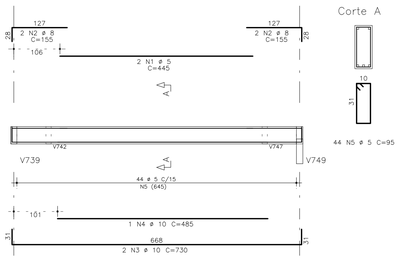
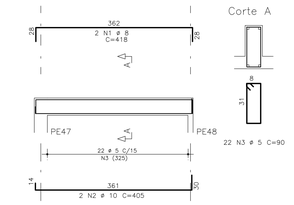
V712 14X35



Corte A

44 N5 ø 5 C=95

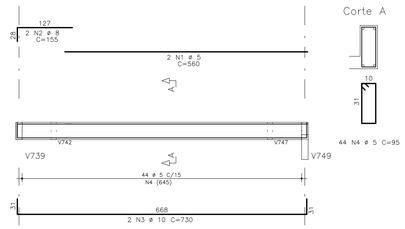
V713 12X35



Corte A

22 N3 ø 5 C=90

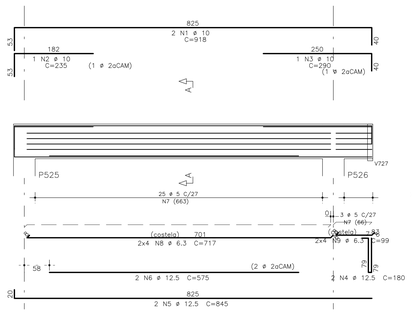
V714 14X35



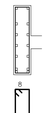
Corte A

44 N4 ø 5 C=95

V715 12X80



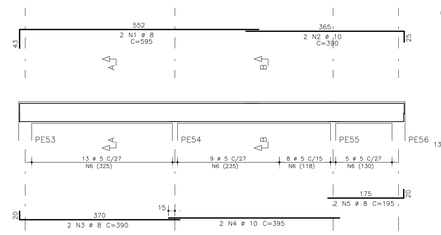
Corte A



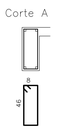
28 N7 ø 5 C=180

	AÇO	POS	BIT (mm)	QUANT	COMPRIMENTO UNIT (cm)	COMPRIMENTO TOTAL (cm)
V712						
	60B	1	5	2	445	890
	50A	2	8	4	155	620
	50A	3	10	2	730	1460
	50A	4	10	1	485	485
	60B	5	5	44	95	4180
V713						
	50A	1	8	2	418	836
	50A	2	10	2	405	810
	60B	3	5	22	90	1980
V714						
	60B	1	5	2	560	1120
	50A	2	8	2	155	310
	50A	3	10	2	730	1460
	60B	4	5	44	95	4180
V715						
	50A	1	10	2	918	1836
	50A	2	10	1	235	235
	50A	3	10	1	290	290
	50A	4	12.5	2	180	360
	50A	5	12.5	2	845	1690
	50A	6	12.5	2	575	1150
	60B	7	5	28	180	5040
	50A	8	6.3	8	717	5736
	50A	9	6.3	8	99	792
V716						
	50A	1	8	2	595	1190
	50A	2	10	2	390	780
	50A	3	8	2	390	780
	50A	4	10	2	395	790
	50A	5	8	2	195	390
	60B	6	5	35	120	4200
V717						
	60B	1	5	2	155	310
	50A	2	12.5	2	490	980
	50A	3	10	2	295	590
	50A	4	8	2	375	750
	50A	5	10	2	490	980
	50A	6	10	1	315	315
	50A	7	6.3	1	125	125
	60B	8	5	32	120	3840
V718						
	50A	1	10	2	235	470
	50A	2	16	2	565	1130
	50A	3	16	1	385	385
	50A	4	10	2	699	1398
	60B	5	5	32	140	4480
	50A	6	6.3	8	140	1120
V719						
	50A	1	8	2	697	1394
	50A	2	8	2	715	1430
	50A	3	6.3	2	125	250
	60B	4	5	24	120	2880
V720						
	50A	1	8	2	533	1066
	50A	2	10	2	605	1210
	50A	3	10	1	430	430
	50A	4	6.3	2	125	250
	60B	5	5	20	120	2400
V721						
	50A	1	10	2	918	1836
	50A	2	10	1	235	235
	50A	3	10	1	275	275
	50A	4	12.5	2	180	360
	50A	5	12.5	2	845	1690
	50A	6	12.5	2	575	1150
	60B	7	5	28	180	5040
	50A	8	6.3	8	717	5736
	50A	9	6.3	8	99	792
V722						
	50A	1	10	4	345	1380
	50A	2	10	1	280	280
	60B	3	5	14	110	1540
V723						
	50A	1	10	3	931	2793
	50A	2	10	3	836	2508
	60B	3	5	35	190	6650
	50A	4	8	6	445	2670
	50A	5	8	6	393	2358
V724						
	60B	1	5	2	415	830
	50A	2	10	2	220	440
	50A	3	10	2	605	1210
	50A	4	10	1	460	460
	50A	5	6.3	1	125	125
	60B	6	5	20	180	3600
	50A	7	6.3	8	573	4584
V725						
	50A	1	10	2	671	1342
	50A	2	12.5	2	625	1250
	60B	3	5	20	180	3600
	50A	4	6.3	8	573	4584
V726						
	60B	1	5	2	565	1130
	50A	2	12.5	2	645	1290
	50A	3	12.5	1	455	455
	50A	4	6.3	1	125	125
	60B	5	5	20	120	2400

V716 12X50

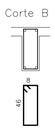


Corte A



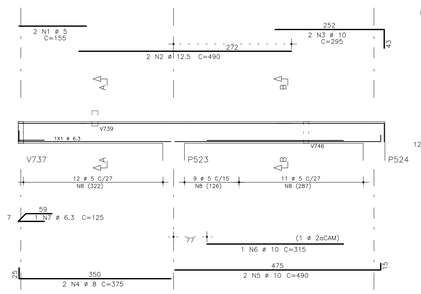
13 N6 ø 5 C=120

Corte B

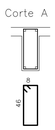


22 N6 ø 5 C=120

V717 12X50

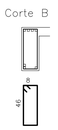


Corte A



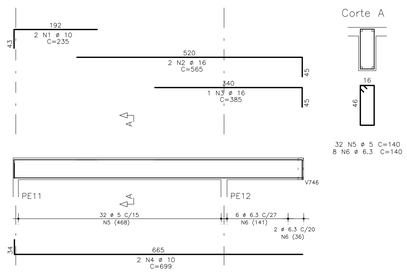
12 N8 ø 5 C=120

Corte B



20 N8 ø 5 C=120

V718 20X50



Corte A

32 N5 ø 5 C=140
8 N6 ø 6.3 C=140

RESUMO AÇO CA 50-60			
AÇO	BIT (mm)	COMPR (m)	PESO (kg)
60B	5	603	96
50A	6.3	242	61
50A	8	138	55
50A	10	263	166
50A	12.5	104	104
50A	16	15	24
Peso Total	60B =		96 kg
Peso Total	50A =		409 kg

		Eixo	Faces
Volume de concreto de VIGAS (m3)		7.4	6.9
Taxa de armadura	(kg/m3)	68.8	73.7

NOTAS IMPORTANTES:

FATOR ÁGUA CIMENTO MÁXIMO = 0,6

CONCRETO: **fck = 25 MPa**

- CONSUMO MINIMO DE CIMENTO = 350 kg/m3
- DIÂMETRO CARACTERÍSTICO DO AGREGADO:
  - : vigas e lajes – brita 1 com ø < 19 mm
  - : pilares – brita 1 e brita 2 com ø < 25 mm
  - : blocos – brita 1, brita 2 e brita 3 com ø < 38 mm
- MÓDULO DE ELASTICIDADE MINIMO NA IDADE DA DESFORMA – E > 21 GPa

COBRIMENTO DA ARMADURA:

Classe de agressividade ambiental 2

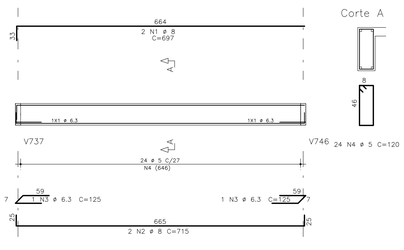
- CORTINAS:
  - : face externa – 3 cm
  - : face interna – 2 cm
- LAJES MACIÇAS – 2 cm
- NERVURAS DE LAJES NERVURADAS – 2 cm
- VIGAS – 2,5 cm
- PILARES – 2,5 cm
- BLOCOS E BALDRAMES – 3 cm

* ESSES COBRIMENTOS TERÃO RIGIDO CONTROLE. DEVERÃO SER GARANTIDOS COM O USO DE ESPAÇADORES

NORMAS UTILIZADAS:

- NBR 6118 – PROJETO DE ESTRUTURAS DE CONCRETO – PROCEDIMENTO
- NBR 6120 – CARGAS PARA O CÁLCULO DE ESTRUTURAS DE EDIFICAÇÕES
- NBR 6123 – FORÇAS DEVIDAS AO VENTO EM EDIFICAÇÕES
- NBR 12655– CONCRETO– CONTROLE , PREPARO E RECEBIMENTO

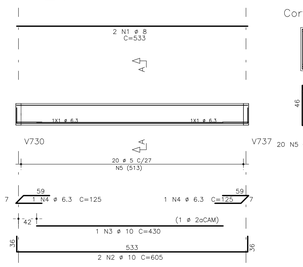
V719 12X50



Corte A

24 N4 ø 5 C=120

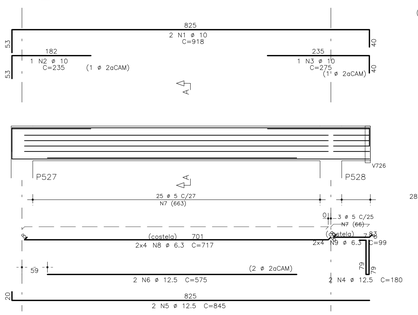
V720 12X50



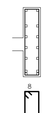
Corte A

20 N5 ø 5 C=120

V721 12X80

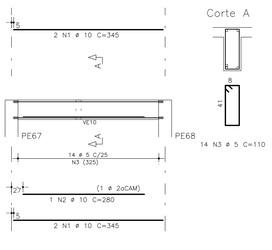


Corte A



28 N7 ø 5 C=180

V722 12X45



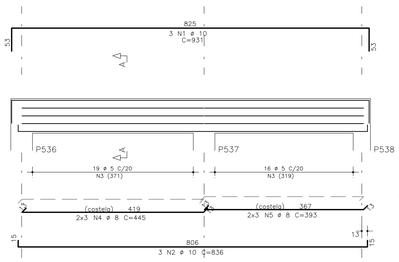
Corte A

14 N3 ø 5 C=110

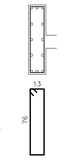
DETALHE COLAGEM



V723 17X80

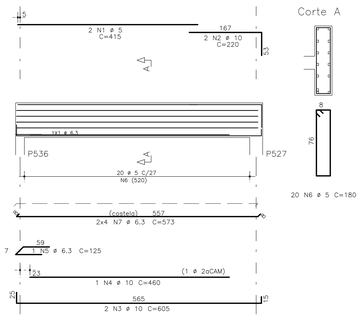


Corte A



35 N3 ø 5 C=190

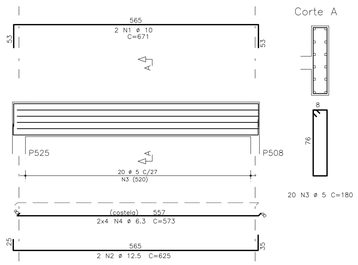
V724 12X80



Corte A

20 N6 ø 5 C=180

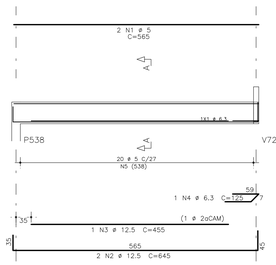
V725 12X80



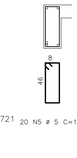
Corte A

20 N3 ø 5 C=180

V726 12X50



Corte A



20 N5 ø 5 C=120

COR	PENA	ESPES.
1	7	0,25
2	7	0,20
3	7	0,30
4	7	0,40
5	7	0,60
6	7	0,80
7	7	0,50
8	7	0,70
9	7	0,90
10	7	0,75
11	7	0,65
12	7	0,55
13	7	0,45
14	7	0,35
15	7	0,85
16	7	0,95
17	7	0,10
18	7	0,15
19	7	0,01
20	7	0,05
21	7	0,30
22	7	0,20
23	7	0,20
...	...	...
254	7	0,20
255	7	0,20
256	7	0,20

Nº	MODIFICACAO	DATA	FEITO	VISTO	APROVO	DATA	APROVO
NA4							
NA3							
NA2	MODIFICAR Ø O.02	20/10/13					
NA1	MODIFICAR Ø O.PARECER.NÃ©68/13	20/08/13					

CONTRATADA

METRO-DF

METRÔ-DF	metroqu4ttro projetos e consultoria — 453
SETOR	ÁGUAS CLARAS-DF
ENDEREÇO	ESTAÇÃO 16 LINHA 01
PROPRIETARIO	METRO-DF
AUTOR DO PROJETO	Luiz Cesar M. Gottschall
RESPONSAVEL TECNICO	

PROPRIETARIO METRÔ-DF

AUTOR Luiz Cesar M. Gottschall CREA – 3575/D DF

RESPONSAVEL

METRO-DF

VISTO	DATA
APROVO	DATA
ESCALA 1:50	ETAPA DE PROJ. EXECUTIVO
Nº MICROFILME	FOLHA EST-043

UNIDADE DE CONSTRUCAO: ESTAÇÃO ARNIQUEIRAS

LOCAL: ÁGUAS CLARAS

ESPECIALIDADE/SUBESPECIALIDADE: PROJETO ESTRUTURAL

TIPO/ESPECIFICACAO DO DOCUMENTO: ARM4ê O VIGAS DA COBERTURA (02/03) FCK - 25.0 MPa

AREA DE CONSTRUCAO: m|

DATA: 20/10/13

CODIFICACAO: DE.6/16.3M/H1.043

REVISAO: 0A