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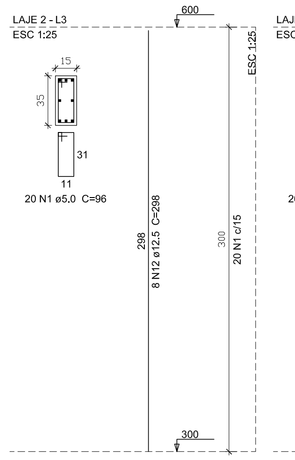

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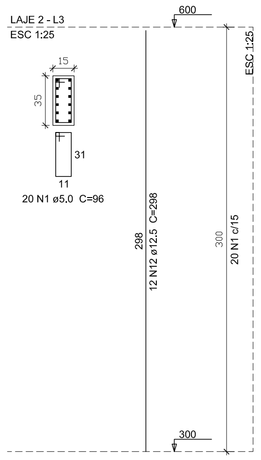

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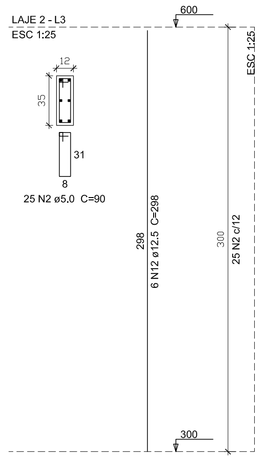

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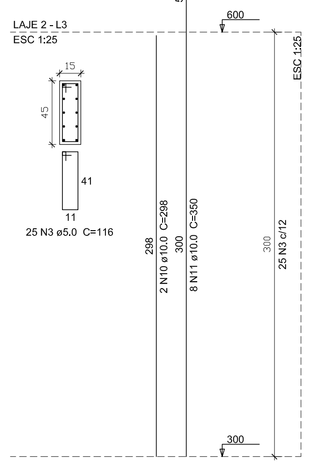

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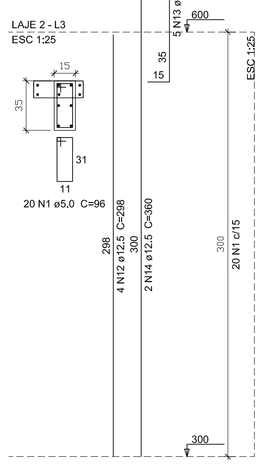

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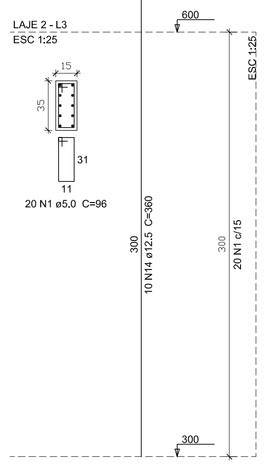

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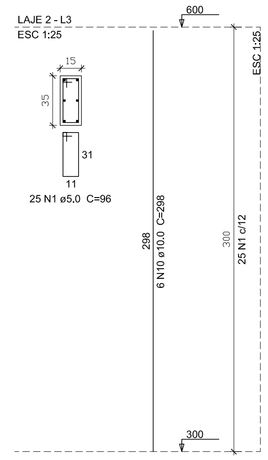
=P37=P45=P57=P59



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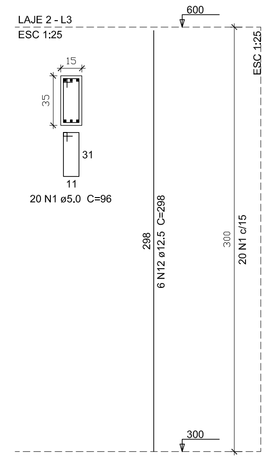

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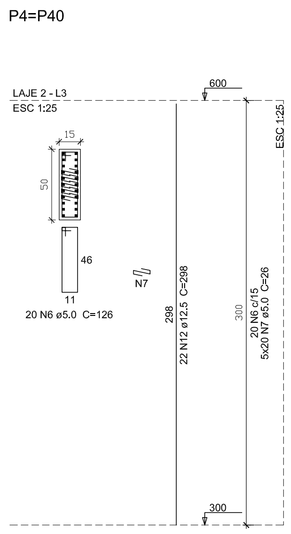

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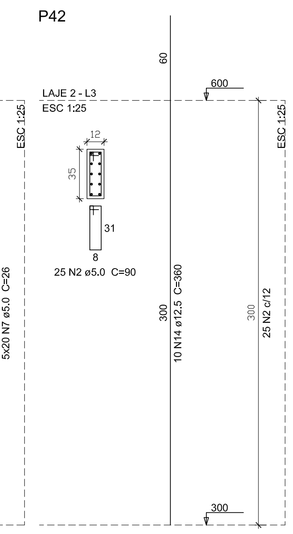

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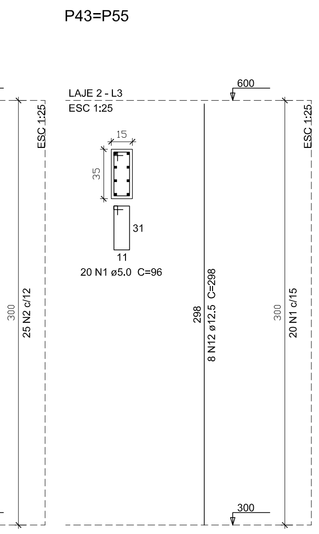

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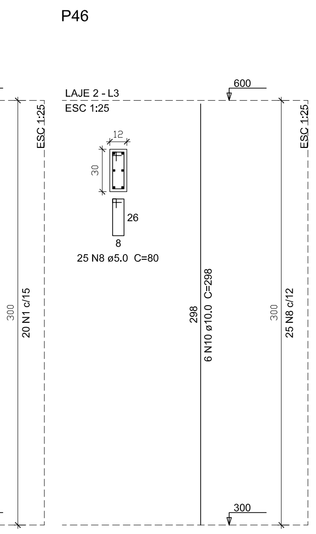

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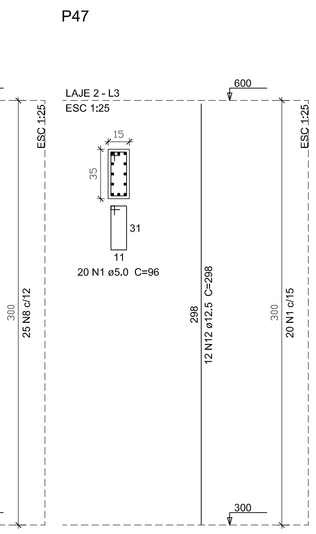

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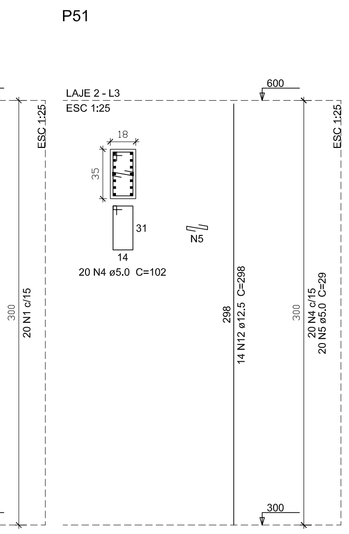

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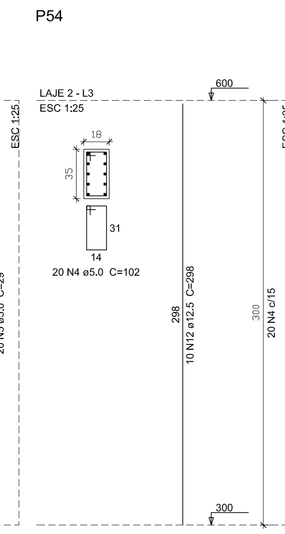

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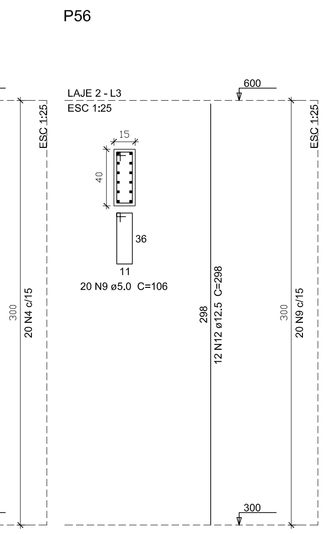

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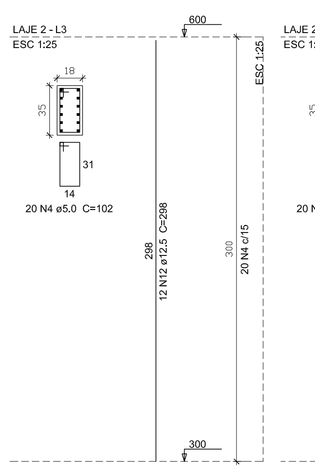

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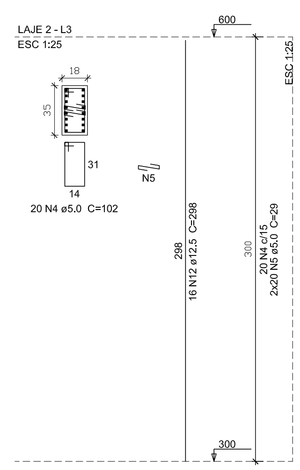

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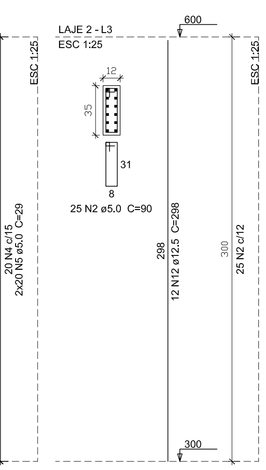

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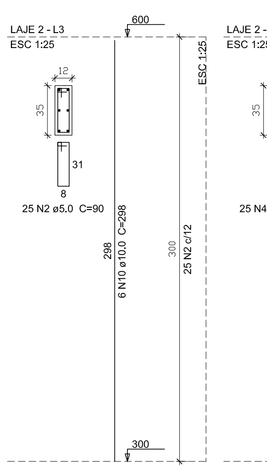

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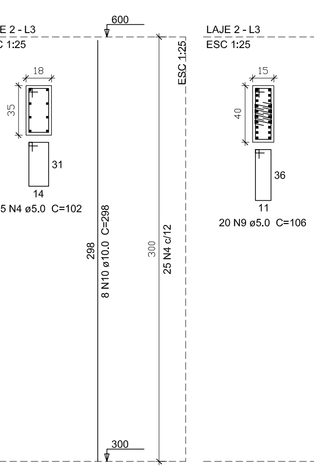

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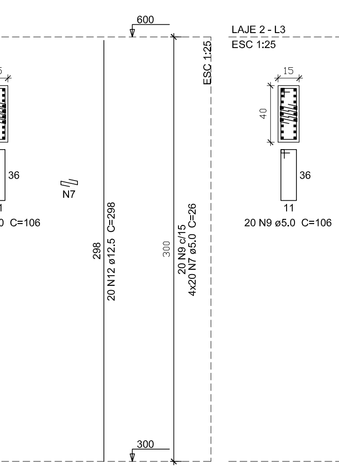

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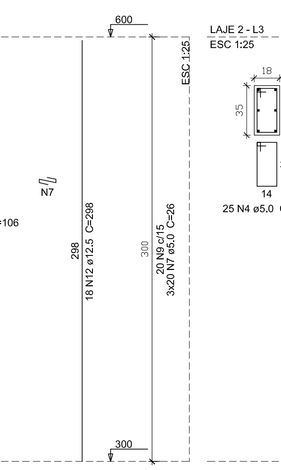

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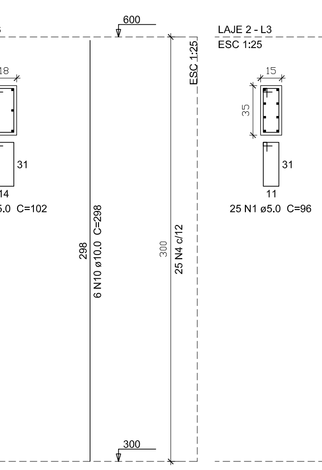

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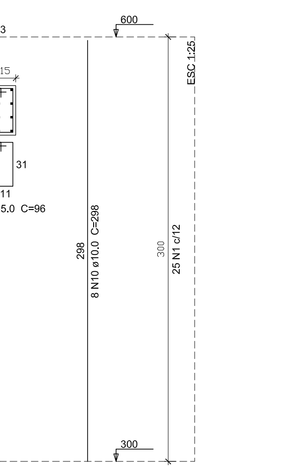


DET. DOS PILARES DA LAJE 2

ESCALA: INDICADA

Relação do aço

P1	P2	14xP3
2xP4	P8	P12
P27	P28	P29
2xP30	4xP31	P33
P34	3xP35	P36
P42	2xP43	P46
P47	P51	P54
P56	P58	P60
2xP61		

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	555	96	53280
	2	5.0	150	90	13500
	3	5.0	25	116	2900
	4	5.0	215	102	21930
	5	5.0	60	29	1740
	6	5.0	40	126	5040
	7	5.0	340	26	8840
	8	5.0	25	80	2000
	9	5.0	60	106	6360
CA50	10	10.0	138	298	41124
	11	10.0	8	350	2800
	12	12.5	264	298	78672
	13	12.5	5	107	535
	14	12.5	22	360	7920

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	439.3	297.9
	12.5	871.3	923.3
CA60	5.0	1155.9	196

PESO TOTAL (kg)	
CA50	1221.2
CA60	196

Volume de concreto (C-25) = 7,73 m³
Área de forma = 144,54 m²

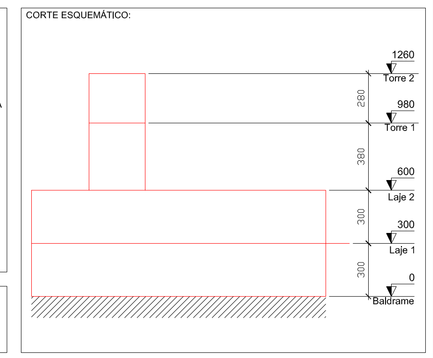
LEGENDA DAS LAJES

- L / h — LAJE MACIÇA
- L / Det — LAJE PRÉ-MOLDADA
- L / Det — LAJE TRELIÇADA
- L / Det — LAJE NERVURADA

LEGENDA DOS PILARES:

- PILARES QUE CONTINUAM
- PILARES QUE MORREM
- PILARES QUE NASCEM

CORTE ESQUEMÁTICO:



NOTAS:

1 – AS DIMENSÕES ESTÃO EM CENTÍMETRO, A BITOLA DOS FERROS EM MILÍMETRO.

2 – A EXECUÇÃO DAS ARMADURAS DEVERÁ OBEDECER AS PRESCRIÇÕES DA NORMA NBR–6118.

3 – AS ESPECIFICAÇÕES CONTIDAS NESSE PROJETO NÃO PODERÃO SER ALTERADAS SEM A CONSULTA PREVIA AO PROJETISTA.

4 – CONFERIR TODAS AS MEDIDAS ANTES DO CORTE, DOBRAMENTO E MONTAGEM DAS ARMADURAS.

5 – UTILIZAR ESPAÇADORES ADEQUADOS PARA GARANTIR OS COBRIMENTOS DA ARMADURA:
- SAPATAS – 5 cm;
- LAJES/VIGAS/PILARES – 2cm;

6 – EMENDAS DE BARRAS NÃO ESPECIFICADAS NESTE PROJETO DEVEM SER FEITAS CONFORME ESPECIFICAÇÕES DO ITEM 9.5 DA NBR 6118.

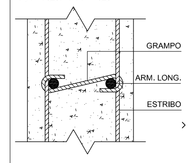
7 – COLOCAR GRAMPOS DE PROTEÇÃO CONTRA FLAMBAGEM DAS BARRAS LONGITUDINAIS, CONFORME DETALHE "A" (ITEM 18.2.4 DA NBR 6118).

8 – OS GANCHOS NAS EXTREMIDADES DAS ARMADURAS SERÃO EM ÂNGULO RETO, COM RAIO DE CURVATURA E PONTA RETA INDICADOS NO DETALHE "C", CONFORME ITEM 9.4 DA NBR 6118.

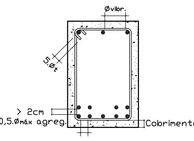
9 – OS ESPAÇAMENTOS HORIZONTAIS E VERTICIAS ENTRE AS BARRAS LONGITUDINAIS DEVERÃO RESPEITAR OS VALORES MÍNIMOS INDICADOS NO DETALHE "B", CONFORME ITEM 18.3 DA NBR 6118.

10 – CONCRETO COM FCK> 25 MPA.

DETALHE "A"



DETALHE "B"



DETALHE "C"

RAIO DE DOBRAMENTO PARA GANCHOS

BITOLA (ø)	CA–50	CA–60
< 20mm	5.ø	6.ø
> 20mm	8.ø	–
≤ 10mm	3.ø	3.ø

8.ø

03/06/2016	EMISSÃO INICIAL	JOSÉ FREITAS FILHO
DATA DA ÚLTIMA ALTERAÇÃO	DISCRIMINAÇÃO DA ALTERAÇÃO	RESPONSÁVEL

CARIMBOS E APROVAÇÕES

PREFEITURA MUNICIPAL
SANTO AMARO DA IMPERATRIZ

PRAÇA GOVERNADOR IVO SILVEIRA, 306 – CENTRO – SANTO AMARO DA IMPERATRIZ – SC

PROJETO:

PROJETO ESTRUTURAL EM CONCRETO ARMADO

OBRA:
CENTRO EDUCACIONAL ANTÔNIO RODOLFO FABRÍCIO

CONTEÚDO:
DET. DOS PILARES DA LAJE 2

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE SANTO AMARO DA IMPERATRIZ/SC

PROJETO:

DESENVOLVIMENTO DO PROJETO:
JOSÉ FREITAS FILHO
ENG. CIVIL – CREA 81.990–9

JF engenharia

RUA PREFEITO JOSÉ KEHRIG – Nº 5333 – SALA 105 – CENTRO
SANTO AMARO DA IMPERATRIZ – SC
FONE: (48) 3249–3568
www.jfengenhariasc.com.br

LOCAL
RUA NOSSA SENHORA APARECIDA – BAIRRO FABRÍCIO – STO AMARO DA IMPERATRIZ – SC

PRANCHA
14/16

DESENHO	DATA	ESCALA
JF	JUNHO/2016	INDICADA

TODOS OS DIREITOS RESERVADOS A J.F. ENGENHARIA LTDA.

100,0 x 59,4 CM