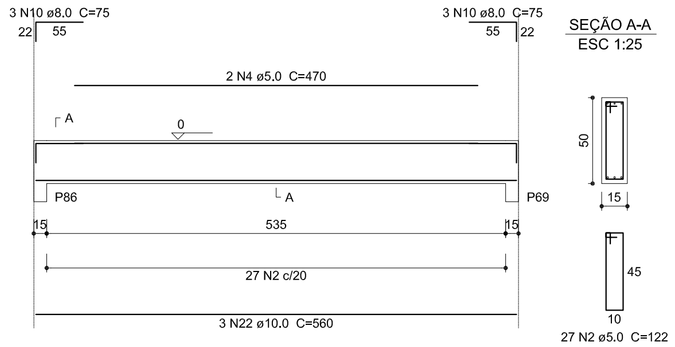

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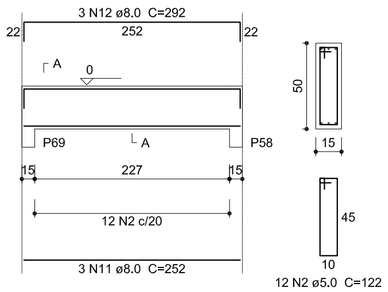

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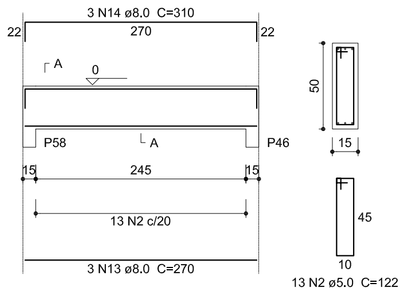


Relação do aço

VB83	VB84	VB85
VB86	VB87	VB88
VB89	VB90	VB91
VB92	VB93	VB94
VB95	VB97	VB98
VB99	VB100	VB101
VB102	VB103	VB104
VB105	VB106	VB107
VB108	VB109	VB113
VB114	VB120	VB122

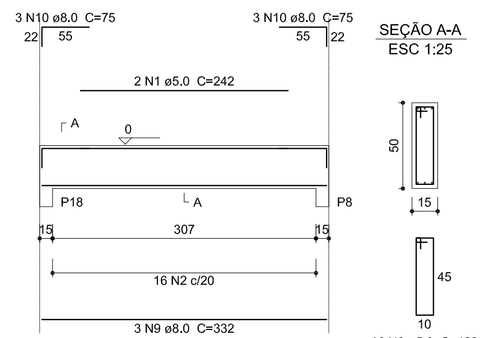
AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	4	242	968
	2	5,0	571	122	69662
	3	5,0	14	462	6468
	4	5,0	4	470	1880
	5	5,0	2	347	694
	6	5,0	4	469	1876
	7	5,0	2	466	932
	8	5,0	2	310	620
CA50	9	8,0	6	332	1992
	10	8,0	84	75	6300
	11	8,0	15	252	3780
	12	8,0	15	292	4380
	13	8,0	12	270	3240
	14	8,0	12	310	3720
	15	8,0	3	251	753
	16	8,0	3	291	873
	17	8,0	3	590	1770
	18	8,0	12	260	3120
	19	8,0	12	300	3600
	20	8,0	3	310	930
	21	10,0	18	552	9936
	22	10,0	6	560	3360
	23	10,0	4	280	1120
	24	10,0	1	247	247
	25	10,0	4	571	2284
	26	10,0	6	559	3354
	27	10,0	3	556	1668

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8,0	344,6	149,6
	10,0	219,7	149
CA60	5,0	831	140,9
PESO TOTAL			
CA50	298,6		
CA60	140,9		

Vol. de concreto total (C-25) = 9 m³
Área de forma total = 137,93 m²

VB88
1:50



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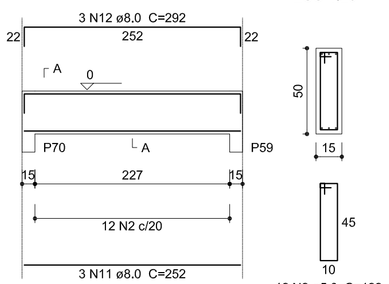

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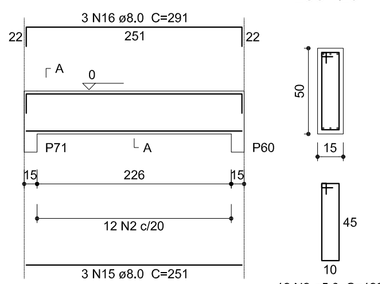

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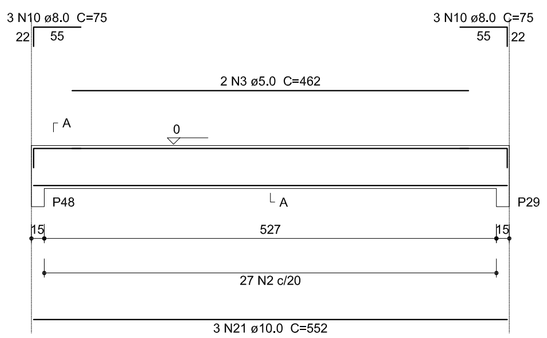

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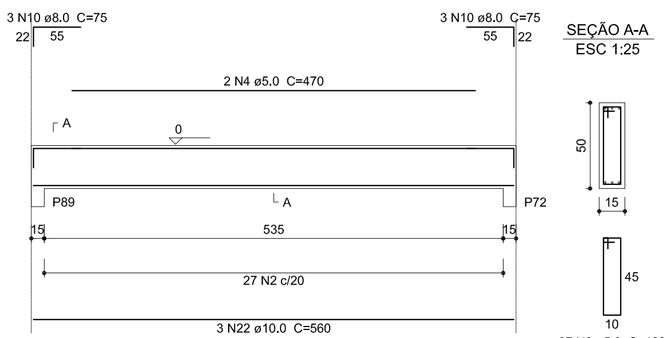

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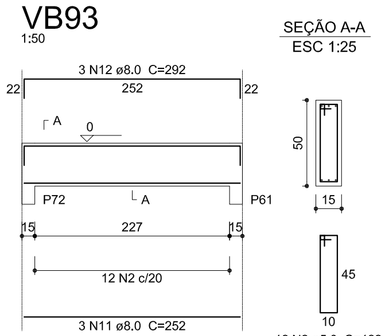

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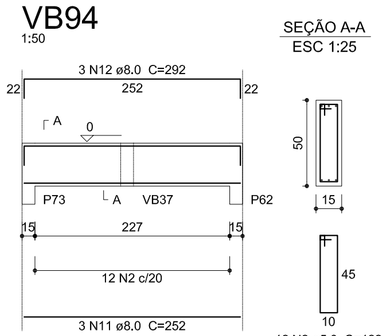

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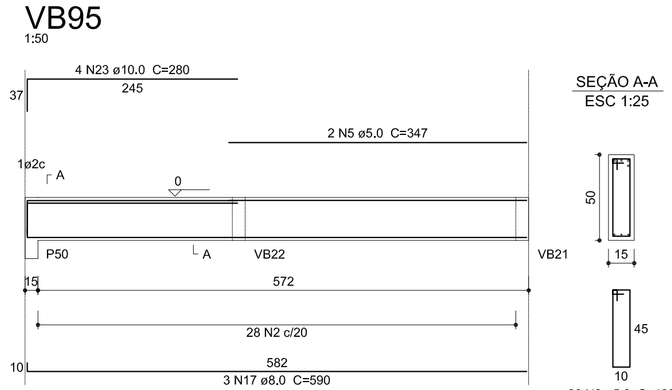

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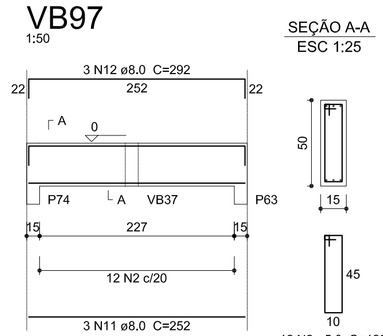

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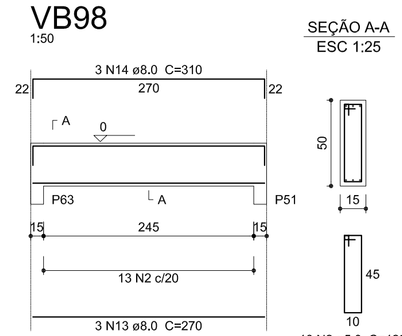

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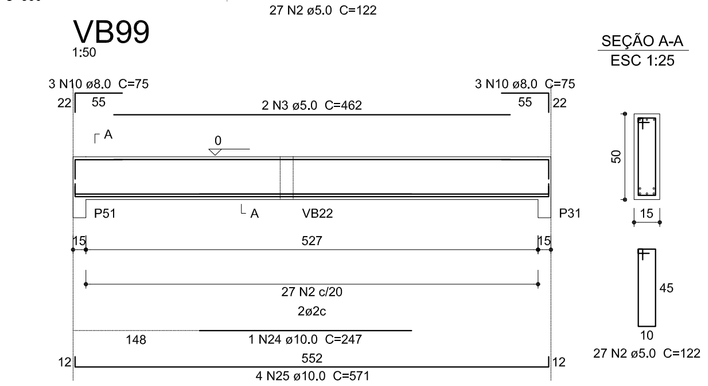

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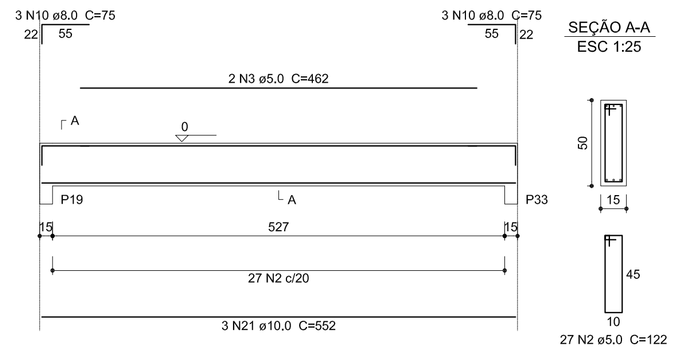

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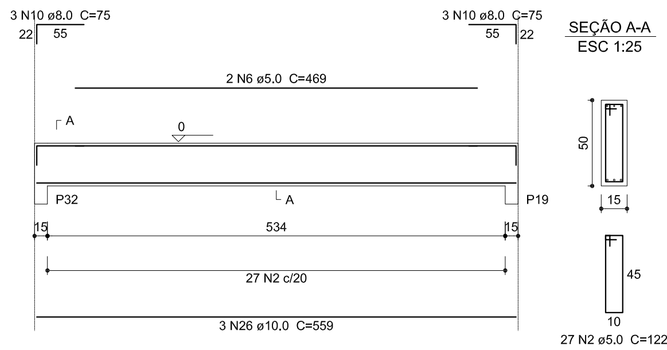

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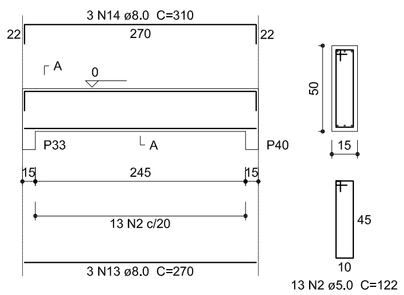

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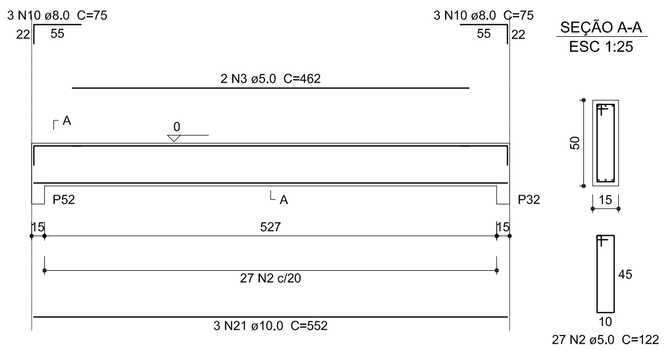

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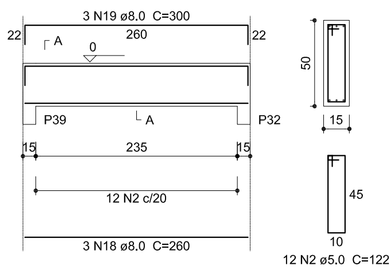

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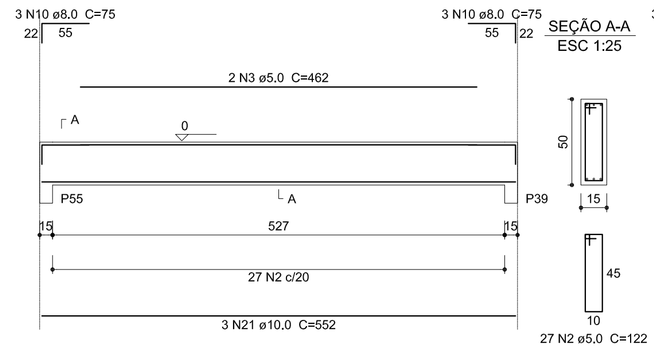

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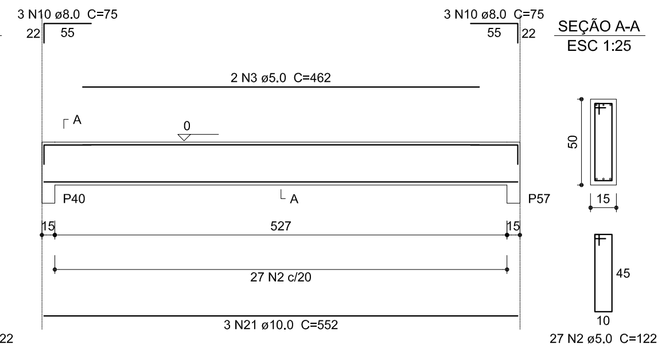

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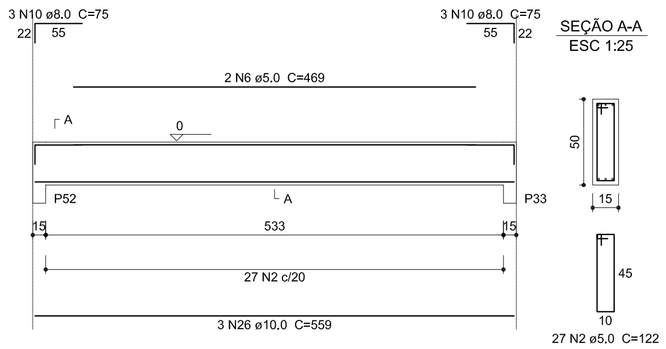

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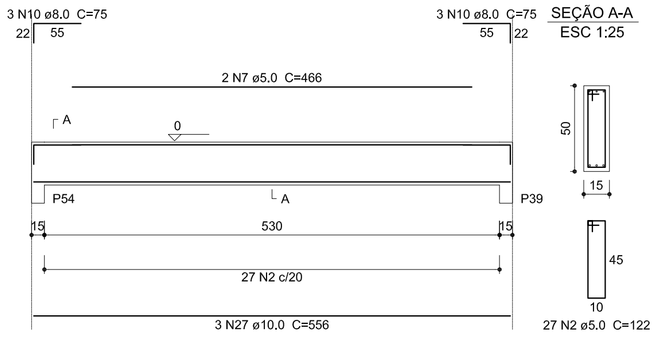

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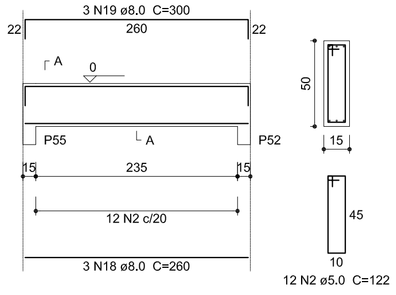

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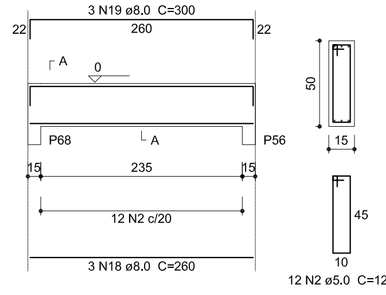

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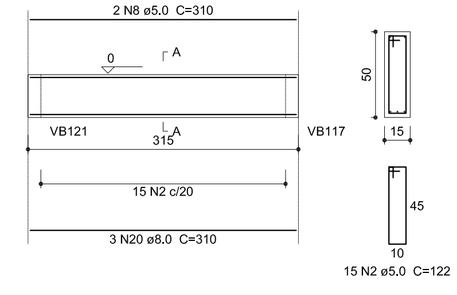

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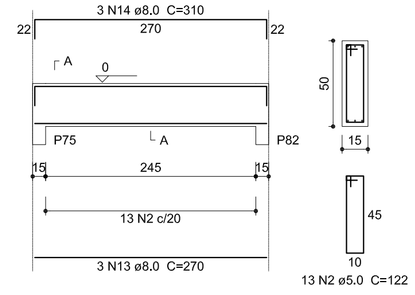

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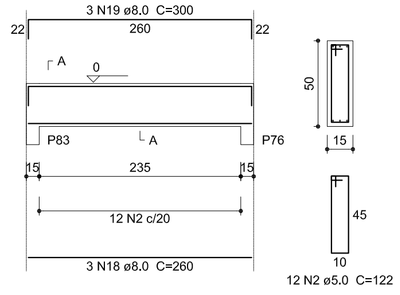

AMPLIAÇÃO

SECRETARIA DE EDUCAÇÃO DE JOINVILLE

OBSERVAÇÕES

ASSINATURAS

RESPONSÁVEL TÉCNICO:

REQUERENTE:

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PROJETO ESTRUTURAL

OBRA:	CEI ULYSSES GUIMARÃES
PROPRIETÁRIO:	PREFEITURA MUNICIPAL DE JOINVILLE - SC
REQUERENTE:	SECRETARIA DE EDUCAÇÃO
LOCAL:	RUA CIDADE DE BARRETOS
CONTEÚDO:	**VIGAS 04-05**

EQUIPE TÉCNICA:
Arq. e Urb. Letice Dal Carobbo --------- CREA/SC: 079.486-5
Eng. Civil Cíntia Busatto ---------- CREA/SC: 066.279-3
Eng. Civil João R. Lisbôa Oneda ----- CREA/SC: 069.906-6
Eng Civil Mychel Bressiani ---------- CREA/SC: 093.314-4
Eng. Civil Valdir Campos Jr. ---------- CREA/SC: 047.770-4
Eng. Elét. Ivo Gilmar Petri ---------- CREA/SC: 014.163-8

PROJETO	ADEMILSON
DESENHO	ADEMILSON
ARQUIVO	VG 1001
DATA	03/05/2010

RESPONSÁVEL TÉCNICO:
VALDIR CAMPOS JUNIOR
Engenheiro Civil - CREA 047.770-4 SC

PRANCHA Nº
ES
07
09
Nº DE PRANCHAS