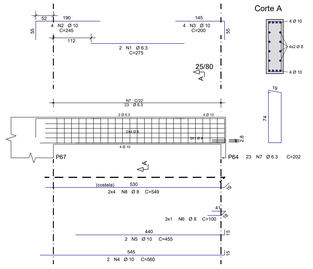
V300



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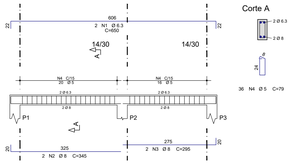

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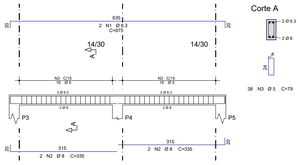

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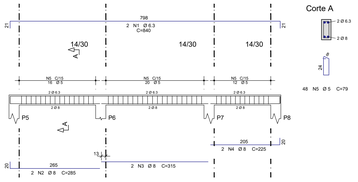
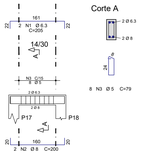


V304

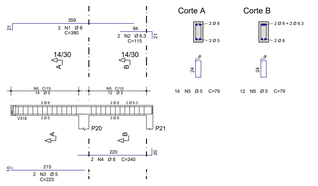


	AÇO	POS	BIT (mm)	QUANT	COMPRIMENTO UNIT (cm)	COMPRIMENTO TOTAL (cm)
V300						
	50A	1	6.3	2	275	550
	50A	2	10	4	245	980
	50A	3	10	2	560	1120
	50A	4	10	2	585	1170
	50A	5	10	2	455	910
	50A	6	8	2	150	300
	50A	7	6.3	23	202	4646
	60B	8	5	67	79	5293
V301						
	50A	1	6.3	2	650	1300
	50A	2	8	2	345	690
	50A	3	8	2	295	590
	60B	4	5	36	79	2844
V302						
	50A	1	6.3	2	675	1350
	50A	2	8	4	335	1340
	60B	3	5	38	79	3002
V303						
	50A	1	6.3	2	840	1680
	50A	2	8	2	285	570
	50A	3	8	2	315	630
	50A	4	8	2	225	450
	60B	5	5	48	79	3792
V304						
	50A	1	6.3	2	205	410
	50A	2	8	2	200	400
	60B	3	5	8	79	632
V305						
	50A	1	8	2	390	780
	50A	2	6.3	2	215	430
	50A	3	5	2	225	450
	50A	4	8	2	240	480
	60B	5	5	26	79	2054
V306						
	50A	1	6.3	2	250	500
	50A	2	8	2	245	490
	60B	3	5	13	79	1027
V307						
	60B	1	5	2	235	470
	50A	2	8	2	245	490
	60B	3	5	13	79	1027
V308						
	60B	1	5	2	290	580
	50A	2	6.3	2	160	320
	50A	3	6.3	2	115	230
	50A	4	8	2	510	1030
	60B	5	5	30	79	2370
V309						
	60B	1	5	2	215	430
	50A	2	6.3	4	100	400
	50A	3	5	2	360	720
	50A	4	6.3	2	320	640
	50A	5	8	2	425	850
	50A	6	8	2	570	1140
	60B	7	5	61	79	4819
V310						
	60B	1	5	2	220	440
	50A	2	6.3	4	175	700
	50A	3	8	2	515	1030
	60B	4	5	29	79	2291
V311						
	60B	1	5	2	245	490
	50A	2	6.3	4	100	400
	50A	3	5	2	360	720
	60B	4	5	23	79	1817
V312						
	60B	1	5	2	305	610
	50A	2	6.3	2	215	430
	50A	3	6.3	2	520	1040
	50A	4	8	2	650	1300
	50A	5	8	2	340	680
	60B	6	5	59	79	4661
V313						
	50A	1	6.3	2	1070	2140
	50A	2	8	2	290	580
	50A	3	8	2	385	770
	50A	4	8	2	390	780
	60B	5	5	62	79	4898
V314						
	60B	1	5	2	275	550
	50A	2	6.3	2	200	400
	50A	3	6.3	2	215	430
	50A	4	8	2	585	1170
	50A	5	8	2	210	420
	60B	6	5	47	79	3713
V315						
	60B	1	6.3	2	290	580
	60B	2	5	2	215	430
	50A	3	6.3	2	170	340
	50A	4	8	2	150	300
	50A	5	8	2	460	920
	60B	6	5	35	79	2765
V316						
	50A	1	6.3	2	625	1250
	50A	2	8	2	625	1250
	60B	3	5	38	79	3002
V317						
	60B	1	8	4	175	700
	60B	2	5	2	160	320
	60B	3	5	9	79	711
V318						
	50A	1	6.3	2	225	450
	50A	2	8	2	225	450
	60B	3	5	10	79	790
V319						
	60B	1	5	2	250	500
	50A	2	6.3	2	340	680
	50A	3	6.3	2	225	450
	50A	4	6.3	2	270	540
	50A	5	6.3	2	125	250
	50A	6	8	2	690	1380
	50A	7	8	2	420	840
	60B	8	5	67	79	5293
V320						
	50A	1	6.3	2	635	1270
	50A	2	8	2	320	640
	60B	3	5	2	300	600
	60B	4	5	35	79	2765
V321						
	60B	1	5	2	415	830
	50A	2	6.3	2	165	330
	50A	3	6.3	2	150	300
	50A	4	8	2	650	1300
	60B	5	5	47	79	3239

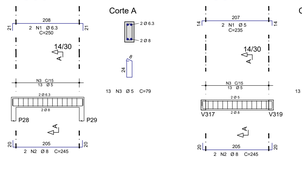
RESUMO AÇO CA 50-60			
AÇO	BIT (mm)	COMPR (m)	PESO (kg)
60B	5	648	100
60B	6.3	234	57
50A	8	312	123
50A	10	38	24
Peso Total	60B =		100 kg
Peso Total	50A =		204 kg

	Eixo	Faces
Volume de concreto da VIGAS (m3)	6.0	5.5
Taxa de armadura (kg/m3)	50.9	55.8

V305



V306



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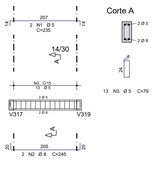

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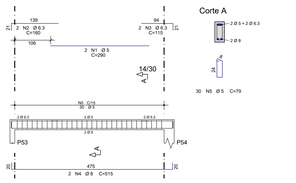

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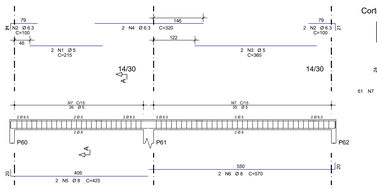

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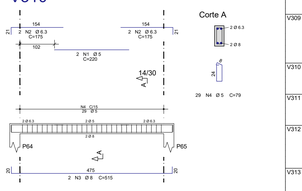

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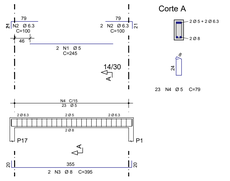

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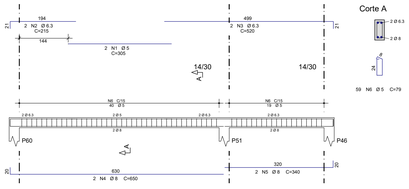

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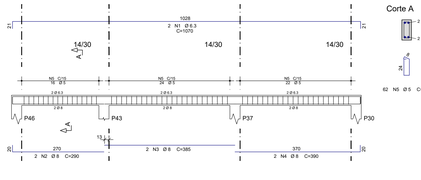

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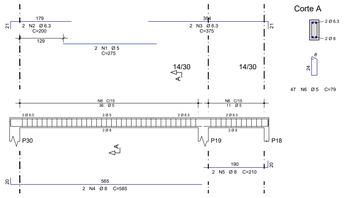
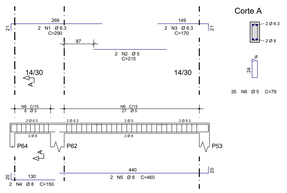


V315



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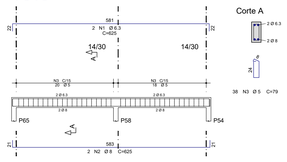
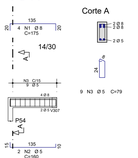
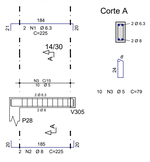


V317

(2 Ø 2xCAM)



V318



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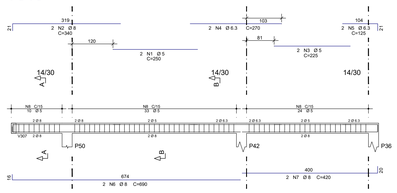

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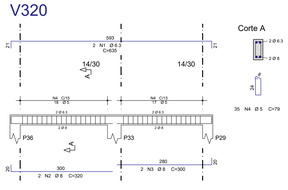

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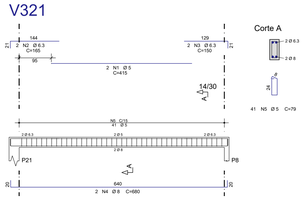
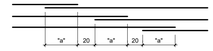


DETALHE GENÉRICO DAS EMENDAS ALTERNADAS

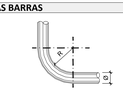


(USADA PARA BARRAS CORRIDAS COM EMENDAS NÃO INDICADAS)

CLASSE DE CONCRETO C-50 OU MENOR

Ø	5.0	6.3	8.0	10.0	12.5
"a"(cm)	30	35	45	60	75

RAIO DE CURVATURA DAS BARRAS



(USADA PARA BARRAS COM RAIOS NÃO INDICADOS)

CLASSE DE CONCRETO C-50 OU MENOR

Ø	8	10	12.5	16.0	20.0
"R"(cm)	7	8	10	12	15

MATERIAIS

CONCRETO

REISTÊNCIA A COMPRESSÃO	Fck> 25 MPa
MÓDULO DE ELASTICIDADE	Ec > 28.000,00 MPa
RELAÇÃO AGUA / CIMENTO	< 0,60
SLUMP	--

AÇO

CATEGORIA	CA - 50 / CA - 60

NOTAS

- PROJETO ELABORADO DE ACORDO COM A NORMA NBR - 6118:2014
- O CONCRETO DEVE ATENDER AS ESPECIFICAÇÕES DA NBR - 12.655:1996
- A EXECUÇÃO DA ESTRUTURA DEVE OBEDECER AS PRESCRIÇÕES DA NBR - 14.931:2003
- CLASSE DE AGRESSIVIDADE AMBIENTAL: II
- TOLERÂNCIA NA EXECUÇÃO DOS RECOBRIMENTOS: 10mm
- UTILIZAR DISTÂNCIADORES E ESPAÇADORES, PREFERÍVELMENTE PLÁSTICOS, QUE GARANTAM OS COBRIMENTOS E POSICIONAMENTOS DAS ARMADURAS.
- AS ARMADURAS DEVERÃO ESTAR LIMPAS E ISENTAS DE QUALQUER SUBSTÂNCIA QUE PREJUDIQUEM SUA ADERÊNCIA AO CONCRETO, INCLUSIVE ESCAMAS DE OXIDAÇÃO.
- LIMPAR AS FORMAS E VEDAR TODAS AS JUNTAS ANTES DO LANÇAMENTO DO CONCRETO.
- EM HIPOTESE ALGUMA A CONCRETAGEM PODERÁ OCORRER SOBRE POEIRA, PEDAÇOS DE MADEIRA, SERRAGEM OU OUTRO CORPO ESTRANHO À ESTRUTURA.

REV	DATA	AUTOR	ASSUNTO
02	29/01/2018	RAFAEL L. DA LUZ	REVISÃO GERAL - DETALHAMENTO
01	06/12/2017	RAFAEL L. DA LUZ	REVISÃO - PVTO INFERIOR
00	13/11/2017	RAFAEL L. DA LUZ	EMISSÃO INICIAL

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Av. Coronel José Dulcino, nº 910
B. Centro - Caixa Postal 98
Palmas | Paraná | 85.555-000

Obra/Endereço: CENTRO DE ESPECIALIDADES
RUA CORONEL SANTIAGO SANTOS - S/N - CENTRO - CHOPINZINHO - PR

Cliente: MUNICÍPIO DE CHOPINZINHO

Referência: DET. VIGAS
VIGAS
265
301/302/303/304/305/306
307/308/309/310/311/312
313/314/315/316/317/318
319/320/321

Arquivo: P0105-18

Folha: 21 R 03

Escala: INDICADA

Data: 29/01/2018