RELAÇÃO DO AÇO

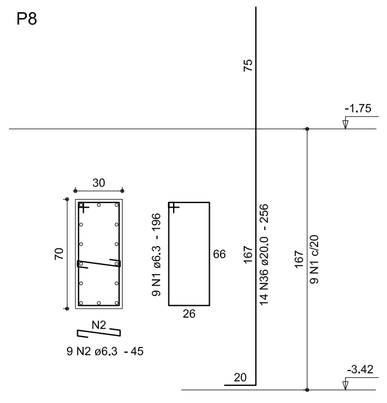
P5, P6, P7A, P7B, P8, P9, P10, P11, P12, P101, P103, P104, P105, P106, P107, P108,
P5, P6, S7A, S7B, S8, S9, S10, S11, S12, S101, S103, S104, S105, S106, S107, S108,

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA50	1	6,3	19	196	3724
	2	6,3	27	45	1215
	3	6,3	30	42	1260
	4	6,3	9	216	1944
	5	6,3	46	116	5336
	6	6,3	39	33	1287
	7	6,3	36	106	3816
	8	6,3	18	452	8136
	9	6,3	108	28	3024
	10	6,3	24	76	1824
	11	6,3	34	116	3944
	12	10,0	26	185	4810
	13	10,0	30	177	5310
	14	10,0	16	352	5632
	15	10,0	4	158	632
	16	10,0	6	117	702
	17	10,0	6	77	462
	18	10,0	25	117	2925
	19	10,0	6	197	1182
	20	10,0	14	288	4032
	21	12,5	18	191	3438
	22	12,5	20	211	4220
	23	12,5	7	156	1092
	24	12,5	7	181	1267
	25	12,5	48	194	9312
	26	12,5	16	167	2672
	27	12,5	24	121	2904
	28	12,5	12	136	1632
	29	12,5	24	199	4776
	30	16,0	12	248	2976
	31	16,0	16	350	5600
	32	16,0	18	315	5670
	33	16,0	12	203	2436
	34	16,0	9	220	1980
	35	16,0	8	240	1920
	36	20,0	14	256	3584
	37	20,0	14	405	5670
	38	20,0	14	360	5040
	39	20,0	20	261	5220
	40	20,0	15	430	6450
	41	20,0	15	375	5625

RESUMO DO AÇO

AÇO	DIAM	C.TOTAL (m)	PESO (kg)
CA50	6,3	355,1	86,9
	10,0	256,9	158,4
	12,5	313,2	301,7
	16,0	205,9	324,9
	20,0	315,9	779
PESO TOTAL (kg)		Vol. de concreto =	34,32 m³
CA50	1650,8	Área de forma =	77,02 m²

P8



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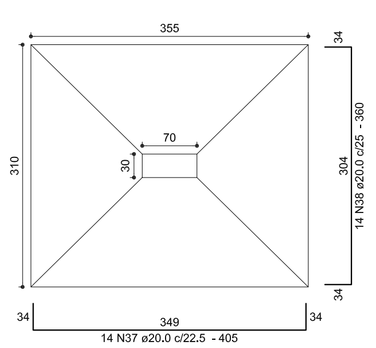

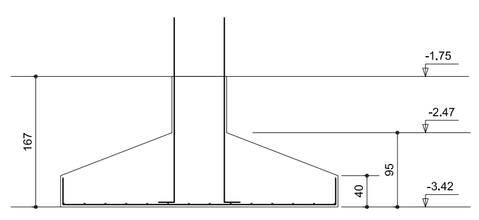

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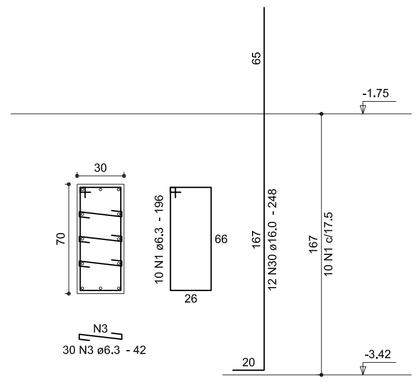

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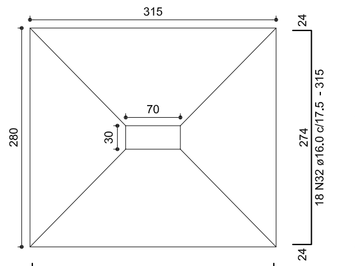

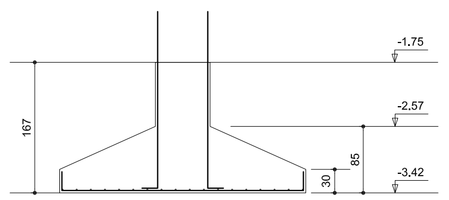

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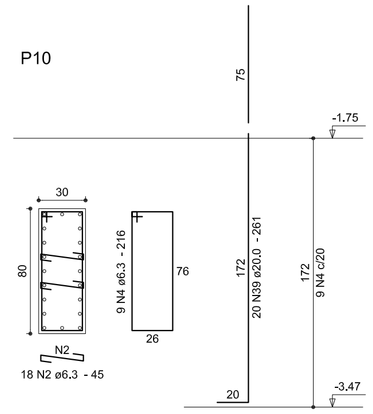

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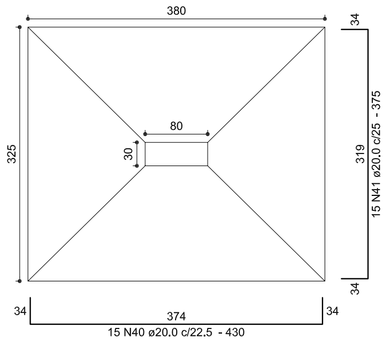

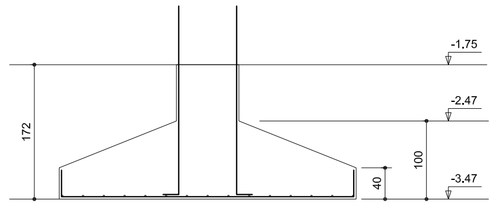

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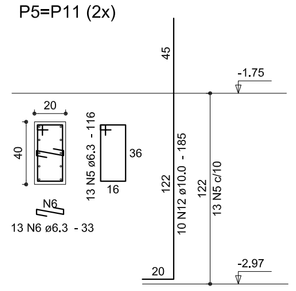

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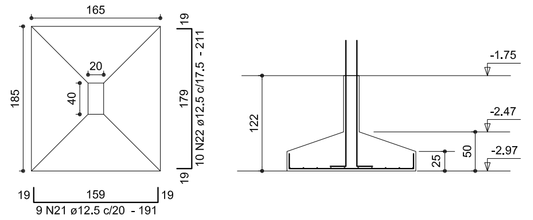

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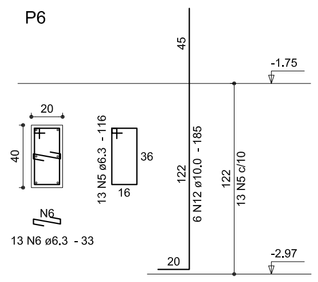

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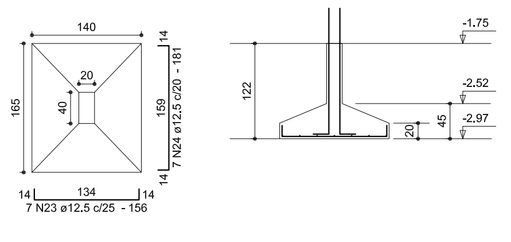

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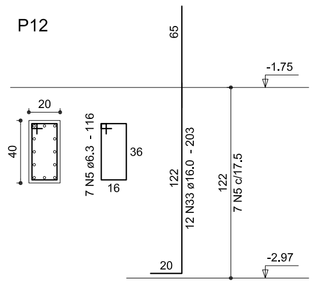

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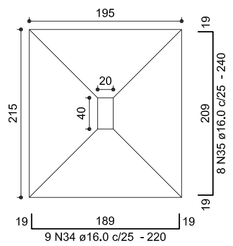

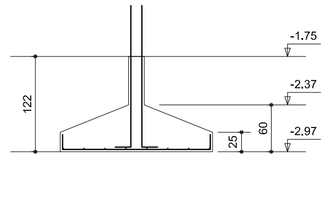

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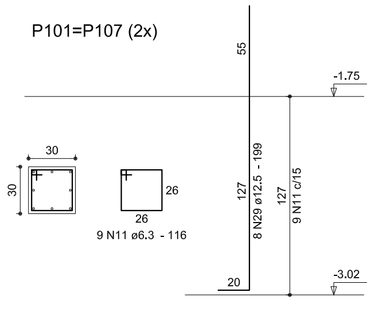

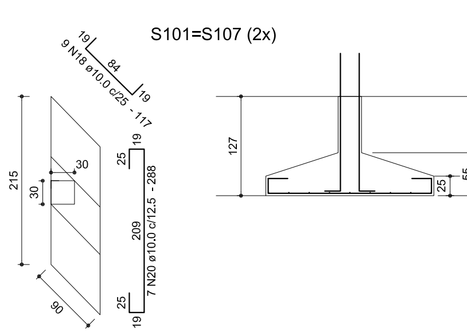

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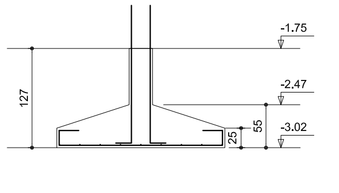

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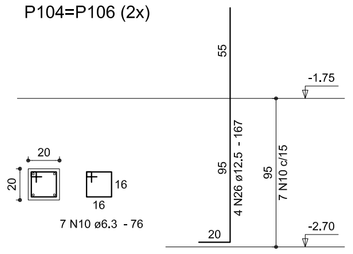

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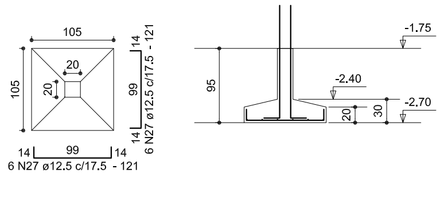

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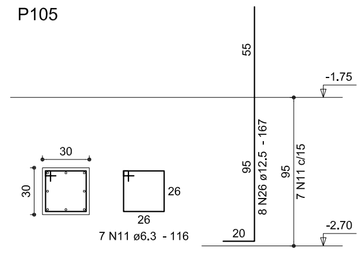

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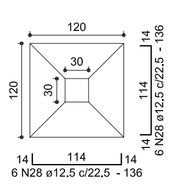

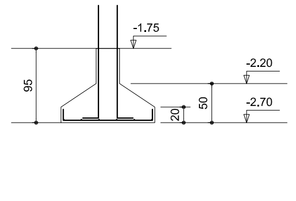

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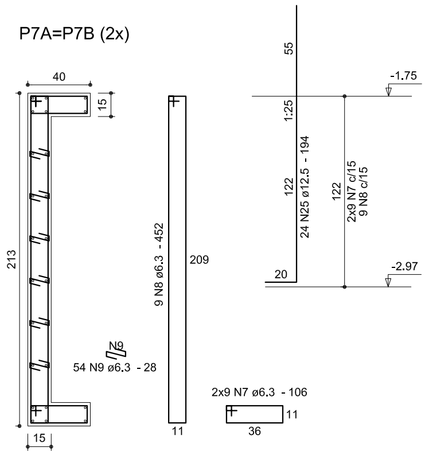

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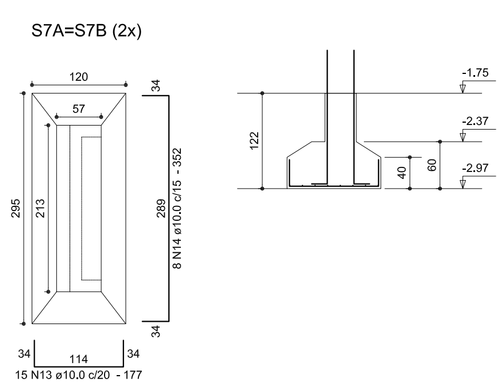

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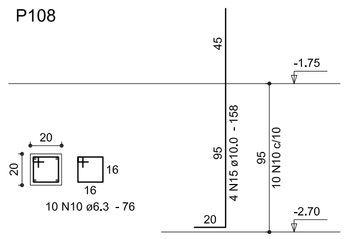

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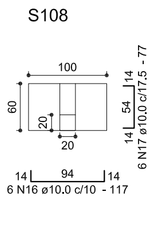

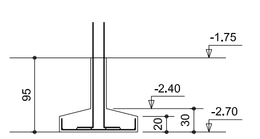

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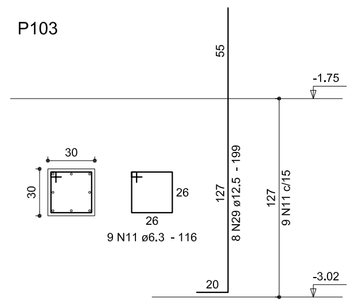

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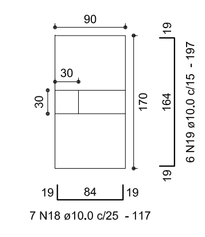
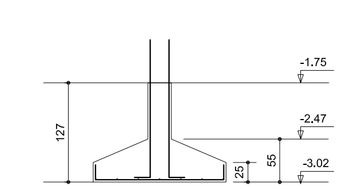




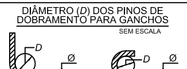
REVISÃO	DATA	MODIFICAÇÕES	RESP.

ENGEOP ENGENHARIA E GESTÃO DE OBRAS E PROJETOS

Anotações:

DIÂMETRO (D) DOS PINOS DE DOBRAMENTO PARA GANCHOS

SEM ESCALA

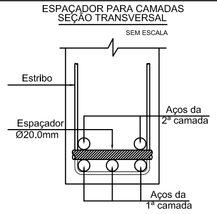


BITOLA (Ø)	CA50	CA60
<20mm	5xØ	6xØ
≥20mm	8xØ	—
estribo ≤10mm	3xØ	3xØ

NBR6118:2003 (itens 9.4.2.3 e 9.4.6.1)

ESPAÇADOR PARA CAMADAS SEÇÃO TRANSVERSAL

SEM ESCALA



Notas:

01 Medidas (cotas) e seções das peças estruturais estão em centímetro. Níveis estão em metro.
02 NBR 6118:2003 – Classe de Agressividade Ambiental = II – ambiente interno protegido.
03 NBR 6118:2003 – Concreto com fck=25MPa – Aço CA-50 e CA-60.
04 NBR 6118:2003 – Cobrimentos: 2,0cm para vigas e pilares, 1,5cm para lajes e 3,0cm para muros e fundações.
05 A cota de fundação estabelece a profundidade mínima para assentamento das fundações, com taxa admissível do terreno maior ou igual a 3,0 kgf/cm² (para as sapatas).
06 Projeto básico para estacas raiz de autoria da Tengel Técnica de Engenharia Ltda.
07 Solo compactado sobre as sapatas, com peso específico maior ou igual a 1,9 tf/m3.

REVISÃO	DATA	MODIFICAÇÕES	RESP.

CLIENTE : VM – INDÚSTRIA DE PRODUTOS PET LTDA–ME

OBRA: RUA MARZAGÂNIA, 338, BOA VISTA, BELO HORIZONTE, MG

ESCALA: 1:50

DATA: 05/04/17

PROJETO ESTRUTURAL
FUNDAÇÕES E ARRANQUES – 01/02
ARMAÇÕES

PROJETO: 10–2016