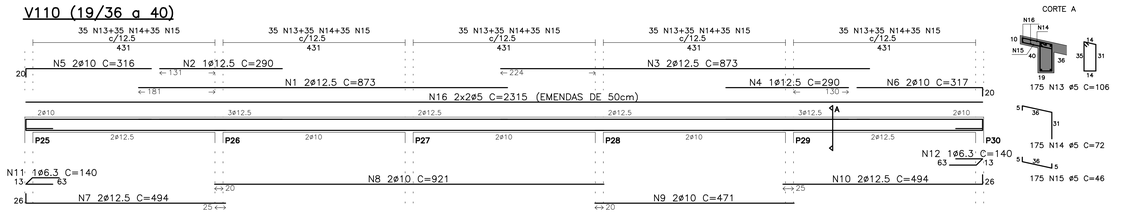
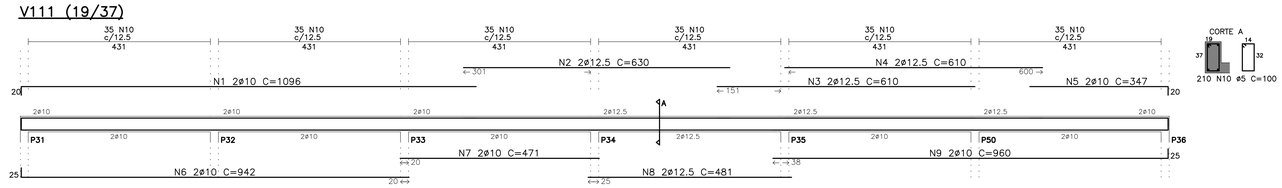
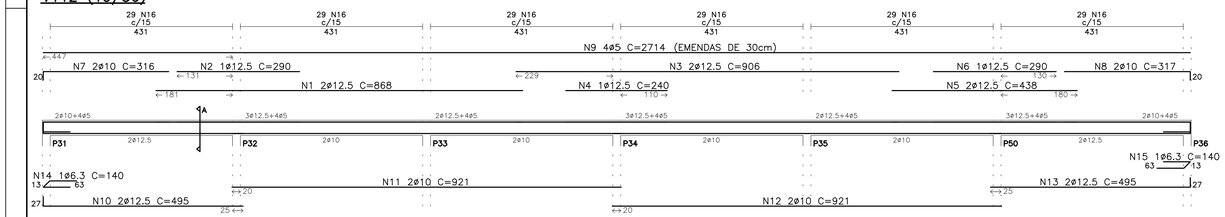
V110 (19/36 a 40)



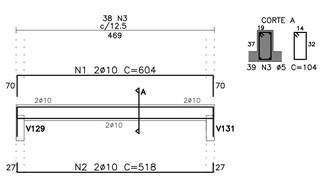
V111 (19/37)



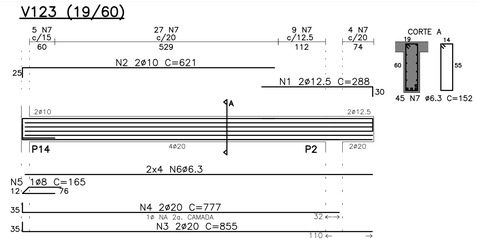
V112 (19/36)



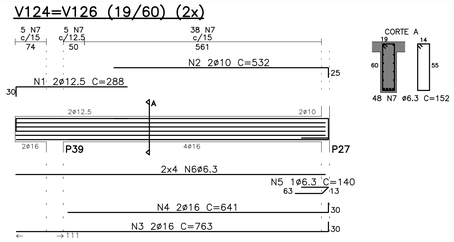
V147=V148 (19/37) (2x)



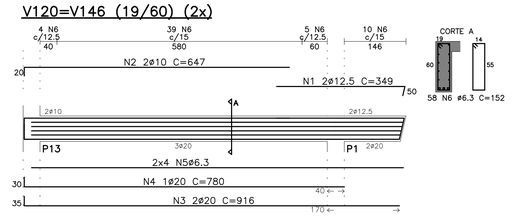
V123 (19/60)



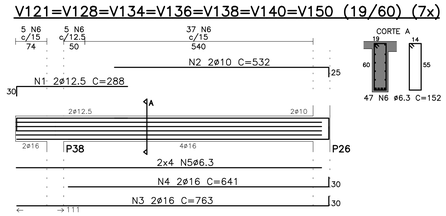
V124=V126 (19/60) (2x)



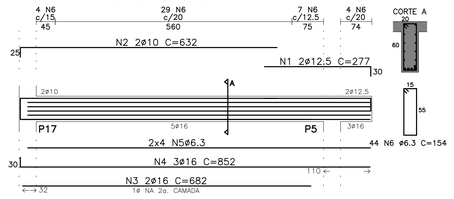
V120=V146 (19/60) (2x)



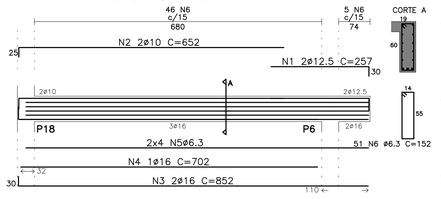
V121=V128=V134=V136=V138=V140=V150 (19/60) (7x)



V125=V127=V129=V135=V137=V139
V142=V149 (20/60) (8x)



V131=V133 (19/60) (2x)



V110

N	ø	Q	UNI	TOTAL
1	12.5	2	873	1746
2	12.5	1	290	290
3	12.5	2	873	1746
4	12.5	1	290	290
5	10	2	316	632
6	10	2	317	634
7	12.5	2	494	988
8	10	2	921	1842
9	10	2	471	942
10	12.5	2	494	988
11	6.3	1	140	140
12	6.3	1	140	140
13	5	175	106	17850
14	5	175	72	2450
15	5	175	46	8050
16	5	4	2315	9260

V111

N	ø	Q	UNI	TOTAL
1	10	2	1096	2192
2	12.5	2	630	1260
3	12.5	2	610	1220
4	12.5	2	610	1220
5	10	2	347	694
6	10	2	942	1884
7	10	2	471	942
8	12.5	2	481	962
9	10	2	960	1920
10	5	210	100	21000

V112

N	ø	Q	UNI	TOTAL
1	12.5	2	868	1736
2	12.5	1	290	290
3	12.5	2	906	1812
4	12.5	1	240	240
5	12.5	2	438	876
6	12.5	1	290	290
7	10	2	316	632
8	10	2	317	634
9	5	4	2714	10856
10	12.5	2	495	990
11	10	2	921	1842
12	10	2	921	1842
13	12.5	2	495	990
14	6.3	1	140	140
15	6.3	1	140	140
16	5	174	98	17052
17	5	174	72	12528
18	5	174	46	8004

V120=V146 (2x)

N	ø	Q	UNI	TOTAL
1	12.5	2	349	698
2	10	2	647	1294
3	20	2	916	1832
4	20	1	780	780
5	6.3			7205
6	6.3	58	152	8816

V131=V128=V134=V150=
V136=V138=V140 (7x)

N	ø	Q	UNI	TOTAL
1	12.5	2	288	576
2	10	2	532	1064
3	16	2	763	1526
4	16	2	641	1282
5	6.3			5892
6	6.3	47	152	7144

V123

N	ø	Q	UNI	TOTAL
1	12.5	2	288	576
2	10	2	621	1242
3	20	2	855	1710
4	20	2	777	1554
5	8	1	165	165
6	6.3			6708
7	6.3	45	152	6840

V124=V126 (2x)

N	ø	Q	UNI	TOTAL
1	12.5	2	288	576
2	10	2	532	1064
3	16	2	763	1526
4	16	2	641	1282
5	6.3	1	140	140
6	6.3			5973
7	6.3	48	152	7296

V125=V127=V129=V135=V137=
V139=V142=V149 (8x)

N	ø	Q	UNI	TOTAL
1	12.5	2	277	554
2	10	2	632	1264
3	16	2	682	1364
4	16	3	852	2556
5	6.3			6618
6	6.3	44	154	6776

V131=V133 (2x)

N	ø	Q	UNI	TOTAL
1	12.5	2	257	514
2	10	2	652	1304
3	16	2	852	1704
4	16	1	702	702
5	6.3			6618
6	6.3	51	152	7752

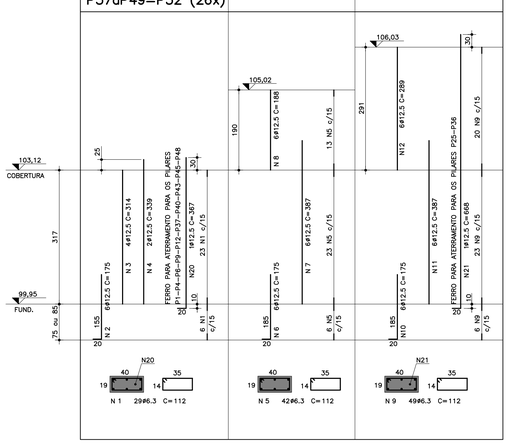
V147=V148 (2x)

N	ø	Q	UNI	TOTAL
1	10	2	604	1208
2	10	2	518	1036
3	5	39	104	4056

RESUMO DAS VIGAS DA COBERTURA (02/02)

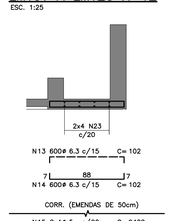
ACO	ø	COMPR(cm)	PESO(kg)
60B	5	115162	185
50A	6.3	381790	955
50A	8	165	1
50A	10	62478	394
50A	12.5	34006	341
50A	16	96184	1539
50A	20	8488	212
50A	25	–	–
PESO TOTAL (kg)			3626

P1 a P12= P37aP49=P52 (26x) | P13aP24=P51(13x) | P25aP36=P50 (13x)



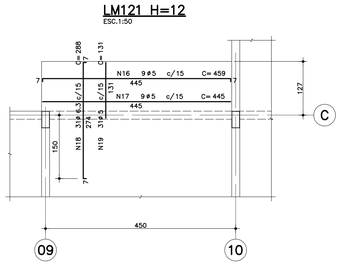
LM101 A LM120 H=12

ESC. 1:25



LM121 H=12

ESC.1:50



LISTA DE FERROS

POS.	ø	QUANT.	COMPRIMENTO UNIT.	COMPRIMENTO TOTAL
1	6.3	754	112	84448
2	12.5	156	175	27300
3	12.5	104	314	32656
4	12.5	52	339	17628
5	6.3	546	112	61152
6	12.5	78	175	13650
7	12.5	78	387	30186
8	12.5	78	188	14664
9	6.3	637	112	71344
10	12.5	78	175	13650
11	12.5	78	387	30186
12	12.5	78	289	22542
13	6.3	600	102	61200
14	6.3	600	102	61200
15	5	8	9400	75200
16	5	9	459	4131
17	5	9	445	4005
18	6.3	31	288	8928
19	5	31	131	4061
20	12.5	26	367	9542
21	12.5	13	668	8684

RESUMO DE ACO C.A. 50

ø	COMPRIMENTO (m)	PESO (kg)
6.3	3482.72	871
8		
10		
12.5	2206.88	2207
16		
20		
25		
TOTAL (kg)		3078

RESUMO DE ACO C.A. 60

ø	COMPRIMENTO (m)	PESO (kg)
5	873.97	135
6		
TOTAL (kg)		135

CR-1A - PADRÃO ESTACA C/ LAJE 207

No.	MODIFICAÇÕES	APROVAÇÃO	DATA	APROVAÇÃO	DATA
1	CONFORME ONDE INDICADO	NSY	04/08/14		
△		AUTOR DO PROJETO		FDE	

OBSERVAÇÕES

DESENHO DE REFERÊNCIA | No. | APROVAÇÃO | DATA
FDE

APROVAÇÃO	DATA
AUTOR DO PROJETO	

NOTAS:

01–CONCRETO= fck ≥ 25 MPa
02–AÇO= CA–50 – fyk=500 MPa
CA–60 – fyk=600 MPa
03–MEDIDAS EM cm, NÍVEIS EM m.
04–NÃO TIRAR MEDIDAS EM ESCALA.
05–CONFIRMAR MEDIDAS NO LOCAL.
06– COBRIMENTO=2,5cm.

DETALHE DO RAIO DE CURVATURA (R)

VALOR ESPECIFICADO NAS BITOLAS

ø (mm)	R (cm)	C.C. (cm)
12.5	10	16
16	13	21
20	16	25
25	20	31

C.C.=COMPRIMENTO DA CURVA

FDE
FUNDAÇÃO PARA O DESENVOLVIMENTO DA EDUCAÇÃO

PROJETO DESENVOLVIDO POR ENGECALC ENGENHARIA E PROJETOS ESTRUTURAIS A PARTIR DO PAD CR-1 12.01.044
RESPONSÁVEL TÉCNICO: NELSON SHOTARO YOKOI - CREA: 060056764-0

FUNDAÇÃO PARA O DESENVOLVIMENTO DA EDUCAÇÃO – F D E

ESCOLA – NOME/LOCAL: –			1 2 0 1 0 8 9
INTERVENÇÃO: CRECHE + PRÉ–ESCOLA – CR–1A			Nº LOTE: 01
ETAPA/ÁREA TÉCNICA: PROJETO EXECUTIVO DE ESTRUTURA	TIPO PROJETO: PADRÃO	DATA: JUNHO/2020	ETAPA/ÁREA TÉCNICA: PE – EST
ASSUNTO: ARMAÇÃO DAS VIGAS DA COB. (02/02), LAJES E PILARES	ESCALA: INDICADA	FOLHA: 17/00	REVISÃO: 00

12010B9_01EFED001700_01