



CONSÓRCIO SAÚDE

CONCREMAT | MEP

MEMORIAL DESCRITIVO

PROJETO EXECUTIVO DE
ESTRUTURA DE CONCRETO

CENTRO ESPECIALIZADO EM
REABILITAÇÃO (CER)
TIPO 04

ABRIL/2026
VERSÃO R01

ASSUNTO:	MEMORIAL DESCRITIVO – PROJETO EXECUTIVO – ESTRUTURA DE CONCRETO	
OBRA:	CENTRO ESPECIALIZADO EM REABILITAÇÃO (CER) – TIPO 04	
LOCAL:	DIVERSOS	
CONTRATANTE:	SECRETARIA DE SAÚDE DO ESTADO DA BAHIA - SESAB	CNPJ: 13.937.131/0001-41
CONTRATADA:	CONSÓRCIO SAÚDE CONCREMAT-MEP	CNPJ: 60.255.454/0001-35

	CONTRATANTE SECRETARIA DA SAÚDE DO ESTADO DA BAHIA (SESAB) CNPJ: 13.937.131/0001-41	
	AUTOR DO MEMORIAL ROBERTO FILGUEIRAS DE MACEDO ENG. CIVIL – CREA/BA Nº 050019256-1	
	ESCALA: INDICADA	DATA: ABRIL/2026
	TEXTO: CONSÓRCIO SAÚDE CONCREMAT-MEP	

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1. INTRODUÇÃO

O objetivo do presente documento é apresentar o memorial descritivo, de especificações e cálculos do Projeto Executivo de Estruturas para a construção do Centro Especializado em Reabilitação - CER – Tipo 4.

2. CONCEPÇÃO ESTRUTURAL DA SUPRA-ESTRUTURA

A supra-estrutura foi concebida em concreto armado “in loco” compreendendo lajes (maciças e treliçadas), vigas e pilares (concreto armado), estando as locações e dimensões compatibilizadas com o projeto arquitetônico.

Acompanha este memorial descritivo, os arquivos magnéticos e impressões contendo as pranchas que compõem o projeto estrutural, e a respectiva relação.

3. CONCEPÇÃO ESTRUTURAL DA INFRA-ESTRUTURA

A fundação e os pilares de arranque deverão ser dimensionados e detalhados de acordo com as implantações sugeridas e relatórios de sondagem específicos para cada terreno.

Relatório de Cargas nas Fundações - Prédio Principal

Fundação		Carga (tf)											Carga máxima (tf)	
No me	Seção (cm)	Peso próprio	Adicional	Acidental	Vento X+	Vento X-	Vento Y+	Vento Y-	Desaprumo X+	Desaprumo X-	Desaprumo Y+	Desaprumo Y-	Positiva	Negativa
P1	30x30	4,70	3,69	0,83	0,10	0,10	0,17	0,17	-0,05	0,05	0,06	-0,06	9,35	0,00
P2	15x30	4,82	5,57	1,48	0,10	0,10	0,15	0,15	0,05	-0,05	0,06	-0,06	11,99	0,00
P3	15x30	4,56	5,17	1,36	0,07	0,07	0,14	0,14	-0,04	0,04	0,06	-0,06	11,21	0,00

P4	30x30	6,93	6,98	2,00	0,00	0,00	0,20	-0,20	0,00	0,00	0,08	-0,08	16,07	0,00
P5	30x30	9,21	7,16	3,13	0,04	0,04	0,09	-0,09	-0,03	0,03	0,04	-0,04	19,57	0,00
P6	30x30	5,93	4,71	1,37	0,05	0,05	0,18	-0,18	-0,02	0,02	0,09	-0,09	12,16	0,00
P7	30x30	4,22	3,36	0,90	0,05	0,05	0,13	-0,13	0,02	-0,02	0,06	-0,06	8,59	0,00
P8	15x30	5,49	6,79	0,81	0,07	0,07	0,14	-0,14	0,05	-0,05	0,06	-0,06	13,21	0,00
P9	30x30	7,04	7,30	0,78	0,07	0,07	0,20	-0,20	-0,04	0,04	0,08	-0,08	15,30	0,00
P10	30x30	6,54	6,70	0,64	0,03	0,03	0,21	-0,21	0,02	-0,02	0,08	-0,08	14,06	0,00
P11	30x30	5,17	4,55	0,40	0,09	0,09	0,21	-0,21	0,04	-0,04	0,05	-0,05	10,28	0,00
P12	15x30	4,46	4,80	1,23	0,08	0,08	0,05	-0,05	-0,04	0,04	-0,01	0,01	10,55	0,00
P13	15x30	6,34	7,17	3,46	0,07	0,07	0,13	-0,13	0,03	-0,03	-0,05	0,05	17,09	0,00
P14	15x30	5,00	6,30	2,61	0,02	0,02	0,14	-0,14	-0,01	0,01	-0,05	0,05	14,03	0,00
P15	15x30	7,95	7,10	4,58	0,01	0,01	0,20	-0,20	0,01	-0,01	-0,08	0,08	19,80	0,00
P16	15x30	6,90	5,56	3,37	0,05	0,05	0,20	-0,20	-0,03	0,03	-0,09	0,09	16,00	0,00
P17	15x30	2,58	2,09	1,15	0,01	0,01	0,10	-0,10	-0,01	0,01	-0,05	0,05	5,91	0,00
P18	15x30	6,77	8,54	1,90	0,05	0,05	0,12	-0,12	0,03	-0,03	-0,05	0,05	17,31	0,00
P19	30x30	6,75	7,59	1,19	0,08	0,08	0,19	-0,19	-0,05	0,05	-0,07	0,07	15,69	0,00
P20	30x30	7,67	8,45	1,52	0,03	0,03	0,19	-0,19	0,03	-0,03	-0,07	0,07	17,81	0,00

P21	30x30	6,21	6,33	0,71	0,07	-0,07	0,02	-0,02	0,04	-0,04	0,00	0,00	13,32	0,00
P22	30x30	7,23	7,24	1,75	0,09	0,09	0,12	-0,12	-0,05	0,05	0,05	-0,05	16,32	0,00
P23	30x30	7,72	8,70	3,27	0,06	0,06	0,24	-0,24	0,03	-0,03	0,09	-0,09	19,89	0,00
P24	15x30	4,43	5,24	2,12	0,00	0,00	0,14	-0,14	0,00	0,00	0,06	-0,06	11,91	0,00
P25	30x30	6,53	7,10	3,16	0,02	0,02	0,24	-0,24	-0,02	0,02	0,10	-0,10	16,99	0,00
P26	30x30	11,03	10,34	5,22	0,04	0,04	0,14	-0,14	-0,02	0,02	0,06	-0,06	26,71	0,00
P27	30x30	5,44	4,26	2,20	0,06	0,06	0,17	-0,17	0,04	-0,04	0,09	-0,09	12,05	0,00
P28	30x30	6,58	5,02	2,53	0,00	0,00	0,13	-0,13	0,00	0,00	0,06	-0,06	14,25	0,00
P29	30x30	6,53	5,65	1,27	0,03	0,03	0,19	-0,19	-0,02	0,02	0,08	-0,08	13,61	0,00
P30	30x30	7,88	9,56	1,55	0,04	0,04	0,19	-0,19	0,03	-0,03	0,07	-0,07	19,14	0,00
P31	30x30	6,94	7,39	0,91	0,05	0,05	0,02	-0,02	0,03	-0,03	-0,01	0,01	15,29	0,00
P32	30x30	5,80	5,08	1,02	0,13	0,13	0,25	-0,25	-0,06	0,06	-0,09	0,09	12,11	0,00
P33	30x30	7,65	7,85	2,00	0,04	0,04	0,25	-0,25	0,03	-0,03	-0,10	0,10	17,72	0,00
P34	15x30	4,46	4,97	1,43	0,01	0,01	0,15	-0,15	0,00	0,00	-0,06	0,06	11,00	0,00
P35	30x30	6,45	6,19	1,80	0,05	0,05	0,24	-0,24	-0,02	0,02	-0,11	0,11	14,64	0,00
P36	30x30	6,74	6,50	1,36	0,04	0,04	0,18	-0,18	-0,03	0,03	-0,09	0,09	14,75	0,00
P37	30x30	7,18	5,93	2,34	0,11	0,11	0,04	-0,04	0,06	-0,06	-0,03	0,03	15,55	0,00

P38	30x30	8,32	8,09	2,61	-0,04	0,04	0,00	0,00	-0,02	0,02	-0,02	0,02	19,06	0,00
P39	30x30	7,14	7,10	0,85	-0,01	0,01	-0,19	0,19	-0,01	0,01	-0,09	0,09	15,24	0,00
P40	30x30	7,87	8,53	0,92	0,04	0,04	-0,21	0,21	0,02	-0,02	-0,08	0,08	17,50	0,00
P41	30x30	5,88	5,66	0,53	0,06	-0,06	-0,21	0,21	0,03	-0,03	-0,05	0,05	12,23	0,00
P42	40x40	6,34	3,44	0,00	-0,06	0,06	-0,09	0,09	-0,02	0,02	0,02	-0,02	9,89	0,00
P43	40x40	6,64	3,51	0,00	0,00	0,00	-0,01	0,01	0,00	0,00	0,00	0,00	10,17	0,00
P44	40x40	6,34	3,56	0,00	0,06	-0,06	-0,09	0,09	0,02	-0,02	0,02	-0,02	10,00	0,00
P45	30x30	5,74	5,31	0,40	-0,06	0,06	-0,20	0,20	-0,03	0,03	0,07	-0,07	11,61	0,00
P46	15x30	5,59	7,05	0,61	-0,04	0,04	-0,09	0,09	-0,03	0,03	0,04	-0,04	13,32	0,00
P47	30x30	4,65	3,99	0,43	0,05	-0,05	-0,19	0,19	0,03	-0,03	0,09	-0,09	9,23	0,00
P48	15x30	4,37	5,04	0,50	0,00	0,00	-0,13	0,13	0,00	0,00	0,06	-0,06	10,01	0,00
P49	30x30	5,95	5,88	0,57	0,02	-0,02	-0,19	0,19	0,01	-0,01	0,08	-0,08	12,55	0,00
P50	15x30	4,16	4,89	0,43	-0,03	0,03	-0,13	0,13	-0,02	0,02	0,06	-0,06	9,60	0,00
P51	30x30	4,91	4,63	0,40	-0,05	0,05	-0,15	0,15	-0,03	0,03	0,07	-0,07	10,08	0,00
P52	15x30	3,49	4,08	0,32	0,02	-0,02	-0,08	0,08	0,01	-0,01	0,04	-0,04	7,96	0,00
P53	30x30	5,29	5,19	0,43	0,07	-0,07	-0,17	0,17	0,04	-0,04	0,09	-0,09	11,07	0,00
P54	15x30	4,99	5,58	0,56	-0,03	0,03	-0,09	0,09	-0,02	0,02	0,05	-0,05	11,22	0,00

P55	30x30	7,23	7,11	2,18	0,06	-0,06	-0,01	0,01	0,03	-0,03	0,00	0,00	16,58	0,00
P56	30x30	7,62	7,34	2,94	0,04	-0,04	-0,02	0,02	-0,01	0,01	0,00	0,00	17,92	0,00
P57	15x30	5,13	5,46	1,54	0,04	-0,04	0,11	0,11	0,03	-0,03	0,06	-0,06	12,24	0,00
P58	15x30	4,42	4,87	1,39	0,00	-0,00	0,13	-0,13	0,00	0,00	0,06	-0,06	10,80	0,00
P59	15x30	5,30	6,15	1,83	0,01	-0,01	0,13	-0,13	0,01	-0,01	0,06	-0,06	13,40	0,00
P60	15x30	5,21	6,02	1,79	0,09	-0,09	0,13	-0,13	-0,05	0,05	0,06	-0,06	13,12	0,00
P61	30x30	4,49	3,74	0,84	0,09	-0,09	0,18	-0,18	0,05	-0,05	0,08	-0,08	9,22	0,00
P62	40x40	7,36	2,29	0,00	0,02	-0,02	-0,01	0,01	-0,01	0,01	0,00	0,00	9,67	0,00
P63	30x30	2,69	0,28	0,00	0,00	-0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,97	0,00
P64	40x40	7,36	2,20	0,00	0,02	-0,02	0,01	-0,01	0,01	-0,01	0,00	0,00	9,59	0,00
P65	30x30	7,08	7,65	1,09	0,07	-0,07	0,04	-0,04	-0,05	0,05	0,02	-0,02	15,89	0,00
P66	15x30	6,07	8,16	1,70	0,09	-0,09	0,10	-0,10	-0,07	0,07	-0,05	0,05	16,02	0,00
P67	30x30	3,88	4,07	0,89	0,11	-0,11	0,16	-0,16	0,08	-0,08	-0,07	0,07	8,97	0,00
P68	15x30	4,25	5,77	1,38	0,02	-0,02	0,12	-0,12	-0,01	0,01	-0,05	0,05	11,50	0,00
P69	30x30	5,74	6,73	1,74	0,01	-0,01	0,14	-0,14	0,01	-0,01	-0,06	0,06	14,33	0,00
P70	15x30	4,57	5,46	1,37	0,04	-0,04	0,12	-0,12	-0,02	0,02	-0,06	0,06	11,52	0,00
P71	30x30	5,03	4,59	1,05	0,05	-0,05	0,10	-0,10	-0,03	0,03	-0,05	0,05	10,76	0,00

P72	15x3 0	3,46	3,74	0,86	0,0 1	- 0,0 1	- 0,0 5	0,0 5	0,01	-0,01	-0,03	0,03	8,11	0,00
P73	30x3 0	4,97	4,78	1,15	0,0 5	- 0,0 5	- 0,1 6	0,1 6	0,04	-0,04	-0,08	0,08	11,0 4	0,00
P74	15x3 0	4,36	5,72	1,08	0,0 2	- 0,0 2	- 0,1 0	0,1 0	-0,01	0,01	-0,05	0,05	11,2 5	0,00
P75	30x3 0	5,25	4,74	1,68	0,0 2	- 0,0 2	- 0,0 6	0,0 6	0,02	-0,02	-0,03	0,03	11,7 3	0,00
P76	30x3 0	5,55	5,33	2,73	0,0 1	- 0,0 1	- 0,0 6	0,0 6	0,00	0,00	-0,03	0,03	13,6 6	0,00
P77	15x3 0	4,94	5,96	2,51	0,0 4	- 0,0 4	- 0,1 1	0,1 1	0,03	-0,03	-0,05	0,05	13,5 0	0,00
P78	15x3 0	4,55	5,33	2,27	0,0 0	- 0,0 0	- 0,1 2	0,1 2	0,00	0,00	-0,05	0,05	12,2 5	0,00
P79	15x3 0	5,58	6,82	3,02	0,0 2	- 0,0 2	- 0,1 2	0,1 2	0,01	-0,01	-0,05	0,05	15,5 2	0,00
P80	15x3 0	5,54	6,69	2,97	0,0 8	- 0,0 8	- 0,1 0	0,1 0	-0,05	0,05	-0,05	0,05	15,3 0	0,00
P81	30x3 0	5,41	5,09	1,39	0,0 9	- 0,0 9	- 0,0 5	0,0 5	0,05	-0,05	0,02	-0,02	11,9 8	0,00
P82	40x4 0	7,36	2,29	0,00	0,0 2	- 0,0 2	- 0,0 1	0,0 1	-0,01	0,01	0,00	0,00	9,67	0,00
P83	30x3 0	2,69	0,28	0,00	0,0 0	- 0,0 0	- 0,0 0	0,0 0	0,00	0,00	0,00	0,00	2,97	0,00
P86	15x3 0	7,02	8,66	2,82	0,2 1	- 0,2 1	- 0,0 3	0,0 3	0,13	-0,13	0,02	-0,02	18,7 1	0,00
P87	30x3 0	10,9 9	11,37	3,95	0,0 6	- 0,0 6	- 0,1 0	0,1 0	-0,04	0,04	0,04	-0,04	26,4 0	0,00
P88	15x3 0	4,52	6,03	1,25	0,0 6	- 0,0 6	- 0,0 9	0,0 9	0,04	-0,04	0,04	-0,04	11,8 7	0,00
P89	30x3 0	10,9 2	9,84	4,15	0,0 0	- 0,0 0	- 0,0 3	0,0 3	0,00	0,00	-0,02	0,02	24,9 4	0,00
P90	30x3 0	10,1 0	9,56	3,98	0,0 5	- 0,0 5	- 0,0 2	0,0 2	-0,03	0,03	0,01	-0,01	23,6 9	0,00

P91	30x30	6,65	6,01	2,34	-0,02	0,02	0,01	-0,01	-0,01	0,01	0,01	-0,01	15,02	0,00
P92	30x30	8,04	7,45	3,01	0,01	0,01	0,01	0,01	0,00	0,00	0,01	-0,01	18,51	0,00
P93	30x30	7,57	7,29	3,12	0,05	0,05	0,00	0,00	0,03	-0,03	0,00	0,00	18,03	0,00
P94	30x30	7,64	6,03	4,16	-0,01	0,01	0,00	0,00	-0,01	0,01	0,00	0,00	17,84	0,00
P95	30x30	8,50	7,90	4,49	0,02	0,02	0,11	0,11	0,02	-0,02	0,06	-0,06	21,01	0,00
P96	30x30	8,77	9,95	4,72	-0,05	0,05	0,12	0,12	-0,02	0,02	0,07	-0,07	23,54	0,00
P97	30x30	7,71	7,62	2,44	0,09	0,09	0,10	0,10	0,05	-0,05	-0,05	0,05	17,85	0,00
P98	15x30	6,58	6,51	4,28	-0,01	0,01	0,07	0,07	-0,01	0,01	0,02	-0,02	17,41	0,00
P99	15x30	6,49	6,42	4,18	0,00	0,00	0,08	0,08	0,00	0,00	0,02	-0,02	17,15	0,00
P100	40x40	6,34	3,44	0,00	-0,06	0,06	0,09	0,09	-0,02	0,02	-0,02	0,02	9,89	0,00
P101	40x40	6,64	3,51	0,00	0,00	0,00	0,01	0,01	0,00	0,00	0,00	0,00	10,17	0,00
P104	15x30	6,15	7,07	0,82	0,17	0,17	0,07	0,07	0,11	-0,11	-0,02	0,02	14,20	0,00
P105	30x30	7,85	7,87	1,00	-0,05	0,05	0,12	0,12	-0,04	0,04	-0,05	0,05	16,82	0,00
P106	15x30	4,64	4,96	0,30	0,03	0,03	0,06	0,06	0,02	-0,02	-0,03	0,03	9,96	0,00
P107	30x30	10,21	10,90	1,83	0,00	0,00	0,19	0,19	0,00	0,00	0,09	-0,09	23,11	0,00
P108	30x30	11,20	13,07	2,13	-0,05	0,05	0,08	0,08	-0,05	0,05	0,05	-0,05	26,48	0,00
P109	30x30	10,32	7,43	1,91	-0,02	0,02	0,01	0,01	-0,01	0,01	-0,01	0,01	19,67	0,00

P11 0	30x3 0	10,6 7	7,98	2,06	0,0 0	0,0 0	- 0,0 1	0,0 1	0,00	0,00	-0,01	0,01	20,7 3	0,00
P11 1	30x3 0	8,70	8,93	2,66	0,0 7	0,0 7	0,0 8	0,0 8	0,05	-0,05	0,05	-0,05	20,3 6	0,00
P11 2	30x3 0	8,94	8,75	3,51	0,0 4	0,0 4	0,1 0	0,1 0	-0,01	0,01	0,03	-0,03	21,2 9	0,00
P11 3	30x3 0	8,18	8,14	2,30	0,0 3	0,0 3	0,2 0	0,2 0	0,02	-0,02	-0,09	0,09	18,8 0	0,00
P11 4	30x3 0	8,03	8,07	2,28	0,0 3	0,0 3	0,2 3	0,2 3	-0,02	0,02	-0,10	0,10	18,5 8	0,00
P11 5	30x3 0	6,40	5,65	1,53	0,1 1	0,1 1	0,1 3	0,1 3	0,05	-0,05	-0,05	0,05	13,6 9	0,00
P11 6	circu lar	8,23	4,37	1,26	0,0 2	0,0 2	0,1 4	0,1 4	0,00	0,00	-0,07	0,07	13,9 9	0,00
P11 7	14x3 0	0,58	0,06	0,04	0,0 1	0,0 1	0,0 3	0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P11 8	14x3 0	0,79	0,15	0,10	0,0 0	0,0 0	0,0 2	0,0 2	0,00	0,00	0,00	0,00	1,05	0,00
P11 9	14x3 0	0,58	0,06	0,04	0,0 1	0,0 1	0,0 3	0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P12 0	14x3 0	0,58	0,06	0,04	0,0 1	0,0 1	0,0 3	0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P12 1	14x3 0	0,79	0,15	0,10	0,0 0	0,0 0	0,0 2	0,0 2	0,00	0,00	0,00	0,00	1,05	0,00
P12 2	14x3 0	0,58	0,06	0,04	0,0 1	0,0 1	0,0 3	0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P13 1	30x3 0	9,65	9,40	3,99	0,0 2	0,0 2	0,1 0	0,1 0	0,00	0,00	-0,04	0,04	23,1 3	0,00
P13 2	30x3 0	8,28	8,79	3,11	0,0 1	0,0 1	0,0 9	0,0 9	0,01	-0,01	0,05	-0,05	20,2 6	0,00
P13 3	30x3 0	7,72	8,40	2,92	0,0 0	0,0 0	0,1 1	0,1 1	0,00	0,00	0,05	-0,05	19,1 4	0,00
P13 4	30x3 0	7,90	8,62	3,00	0,0 3	0,0 3	0,1 1	0,1 1	-0,02	0,02	0,05	-0,05	19,6 1	0,00

P13 5	30x3 0	5,72	5,26	1,40	0,1 0	- 0,1 0	0,1 2	- 0,1 2	0,06	-0,06	0,05	-0,05	12,4 9	0,00
P14 2	14x3 0	0,58	0,06	0,04	- 0,0 1	- 0,0 1	- 0,0 3	- 0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P14 3	14x3 0	0,79	0,15	0,10	0,0 0	0,0 0	- 0,0 2	- 0,0 2	0,00	0,00	0,00	0,00	1,05	0,00
P14 4	14x3 0	0,58	0,06	0,04	0,0 1	- 0,0 1	- 0,0 3	- 0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P14 5	14x3 0	0,58	0,06	0,04	- 0,0 1	0,0 1	- 0,0 3	- 0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P14 6	14x3 0	0,79	0,15	0,10	0,0 0	0,0 0	- 0,0 2	- 0,0 2	0,00	0,00	0,00	0,00	1,05	0,00
P14 7	14x3 0	0,58	0,06	0,04	0,0 1	- 0,0 1	- 0,0 3	- 0,0 3	0,00	0,00	0,00	0,00	0,70	0,00
P15 0	circu lar	9,08	5,34	1,60	0,0 3	- 0,0 3	0,0 3	- 0,0 3	0,01	-0,01	0,02	-0,02	16,0 5	0,00
P15 3	30x3 0	3,77	2,75	0,18	- 0,1 1	0,1 1	0,3 0	- 0,3 0	-0,06	0,06	0,10	-0,10	7,00	0,00
P15 4	30x3 0	5,31	5,11	0,38	0,0 3	- 0,0 3	0,2 8	- 0,2 8	0,02	-0,02	0,11	-0,11	11,0 4	0,00
P15 5	30x3 0	5,81	5,65	0,22	0,0 2	- 0,0 2	0,2 9	- 0,2 9	0,02	-0,02	0,12	-0,12	11,9 8	0,00
P15 6	30x3 0	5,71	5,47	0,19	- 0,0 1	0,0 1	0,2 9	- 0,2 9	-0,01	0,01	0,12	-0,12	11,6 7	0,00
P15 7	30x3 0	5,99	5,88	0,16	0,0 4	- 0,0 4	0,3 0	- 0,3 0	0,03	-0,03	0,13	-0,13	12,3 6	0,00
P15 8	30x3 0	5,09	4,13	-0,19	- 0,1 4	0,1 4	0,2 8	- 0,2 8	-0,10	0,10	0,13	-0,13	9,58	0,00
P15 9	30x3 0	5,91	6,22	0,59	0,1 3	- 0,1 3	0,1 3	- 0,1 3	0,08	-0,08	0,08	-0,08	12,8 4	0,00
P16 0	30x3 0	10,7 1	10,87	1,80	- 0,0 9	0,0 9	0,1 3	- 0,1 3	-0,06	0,06	-0,06	0,06	23,5 0	0,00
P16 9	30x3 0	7,65	6,47	1,61	0,0 8	- 0,0 8	- 0,0 4	0,0 4	0,05	-0,05	-0,01	0,01	15,8 2	0,00

P17 0	30x3 0	7,27	7,50	4,03	- 0,0 1	0,0 1	0,0 1	- 0,0 1	-0,01	0,01	0,01	-0,01	18,8 1	0,00
P17 1	30x3 0	8,71	9,97	4,94	0,0 0	0,0 0	- 0,0 4	0,0 4	0,00	0,00	-0,02	0,02	23,6 5	0,00
P17 2	30x3 0	8,41	9,51	4,66	0,0 1	- 0,0 1	- 0,0 5	0,0 5	0,00	0,00	-0,02	0,02	22,6 3	0,00
P17 3	30x3 0	9,40	10,56	5,55	- 0,0 4	0,0 4	- 0,0 7	0,0 7	-0,02	0,02	-0,03	0,03	25,5 7	0,00
P17 4	30x3 0	6,85	6,74	2,13	0,0 8	- 0,0 8	0,1 4	- 0,1 4	0,06	-0,06	0,07	-0,07	15,8 5	0,00
P17 5	30x3 0	6,13	5,11	0,73	- 0,0 5	0,0 5	- 0,2 0	0,2 0	-0,03	0,03	-0,07	0,07	12,1 3	0,00
P17 6	30x3 0	6,67	6,29	1,47	0,0 3	- 0,0 3	- 0,2 5	0,2 5	0,01	-0,01	-0,10	0,10	14,6 3	0,00
P17 7	30x3 0	8,83	8,85	2,69	0,0 0	0,0 0	- 0,2 3	0,2 3	0,00	0,00	-0,09	0,09	20,5 7	0,00
P17 8	30x3 0	8,54	8,65	2,70	- 0,0 1	0,0 1	- 0,2 2	0,2 2	-0,01	0,01	-0,09	0,09	20,0 8	0,00
P17 9	30x3 0	9,87	9,72	3,21	0,0 0	0,0 0	- 0,2 3	0,2 3	0,00	0,00	-0,09	0,09	22,9 9	0,00
P18 0	30x3 0	8,94	8,91	2,81	- 0,1 4	0,1 4	- 0,2 1	0,2 1	-0,11	0,11	-0,09	0,09	20,8 4	0,00
P18 1	30x3 0	9,73	12,61	1,91	0,1 1	- 0,1 1	- 0,1 6	0,1 6	0,09	-0,09	-0,08	0,08	24,3 9	0,00
P18 2	30x3 0	9,64	12,37	1,72	- 0,0 6	0,0 6	- 0,1 3	0,1 3	-0,05	0,05	0,07	-0,07	23,8 5	0,00
P18 3	30x3 0	4,99	4,07	0,77	0,0 0	0,0 0	- 0,0 4	0,0 4	0,00	0,00	-0,03	0,03	9,88	0,00
P18 4	30x3 0	7,45	7,04	2,04	0,0 3	- 0,0 3	- 0,0 8	0,0 8	0,03	-0,03	-0,04	0,04	16,6 1	0,00
P18 5	30x3 0	6,80	7,75	2,23	- 0,0 4	0,0 4	- 0,0 2	0,0 2	-0,03	0,03	-0,01	0,01	16,8 3	0,00
P18 6	30x3 0	8,54	8,62	3,92	0,0 6	- 0,0 6	- 0,0 4	0,0 4	0,05	-0,05	-0,02	0,02	21,1 4	0,00

P18 7	30x3 0	8,91	9,63	4,58	- 0,0 1	0,0 1	0,0 6	- 0,0 6	-0,01	0,01	0,02	-0,02	23,1 7	0,00
P18 8	30x3 0	8,54	9,53	4,58	0,0 4	- 0,0 4	0,0 5	- 0,0 5	0,03	-0,03	0,02	-0,02	22,7 0	0,00
P18 9	15x3 0	4,71	5,60	1,68	- 0,0 6	0,0 6	0,0 9	- 0,0 9	-0,03	0,03	0,05	-0,05	12,0 7	0,00
P19 0	30x3 0	7,52	7,65	1,71	0,1 0	- 0,1 0	0,1 2	- 0,1 2	0,06	-0,06	-0,06	0,06	16,9 8	0,00
P19 1	15x2 5	5,90	6,01	2,03	0,0 0	0,0 0	- 0,0 8	0,0 8	0,00	0,00	-0,04	0,04	14,0 1	0,00
P19 2	15x3 0	6,25	6,94	3,49	- 0,0 2	0,0 2	- 0,0 7	0,0 7	-0,02	0,02	-0,05	0,05	16,7 5	0,00
P19 3	15x3 0	3,58	3,46	1,20	- 0,0 8	0,0 8	0,0 2	- 0,0 2	-0,07	0,07	0,01	-0,01	8,32	0,00
P19 4	15x3 0	4,80	4,92	2,10	0,0 9	- 0,0 9	0,0 2	- 0,0 2	0,07	-0,07	0,01	-0,01	11,9 1	0,00
P19 5	15x2 5	0,48	0,43	0,00	0,0 0	0,0 0	0,0 0	0,0 0	0,00	0,00	0,00	0,00	0,91	0,00
P19 6	15x3 0	8,54	11,02	2,97	0,0 4	- 0,0 4	0,0 4	- 0,0 4	0,03	-0,03	0,02	-0,02	22,5 7	0,00
P19 7	30x3 0	6,39	5,98	1,05	- 0,1 2	0,1 2	0,1 5	- 0,1 5	-0,07	0,07	0,05	-0,05	13,5 4	0,00
P19 8	30x3 0	4,94	5,91	1,14	0,0 4	- 0,0 4	0,0 3	- 0,0 3	0,02	-0,02	0,01	-0,01	12,0 3	0,00
P19 9	30x3 0	9,60	11,56	3,82	0,0 2	- 0,0 2	0,0 4	- 0,0 4	0,02	-0,02	-0,02	0,02	25,0 1	0,00
P20 0	30x3 0	9,90	11,90	4,11	- 0,0 3	0,0 3	- 0,0 3	0,0 3	-0,02	0,02	-0,02	0,02	25,9 4	0,00
P20 1	30x3 0	10,4 8	12,64	4,42	0,0 3	- 0,0 3	0,0 3	- 0,0 3	0,02	-0,02	-0,02	0,02	27,5 7	0,00
P20 2	30x3 0	8,15	9,55	3,38	- 0,0 1	0,0 1	- 0,0 5	0,0 5	0,00	0,00	-0,02	0,02	21,1 3	0,00
P20 3	30x3 0	6,86	7,83	1,47	- 0,0 1	0,0 1	0,0 2	- 0,0 2	-0,01	0,01	0,01	-0,01	16,1 8	0,00

P20 4	30x3 0	8,25	9,13	2,46	- 0,0 9	0,0 9	- 0,0 7	0,0 7	-0,07	0,07	-0,04	0,04	19,9 4	0,00
P20 5	30x3 0	11,2 5	10,18	4,14	0,0 9	- 0,0 9	0,0 6	- 0,0 6	0,07	-0,07	0,03	-0,03	25,6 7	0,00
P20 6	30x3 0	14,8 5	11,82	4,26	- 0,0 7	0,0 7	- 0,0 5	0,0 5	-0,05	0,05	0,03	-0,03	31,0 0	0,00
P20 7	30x3 0	8,41	5,46	2,37	- 0,0 1	0,0 1	- 0,0 4	0,0 4	-0,02	0,02	-0,02	0,02	16,2 8	0,00
P20 8	30x3 0	6,85	7,07	2,47	0,0 4	- 0,0 4	- 0,1 1	0,1 1	0,03	-0,03	-0,05	0,05	16,4 8	0,00
P20 9	30x3 0	8,94	9,89	3,43	0,0 5	- 0,0 5	- 0,1 2	0,1 2	0,03	-0,03	-0,05	0,05	22,3 6	0,00
P21 0	15x3 0	6,09	7,01	1,83	- 0,0 7	0,0 7	- 0,0 8	0,0 8	-0,06	0,06	-0,03	0,03	15,0 1	0,00
P21 1	30x3 0	4,50	3,61	0,71	0,1 3	- 0,1 3	- 0,1 1	0,1 1	0,09	-0,09	-0,05	0,05	8,95	0,00
P21 2	30x3 0	5,82	5,46	0,34	- 0,1 0	0,1 0	- 0,1 1	0,1 1	-0,07	0,07	-0,04	0,04	11,7 2	0,00
P21 3	30x3 0	6,75	7,54	1,15	- 0,0 1	0,0 1	0,0 6	- 0,0 6	-0,02	0,02	0,02	-0,02	15,4 9	0,00
P21 4	30x3 0	5,70	6,46	0,85	0,0 7	- 0,0 7	0,0 7	- 0,0 7	0,06	-0,06	0,03	-0,03	13,0 8	0,00
P21 5	20x3 0	7,69	9,37	1,34	0,0 2	- 0,0 2	0,0 5	- 0,0 5	0,02	-0,02	0,02	-0,02	18,4 5	0,00
P21 6	30x3 0	7,52	8,55	1,02	- 0,0 4	0,0 4	0,0 7	- 0,0 7	-0,03	0,03	0,03	-0,03	17,1 6	0,00
P21 7	15x3 0	5,22	6,38	0,86	0,0 3	- 0,0 3	0,0 5	- 0,0 5	0,02	-0,02	0,02	-0,02	12,5 0	0,00
P21 8	30x3 0	9,12	8,67	1,50	- 0,0 1	0,0 1	0,0 7	- 0,0 7	0,00	0,00	0,03	-0,03	19,3 5	0,00
P21 9	15x3 0	5,07	6,61	0,85	0,0 1	- 0,0 1	0,1 6	- 0,1 6	0,01	-0,01	0,09	-0,09	12,6 7	0,00
P22 0	15x3 0	3,50	4,44	0,35	0,0 2	- 0,0 2	0,0 5	- 0,0 5	0,02	-0,02	0,02	-0,02	8,34	0,00

P22 1	15x3 0	4,36	4,18	0,80	0,0 0	0,0 0	- 0,0 5	0,0 5	0,00	0,00	-0,02	0,02	9,38	0,00
P22 2	30x3 0	10,0 9	6,16	0,98	- 0,1 4	0,1 4	0,1 0	- 0,1 0	-0,10	0,10	0,04	-0,04	17,3 7	0,00
P22 3	30x3 0	7,81	4,88	0,41	0,0 9	0,0 9	0,0 9	0,0 9	0,07	-0,07	-0,05	0,05	13,2 0	0,00
P22 4	30x3 0	7,85	3,85	0,31	0,0 0	0,0 0	- 0,1 9	0,1 9	0,00	0,00	-0,10	0,10	12,1 9	0,00
P22 5	30x3 0	7,56	1,71	0,45	- 0,0 2	0,0 2	- 0,0 7	0,0 7	-0,01	0,01	-0,04	0,04	9,79	0,00
P22 6	30x3 0	7,58	1,30	0,57	- 0,0 1	0,0 1	- 0,0 1	0,0 1	-0,01	0,01	-0,01	0,01	9,47	0,00
P22 7	30x3 5	7,56	-0,24	0,20	0,1 1	- 0,1 1	- 0,1 5	0,1 5	0,08	-0,08	-0,07	0,07	7,65	0,00
P22 8	30x3 0	4,91	4,25	0,25	- 0,1 1	0,1 1	- 0,1 2	0,1 2	-0,07	0,07	-0,04	0,04	9,52	0,00
P22 9	30x3 0	6,06	6,27	0,59	- 0,0 3	0,0 3	- 0,1 0	0,1 0	-0,03	0,03	-0,04	0,04	13,0 1	0,00
P23 0	30x3 0	6,14	6,21	0,71	0,0 6	- 0,0 6	- 0,1 1	0,1 1	0,04	-0,04	-0,04	0,04	13,1 5	0,00
P23 1	30x3 0	9,78	10,05	1,39	0,0 2	- 0,0 2	- 0,0 8	0,0 8	0,02	-0,02	-0,03	0,03	21,2 8	0,00
P23 2	30x3 0	8,54	8,54	1,07	- 0,0 7	0,0 7	- 0,1 2	0,1 2	-0,05	0,05	-0,05	0,05	18,2 5	0,00
P23 3	30x3 0	7,39	7,41	0,93	0,0 5	- 0,0 5	- 0,0 6	0,0 6	0,04	-0,04	-0,03	0,03	15,7 8	0,00
P23 4	30x3 0	7,41	6,86	0,72	- 0,0 8	0,0 8	- 0,1 2	0,1 2	-0,06	0,06	-0,05	0,05	15,0 9	0,00
P23 5	30x3 0	3,76	2,77	0,18	0,1 2	- 0,1 2	- 0,1 9	0,1 9	0,08	-0,08	-0,09	0,09	6,90	0,00
P84	40x4 0	7,36	2,20	0,00	0,0 2	- 0,0 2	0,0 1	- 0,0 1	0,01	-0,01	0,00	0,00	9,59	0,00
P85	30x3 0	5,54	4,67	0,52	- 0,2 5	0,2 5	- 0,1 0	0,1 0	-0,15	0,15	-0,05	0,05	10,9 7	0,00

P10 2	40x4 0	6,34	3,56	0,00	0,0 6	- 0,0 6	- 0,0 9	0,0 9	0,02	-0,02	-0,02	0,02	10,0 0	0,00
P10 3	30x3 0	4,36	3,24	0,26	0,2 4	0,2 4	- 0,1 0	0,1 0	-0,14	0,14	-0,04	0,04	8,12	0,00
P12 3	30x3 0	11,6 0	9,45	2,04	0,0 0	0,0 0	- 0,0 7	0,0 7	0,02	-0,02	-0,04	0,04	23,1 6	0,00
P12 4	14x2 0	2,84	1,09	0,73	0,0 0	0,0 0	0,0 2	- 0,0 2	-0,01	0,01	0,00	0,00	4,68	0,00
P12 9	14x2 0	2,72	1,01	0,74	0,0 0	0,0 0	0,0 2	- 0,0 2	0,01	-0,01	0,00	0,00	4,48	0,00
P13 0	30x3 0	9,56	7,75	2,27	- 0,0 3	0,0 3	- 0,0 7	0,0 7	-0,05	0,05	-0,04	0,04	19,6 4	0,00
P16 3	14x2 0	2,73	1,00	0,69	- 0,0 1	0,0 1	0,1 3	- 0,1 3	-0,01	0,01	0,05	-0,05	4,52	0,00
P16 4	30x3 0	7,30	4,90	0,98	0,0 1	- 0,0 1	- 0,0 6	0,0 6	0,00	0,00	0,00	0,00	13,2 2	0,00
P16 5	30x3 0	7,66	5,20	0,93	- 0,0 2	0,0 2	- 0,0 4	0,0 4	-0,01	0,01	0,00	0,00	13,8 1	0,00
P16 6	14x2 0	2,68	1,03	0,66	0,0 1	- 0,0 1	0,1 2	- 0,1 2	0,01	-0,01	0,04	-0,04	4,47	0,00
LA1		27,6 3	9,42	8,09	0,0 0	0,0 0	0,0 5	- 0,0 5	0,00	0,00	0,01	-0,01	45,1 9	0,00

Relatório de Cargas nas Fundações - Resíduos

Fundação		Carga (tf)											Carga máxima (tf)	
No me	Seç ão (cm)	Peso próp rio	Adici onal	Acide ntal	Ven to X+	Ven to X-	Ven to Y+	Ven to Y-	Desapr umo X+	Desapr umo X-	Desapr umo Y+	Desapr umo Y-	Posit iva	Nega tiva
P1	15x 25	1,09	1,01	0,07	- 0,2 6	0,2 6	0,0 2	- 0,0 2	-0,03	0,03	0,01	-0,01	2,43	0,00

P2	15x 25	1,14	0,94	0,07	0,2 6	- 0,2 6	0,0 2	- 0,0 2	0,03	-0,03	0,02	-0,02	2,41	0,00
P3	14x 30	2,20	2,30	0,24	0,3 1	0,3 1	0,0 0	0,0 0	-0,03	0,03	0,00	0,00	5,00	0,00
P4	14x 30	2,43	2,33	0,24	0,3 2	0,3 2	0,0 1	0,0 1	0,03	-0,03	-0,01	0,01	5,27	0,00
P5	15x 25	1,25	1,23	0,09	0,2 7	0,2 7	0,0 1	0,0 1	-0,03	0,03	-0,01	0,01	2,83	0,00
P6	15x 25	1,25	0,69	0,09	0,2 7	0,2 7	0,0 2	0,0 2	0,03	-0,03	-0,01	0,01	2,29	0,00

Relatório de Cargas nas Fundações - Gases

Fundação		Carga (tf)												Carga máxima (tf)	
No me	Seção (cm)	Peso próprio	Adicional	Acidental	Vento X+	Vento X-	Vento Y+	Vento Y-	Desaprumo X+	Desaprumo X-	Desaprumo Y+	Desaprumo Y-	Positiva	Negativa	
P1	14x25	0,65	0,11	0,06	-0,17	0,17	0,09	-0,09	-0,02	0,02	0,01	-0,01	0,98	0,00	
P2	14x25	0,69	0,14	0,08	-0,17	0,17	0,09	-0,09	0,02	-0,02	0,01	-0,01	1,07	0,00	
P3	14x25	0,65	0,11	0,06	-0,17	0,17	0,09	0,09	-0,02	0,02	-0,01	0,01	0,98	0,00	
P4	14x25	0,69	0,14	0,08	-0,17	0,17	0,09	0,09	0,02	-0,02	-0,01	0,01	1,07	0,00	

4. ESPECIFICAÇÕES TÉCNICAS

4.1 CONCRETO ARMADO

O concreto armado a ser utilizado na obra deverá atender às normas e especificações da ABNT e NBR 6118, em sua versão mais atual – Projeto e execução de obras em concreto armado.

O concreto armado moldado “in loco” deverá atingir a tensão característica de projeto $f_{ck} \geq 35 \text{ MPa}$ (350 kgf/cm²).

Com o uso cada vez mais frequente do concreto dosado em central, as etapas de concretagem realizadas com grandes volumes de concreto bombeado e de uma só vez, reduzem as juntas de concretagem permitindo maior homogeneidade da estrutura concretada, com menor perda de água por evaporação e menores defasagens para início das reações do cimento.

Caso o concreto seja produzido no local, o transporte entre a betoneira até o local do lançamento, através de carros de mão, deverá ser feito observando-se alguns cuidados visando amortecer as trepidações que poderão provocar a segregação do concreto.

Recomendamos o uso de carrinhos com rodas pneumáticas transitando em caminhos bem preparados e com rampas suaves.

Qualquer que seja a forma de produção do concreto, julgamos necessário se fazer o controle tecnológico, com especificação da dosagem do traço, definição do fator água/cimento (A/C) e rompimentos de corpos de prova para aferição da resistência à compressão aos 7, 14, 21 e 28 dias, por Empresa tecnicamente idônea e atuante neste segmento.

4.2 MATERIAIS

4.2.1 AÇO PARA ARMADURA DO CONCRETO ARMADO

Todos os aços a serem aplicados na estrutura, deverão apresentar tensão de escoamento, real ou convencional, igual ou superior a 500 MPa (5.000 kgf/cm²) ou 600 MPa (6.000 kgf/cm²).

Além das recomendações das normas, deverão ser atendidas as exigências seguintes:

- As barras de aço não deverão apresentar excesso de ferrugem, manchas de óleo, argamassa aderente ou qualquer outra substância que impeça uma perfeita aderência ao concreto.
- Antes e durante o lançamento do concreto as plataformas de serviço (balancins, andaimes, etc.) deverão estar dispostas de modo a não provocarem deslocamento das armaduras.
- A armadura não poderá ficar em contato direto com a forma, obedecendo-se para isso, a distância mínima prevista pela NBR-6118:2010.
- No caso de cobrimento superior a 6cm (distância entre fôrma e a barra de aço), colocar-se-á uma armadura de pele complementar, em rede, cujo cobrimento não deve ser inferior aos limites mencionados na Norma.
- Nos casos de estruturas resistentes ao fogo, o cobrimento deverá atender às exigências da NBR-5627 (NB-503), além das especificadas neste item.
- Nos casos de estruturas sujeitas a abrasão, a altas temperaturas, a correntes elétricas ou a ambientes fortemente agressivos, deverão ser tomadas medidas especiais para aumentar a proteção da armadura, além de cobrimento mínimo.
- Deverão ser adotadas precauções para evitar oxidação excessiva das barras de espera. Antes do reinício da concretagem elas deverão estar razoavelmente limpas.

- As diferentes partidas de ferro deverão ser depositadas e arrumadas de acordo com a bitola, em lotes aproximadamente iguais, de acordo com a NBR-6118:2007, separadas umas das outras, de modo a ser estabelecida fácil correspondência entre os lotes e as amostras retiradas para ensaios.

4.2.2 AGREGADOS

A dimensão máxima característica do agregado deverá obedecer a NBR-6118:2019.

A qualidade dos agregados deverá ser avaliada através de índices, definidos por normas da ABNT, de acordo com os respectivos valores de qualidade que devem possuir os mesmos. Entretanto, em casos especiais, deverá se recorrer a normas estrangeiras para orientação mais precisa. Os índices de qualidade são assim definidos:

– Resistência aos esforços mecânicos:

Deverão ser executados ensaios conforme NBR-6465 (MB-170), devendo os valores obtidos se encontrarem dentro das prescrições da NBR-7211 (EB-4).

– Teor de substâncias nocivas:

Deverão ser executados ensaios para medição do teor de materiais nocivos, tais como torrões de argila, material pulverulento, etc.

Os ensaios obedecerão as normas NBR-7211 (EB-4), NBR-7218 (MB-8) e NBR-7219 (MB-9).

– Impurezas orgânicas:

Deverão ser executados ensaios para determinação do teor de impurezas orgânicas, conforme NBR-7220 (MB-10), sendo que os resultados obtidos deverão estar dentro dos limites prescritos na BNR-7220 (MB-10) e NBR-7211 (EB-4).

4.2.3 ÁGUA

- A água destinada ao amassamento do concreto obedecerá ao disposto nas NBR 6118 (NB-1) e NBR-6587 (PB-19), além das recomendações a seguir:

- A água considerada satisfatória para os fins aqui previstos será potável, limpa e isenta de ácidos, óleos, álcalis, sais, siltes, açúcares, materiais orgânicos, e outras substâncias agressivas ao concreto e que possam ocasionar alterações na pega do cimento.

– As quantidades máximas de matéria sólida em suspensão e sulfatos, serão respectivamente, 2.000 mg/l e 0,5%.

– Caso ocorra durante a estação chuvosa uma turbidez excessiva da água, deverá ser providenciada decantação ou filtragem.

– A água contaminada não deverá ser utilizada para a finalidade aqui referida, no caso de suspeita de contaminação, deverão ser efetuados ensaios comparativos periódicos para verificação.

4.2.4 CIMENTO

O cimento destinado ao uso do concreto deverá obedecer ao disposto na NBR-6118:2019,

além das recomendações a seguir:

- Nas peças sujeitas a ambientes agressivos, recomenda-se o uso de cimentos que atendam às especificações das Normas NBR-5736 (EB-758) e NBR-5737 (EB-903).
- Não será conveniente, em uma mesma concretagem, a mistura de tipos diferente de cimento, nem de marcas diferentes e ainda que do mesmo tipo.
- Não será conveniente o uso de traços de meio saco ou fração, os volumes mínimos a misturar de cada vez deverão corresponder a um saco de cimento.
- O cimento deverá ser obrigatoriamente medido em peso, não sendo, portanto, recomendável a sua medição em volume.
- A embalagem quando for em sacos deverão estar perfeitos na ocasião da inspeção e ter impressos de forma bem visíveis as seguintes características:
 - Indicação correspondente a 25, 32, 40 MPa (250, 320, 400 kgf/cm²) com 6 cm de altura no mínimo em cada extremidade;
 - No centro, a denominação normalizada, o nome e a marca do fabricante.
- Os sacos de cimento deverão ser armazenados em locais bem secos, protegidos e de forma a permitir fácil acesso à inspeção e identificação de cada embarque. As pilhas deverão ser colocadas sobre um estrado de madeira e não deverão conter mais de 10 sacos.
- A plataforma de madeira deverá ser montada, pelo menos, a 30cm do solo e das paredes do depósito.
- O cimento que não satisfizer a qualquer exigência das normas deverá ser rejeitado.
- O cimento armazenado em sacos por mais de três meses, deverá ser reensaiado, devendo ser igualmente rejeitado se não satisfizer a qualquer exigência das normas.
- As amostras de cimento a ser ensaiado deverão ser colhidas de acordo com a NBR-5741 (MB-508).

4.2.5 FORMA E ESCORAMENTO

Uma laje em processo de concretagem deverá ser suportada por, no mínimo três outras abaixo, quando houver.

Só é possível a total retirada das escoras sob uma laje, quando o concreto atingir 80% do Fck especificado em projeto, respeitando sempre o prazo mínimo de 14 dias.

A substituição das formas por escoras só deve acontecer quando o Fck do concreto for superior a 60% do Fck especificado em projeto, respeitando sempre o prazo mínimo de 4 dias.

As formas laterais de vigas e pilares podem ser retiradas no prazo mínimo de 48 horas (2 dias), após a concretagem.

As formas e escoramentos deverão obedecer às normas, especificações e critérios da NBR-7190 (NB-11) e / ou NB-14.

As formas deverão ser estanques e dimensionadas de modo que não possam sofrer deformações prejudiciais, quer sob a ação dos fatores ambientais, quer sob efeito de

cargas, especialmente a do concreto fresco, considerado nesta o efeito do adensamento sobre o empuxo do concreto.

As formas absorventes deverão ser molhadas até a saturação, antes da concretagem, visando evitar absorção da água do concreto.

Nas peças de grandes vãos, sujeitas a deformações provocadas pelo material nelas introduzido, as formas deverão ser dotadas de contra-flecha necessária.

Antes do início da concretagem, as formas deverão estar limpas e estanques, de modo a evitar eventuais fugas de pasta.

Os escoramentos deverão obedecer aos critérios estabelecidos pela NBR-6118:2019

5. MEMÓRIA DE CÁLCULO (PRÉDIO PRINCIPAL)

Cálculo dos Pilares

COBERTURA	$f_{ck} = 350.00$ kgf/cm ²	$E = 294029$ kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 2		cobr = 2.50 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm ²)
P1	30.00 X 30.00	RR 49.02 RR 49.02	8.47 4.11	703 398	3469 1965	4.94	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P2	15.00 X 30.00	RR 96.88 RR 48.44	12.21 6.23	783 599	1208 924	1.54	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P3	15.00 X 30.00	RR 96.88 RR 48.44	11.38 5.81	714 609	1162 992	1.63	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P4	30.00 X 30.00	RR 48.44 RR 48.44	14.29 7.13	1314 573	4158 1814	3.16	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P5	30.00 X 30.00	RR 49.02 RR 49.02	19.85 10.05	301 4476	335 4988	1.11	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P6	30.00 X 30.00	RR 49.02 RR 49.02	10.19 4.85	19 1194	63 3929	3.29	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P7	30.00 X 30.00	RR 49.02 RR 49.02	6.91 3.00	22 1059	74 3532	3.34	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P8	15.00 X 30.00	RR 96.88 RR 48.44	12.41 7.17	996 622	1246 779	1.25	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P9	30.00	RR	13.03	718	4046	5.64	2.45

	X 30.00	48.44 RR 48.44	7.40	229	1290		(2 ø 12.5) 2.45 (2 ø 12.5)
P10	30.00 X 30.00	RR 48.44 RR 48.44	11.53 6.47	764 558	3712 2710	4.86	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P11	30.00 X 30.00	RR 49.02 RR 49.02	8.82 4.76	1209 80	3722 246	3.08	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P12	15.00 X 30.00	RR 96.88 RR 48.44	10.84 5.62	758 658	1144 993	1.51	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P13	15.00 X 30.00	RR 96.88 RR 48.44	21.09 10.14	1293 891	1506 1038	1.16	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P14	15.00 X 30.00	RR 96.88 RR 48.44	15.68 7.43	1046 749	1336 957	1.28	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P15	15.00 X 30.00	RR 96.88 RR 48.44	27.33 13.11	2232 1140	2251 1150	1.01	2.45 (2 ø 12.5) 3.68 (3 ø 12.5)
P16	15.00 X 30.00	RR 96.88 RR 48.44	21.18 10.09	1648 974	1740 1029	1.06	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P17	15.00 X 30.00	RR 96.88 RR 48.44	6.59 2.81	526 271	1049 540	1.99	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P18	15.00 X 30.00	RR 96.88 RR 48.44	19.54 10.88	1522 928	1690 1031	1.11	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P19	30.00 X 30.00	RR 48.44 RR 48.44	13.64 7.47	1527 29	4266 80	2.79	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P20	30.00 X 30.00	RR 48.44 RR 48.44	16.98 9.48	1945 1089	4271 2391	2.20	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P21	30.00 X 30.00	RR 48.44 RR 48.44	11.13 6.23	18 3050	24 4047	1.33	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P22	30.00	RR	13.17	2183	4283	1.96	2.45

	X 30.00	49.02 RR 49.02	6.63	36	71		(2 ø 12.5) 2.45 (2 ø 12.5)
P23	30.00 X 30.00	RR 49.02 RR 49.02	17.91 8.32	1068 582	4295 2342	4.02	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P24	15.00 X 30.00	RR 96.88 RR 48.44	13.20 6.18	845 705	1228 1024	1.45	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P25	30.00 X 30.00	RR 48.44 RR 48.44	16.53 7.47	1066 472	4243 1877	3.98	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P26	30.00 X 30.00	RR 49.02 RR 49.02	27.01 12.93	178 2452	415 5722	2.33	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P27	30.00 X 30.00	RR 49.02 RR 49.02	11.63 5.05	510 817	2317 3713	4.54	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P28	30.00 X 30.00	RR 49.02 RR 49.02	16.77 8.42	1296 302	4414 1030	3.41	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P29	30.00 X 30.00	RR 49.02 RR 49.02	13.56 7.31	856 390	4010 1826	4.69	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P30	30.00 X 30.00	RR 48.44 RR 48.44	17.18 9.60	348 2475	652 4639	1.87	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P31	30.00 X 30.00	RR 49.02 RR 49.02	13.03 7.41	4829 42	5779 50	1.20	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P32	30.00 X 30.00	RR 49.02 RR 49.02	9.97 4.94	1103 519	3656 1721	3.31	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P33	30.00 X 30.00	RR 49.02 RR 49.02	14.90 7.47	458 1035	1866 4216	4.07	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P34	15.00 X 30.00	RR 96.88 RR 48.44	11.62 5.86	734 722	1145 1127	1.56	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P35	30.00	RR	13.20	1209	4218	3.49	2.45

	X 30.00	48.44 RR 48.44	6.46	160	559		(2 ø 12.5) 2.45 (2 ø 12.5)
P36	30.00 X 30.00	RR 49.02 RR 49.02	12.10 6.23	93 666	563 4029	6.05	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P37	30.00 X 30.00	RR 49.02 RR 49.02	14.62 7.08	585 108	3976 736	6.80	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P38	30.00 X 30.00	RR 49.02 RR 49.02	18.82 9.84	1106 126	4433 506	4.01	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P39	30.00 X 30.00	RR 49.02 RR 49.02	13.24 7.50	714 315	4006 1766	5.61	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P40	30.00 X 30.00	RR 48.44 RR 48.44	14.87 8.55	1186 163	4348 596	3.67	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P41	30.00 X 30.00	RR 49.02 RR 49.02	10.45 5.80	2229 42	3954 74	1.77	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P42	40.00 X 40.00	RR 35.90 RR 35.90	7.22 3.36	673 572	6771 5757	10.06	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P43	40.00 X 40.00	EL 127.33 RR 36.33	7.04 3.33	2462 276	7180 805	2.92	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P44	40.00 X 40.00	RR 36.33 RR 36.33	7.32 3.44	546 856	4403 6906	8.07	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P45	30.00 X 30.00	RR 49.02 RR 49.02	9.23 5.06	1120 534	3599 1715	3.21	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P46	15.00 X 30.00	RR 96.88 RR 48.44	11.33 6.69	853 941	1114 1228	1.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P47	30.00 X 30.00	RR 49.02 RR 49.02	8.04 4.21	126 1302	351 3622	2.78	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P48	15.00	RR	9.49	592	1028	1.74	1.57

	X 30.00	96.88 RR 48.44	5.47	750	1302		(2 ø 10.0) 1.57 (2 ø 10.0)
P49	30.00 X 30.00	RR 49.02 RR 49.02	10.37 5.76	155 1300	461 3879	2.98	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P50	15.00 X 30.00	RR 96.88 RR 48.44	8.61 4.92	575 729	1000 1268	1.74	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P51	30.00 X 30.00	RR 49.02 RR 49.02	7.89 4.19	57 1075	194 3622	3.37	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P52	15.00 X 30.00	RR 96.88 RR 48.44	6.67 3.72	670 234	1074 375	1.60	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P53	30.00 X 30.00	RR 49.02 RR 49.02	8.61 4.62	26 1191	82 3720	3.12	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P54	15.00 X 30.00	RR 96.88 RR 48.44	10.35 6.09	687 874	1055 1341	1.54	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P55	30.00 X 30.00	RR 49.02 RR 49.02	15.46 7.85	411 525	2929 3741	7.12	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P56	30.00 X 30.00	RR 49.02 RR 49.02	17.80 8.75	590 680	3395 3910	5.75	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P57	15.00 X 30.00	RR 96.88 RR 48.44	13.07 6.81	906 837	1206 1114	1.33	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P58	15.00 X 30.00	RR 96.88 RR 48.44	11.31 5.70	763 809	1120 1187	1.47	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P59	15.00 X 30.00	RR 96.88 RR 48.44	14.27 7.29	884 914	1218 1259	1.38	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P60	15.00 X 30.00	RR 96.88 RR 48.44	14.02 7.15	866 904	1210 1263	1.40	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P61	30.00	RR	8.15	516	2264	4.39	2.45

	X 30.00	49.02 RR 49.02	3.87	776	3406		(2 ø 12.5) 2.45 (2 ø 12.5)
P62	40.00 X 40.00	RR 36.33 EL 101.38	5.64 2.33	156 3244	335 6982	2.15	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P64	40.00 X 40.00	RR 36.33 EL 101.38	5.63 2.33	173 4076	296 6985	1.71	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P65	30.00 X 30.00	RR 49.02 RR 49.02	12.26 6.65	1830 166	4134 375	2.26	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P66	15.00 X 30.00	RR 96.88 RR 48.44	16.14 8.69	1333 947	1353 961	1.01	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P67	30.00 X 30.00	RR 49.02 RR 49.02	7.21 3.27	48 1103	152 3523	3.19	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P68	15.00 X 30.00	RR 96.88 RR 48.44	12.29 6.39	778 693	1186 1057	1.53	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P69	30.00 X 30.00	RR 49.02 RR 49.02	13.02 6.54	183 757	935 3867	5.11	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P70	15.00 X 30.00	RR 96.88 RR 48.44	12.44 6.48	845 750	1192 1057	1.41	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P71	30.00 X 30.00	RR 49.02 RR 49.02	9.14 4.53	98 761	464 3589	4.72	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P72	15.00 X 30.00	RR 96.88 RR 48.44	8.35 4.28	741 275	1149 427	1.55	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P73	30.00 X 30.00	RR 49.02 RR 49.02	9.66 4.69	45 1006	170 3799	3.77	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P74	15.00 X 30.00	RR 96.88 RR 48.44	10.49 5.52	683 791	1078 1248	1.58	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P75	30.00	RR	11.66	270	1532	5.67	2.45

	X 30.00	49.02 RR 49.02	5.64	675	3828		(2 ø 12.5) 2.45 (2 ø 12.5)
P76	30.00 X 30.00	RR 49.02 RR 49.02	14.22 6.41	856 522	3931 2397	4.59	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P77	15.00 X 30.00	RR 96.88 RR 48.44	15.30 7.21	1094 822	1315 989	1.20	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P78	15.00 X 30.00	RR 96.88 RR 48.44	13.82 6.48	972 784	1254 1012	1.29	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P79	15.00 X 30.00	RR 96.88 RR 48.44	17.92 8.49	1140 934	1375 1126	1.21	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P80	15.00 X 30.00	RR 96.88 RR 48.44	17.91 8.48	1149 919	1381 1105	1.20	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P81	30.00 X 30.00	RR 49.02 RR 49.02	10.47 5.09	1104 226	3874 794	3.51	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P82	40.00 X 40.00	RR 36.33 EL 101.38	5.64 2.33	156 3244	335 6982	2.15	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P84	40.00 X 40.00	RR 36.33 EL 101.38	5.63 2.33	173 4076	296 6985	1.71	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P85	30.00 X 30.00	RR 48.44 RR 48.44	8.72 4.62	319 828	1373 3566	4.30	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P86	15.00 X 30.00	RR 96.88 RR 48.44	22.13 11.46	1996 1078	1990 1075	1.00	1.57 (2 ø 10.0) 3.14 (4 ø 10.0)
P87	30.00 X 30.00	RR 48.44 RR 48.44	28.75 15.51	2356 974	5340 2208	2.27	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P88	15.00 X 30.00	RR 96.88 RR 48.44	9.82 4.96	679 1225	959 1729	1.41	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P89	30.00	RR	28.82	786	2209	2.81	2.45

	X 30.00	49.02 RR 66.32	15.40	1958	5504		(2 ø 12.5) 2.45 (2 ø 12.5)
P90	30.00 X 30.00	RR 49.02 RR 49.02	26.97 14.24	1050 2146	2498 5103	2.38	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P91	30.00 X 30.00	RR 49.02 RR 66.32	16.53 8.53	76 1260	272 4526	3.59	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P92	30.00 X 30.00	RR 49.02 RR 66.32	21.76 11.54	730 1465	2400 4816	3.29	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P93	30.00 X 30.00	RR 49.02 RR 49.02	19.80 9.99	779 1198	2863 4404	3.68	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P94	30.00 X 30.00	RR 49.02 RR 49.02	20.95 9.77	814 1811	2147 4777	2.64	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P95	30.00 X 30.00	RR 48.44 RR 48.44	22.52 10.65	1022 367	4814 1729	4.71	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P96	30.00 X 30.00	RR 49.02 RR 49.02	23.62 11.16	895 186	5238 1090	5.85	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P97	30.00 X 30.00	RR 49.02 RR 49.02	16.57 8.37	2145 776	4429 1602	2.07	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P98	15.00 X 30.00	RR 131.48 RR 48.44	25.69 12.35	2977 988	3434 1140	1.15	4.02 (2 ø 16.0) 8.04 (4 ø 16.0)
P99	15.00 X 30.00	RR 131.48 RR 48.44	25.21 12.11	3254 0	3245 0	1.00	4.02 (2 ø 16.0) 6.03 (3 ø 16.0)
P100	40.00 X 40.00	RR 36.33 RR 36.33	7.22 3.36	673 572	6771 5757	10.06	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P101	40.00 X 40.00	RR 36.33 EL 127.33	7.04 3.33	276 2462	805 7179	2.92	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P102	40.00	RR	7.32	546	4403	8.07	4.02

	X 40.00	36.33 RR 36.33	3.44	856	6906		(2 ø 16.0) 4.02 (2 ø 16.0)
P103	30.00 X 30.00	RR 48.44 RR 48.44	6.87 3.50	167 986	587 3459	3.51	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P104	15.00 X 30.00	RR 96.88 RR 48.44	14.32 8.49	1403 745	1573 836	1.12	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P105	30.00 X 30.00	RR 48.44 RR 48.44	15.16 8.75	2775 588	4386 930	1.58	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P106	15.00 X 30.00	RR 96.88 RR 48.44	7.78 4.63	41 1742	61 2624	1.51	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P107	30.00 X 30.00	RR 49.02 RR 49.02	23.25 13.67	766 1069	3281 4580	4.28	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P108	30.00 X 30.00	RR 49.02 RR 49.02	24.64 14.57	1441 1115	4509 3490	3.13	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P109	30.00 X 30.00	RR 48.44 RR 48.44	21.84 13.00	65 2471	137 5239	2.12	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P110	30.00 X 30.00	RR 48.44 RR 48.44	23.07 13.71	2371 103	5354 232	2.26	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P111	30.00 X 30.00	RR 49.02 RR 49.02	19.75 10.53	309 898	1597 4633	5.16	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P112	30.00 X 30.00	RR 49.02 RR 49.02	21.13 10.51	640 1718	1809 4851	2.82	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P113	30.00 X 30.00	RR 48.44 RR 48.44	16.89 8.69	463 504	3271 3559	7.06	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P114	30.00 X 30.00	RR 49.02 RR 49.02	16.58 8.44	251 656	1690 4418	6.74	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P115	30.00	RR	12.73	936	2695	2.88	2.45

	X 30.00	49.02 RR 49.02	6.48	1345	3872		(2 ø 12.5) 2.45 (2 ø 12.5)
P116	Circ 0.00 X 30.00 0.00	RR 56.00 -	17.03 10.08	1398 527	3840 0	2.57	4.71 (6 ø 10.0) -
P117	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P118	14.00 X 30.00	RR 37.07 RR 17.30	1.64 0.96	0 341	0 1902	5.57	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P119	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P120	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P121	14.00 X 30.00	RR 37.07 RR 17.30	1.64 0.96	0 341	0 1902	5.57	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P122	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P123	30.00 X 30.00	RR 48.44 RR 48.44	27.98 16.81	1015 1017	4111 4118	4.05	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P124	14.00 X 20.00	RR 10.87 EL 15.22	0.75 0.46	220 50	694 157	3.15	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P125	14.00 X 42.00	RR 10.87 EL 7.25	0.34 0.15	93 1	1169 15	12.62	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P126	14.00 X 42.00	RR 10.87 EL 7.25	0.35 0.16	84 1	1169 16	13.87	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P127	14.00 X 42.00	RR 10.87 EL 7.25	0.35 0.16	89 1	1169 15	13.19	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P128	14.00 X 42.00	RR 10.87 EL 7.25	0.34 0.15	100 1	1169 13	11.73	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P129	14.00 X 20.00	RR 10.87 EL 15.22	0.75 0.46	221 48	671 147	3.04	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P130	30.00 X 30.00	RR 48.44 RR 48.44	23.46 13.30	696 883	3478 4416	5.00	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P131	30.00 X 30.00	RR 49.02 RR 49.02	23.98 12.05	240 2013	638 5357	2.66	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P132	30.00 X 30.00	RR 49.02 RR 49.02	19.17 9.61	308 4399	344 4912	1.12	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P133	30.00 X 30.00	RR 48.44 RR 48.44	17.86 8.83	4578 68	4816 71	1.05	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P134	30.00 X 30.00	RR 48.44 RR 48.44	18.38 9.10	8 4213	9 4882	1.16	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P135	30.00 X 30.00	RR 49.02 RR 49.02	11.40 5.68	770 1562	1894 3841	2.46	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P136	14.00 X 20.00	RR 10.87 EL 15.22	0.41 0.21	440 86	683 134	1.55	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P137	14.00 X 42.00	RR 10.87 EL 7.25	0.34 0.15	65 2	1165 40	17.83	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P138	14.00 X 42.00	RR 10.87 EL 7.25	0.34 0.15	63 2	1165 43	18.36	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P139	14.00 X 42.00	RR 10.87 EL 7.25	0.34 0.15	64 3	1164 48	18.12	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P140	14.00 X 42.00	RR 10.87 EL 7.25	0.34 0.15	65 3	1165 45	17.99	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)

P141	14.00 X 20.00	RR 10.87 EL 15.22	0.37 0.18	417 73	667 117	1.60	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P142	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P143	14.00 X 30.00	RR 37.07 RR 17.30	1.64 0.96	0 341	0 1902	5.57	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P144	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P145	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P146	14.00 X 30.00	RR 37.07 RR 17.30	1.64 0.96	0 341	0 1902	5.57	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P147	14.00 X 30.00	RR 37.07 RR 17.30	1.03 0.57	18 155	204 1798	11.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P148	14.00 X 20.00	RR 10.87 EL 15.22	0.00 -0.14	127 10	677 56	5.34	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P149	14.00 X 20.00	RR 10.87 EL 15.22	0.00 -0.12	103 15	660 95	6.39	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P150	Circ 0.00 X 30.00 0.00	RR 56.00 -	20.28 12.07	1627 184	4076 0	2.49	4.71 (6 ø 10.0) -
P151	14.00 X 20.00	RR 10.87 EL 15.22	0.44 0.23	364 109	674 202	1.85	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P152	14.00 X 20.00	RR 10.87 EL 15.22	0.46 0.25	343 146	625 266	1.82	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P153	30.00 X 30.00	RR 49.02 RR	5.71 2.71	583 160	3291 903	5.65	2.45 (2 ø 12.5) 2.45

		49.02					(2 ø 12.5)
P154	30.00 X 30.00	RR 49.02 RR 49.02	8.64 4.62	19 360	192 3716	10.33	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P155	30.00 X 30.00	RR 49.02 RR 49.02	8.81 4.89	281 606	1639 3539	5.84	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P156	30.00 X 30.00	RR 49.02 RR 49.02	8.56 4.75	305 636	1681 3509	5.52	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P157	30.00 X 30.00	RR 49.02 RR 49.02	8.91 5.01	680 343	3554 1792	5.22	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P158	30.00 X 30.00	RR 49.02 RR 49.02	6.20 2.90	888 219	3310 817	3.73	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P159	30.00 X 30.00	RR 49.02 RR 49.02	11.02 6.24	1259 59	3969 185	3.15	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P160	30.00 X 30.00	RR 48.44 RR 48.44	21.42 12.70	1906 1223	4621 2966	2.42	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P161	14.00 X 20.00	RR 10.87 EL 15.22	0.95 0.60	61 594	112 1088	1.83	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P162	14.00 X 20.00	RR 10.87 EL 15.22	0.14 0.01	35 105	331 995	9.44	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P163	14.00 X 20.00	RR 10.87 EL 15.22	0.49 0.27	99 1	707 7	7.15	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P164	30.00 X 30.00	RR 48.44 RR 48.44	16.95 9.84	130 636	934 4576	7.20	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P165	30.00 X 30.00	RR 48.44 RR 48.44	17.01 10.07	7 736	46 4676	6.36	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P166	14.00 X 20.00	RR 10.87 EL	0.55 0.32	134 5	702 24	5.25	1.57 (2 ø 10.0) 1.57

		15.22					(2 ø 10.0)
P167	14.00 X 20.00	RR 10.87 EL 15.22	0.06 -0.05	78 101	497 643	6.39	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P168	14.00 X 20.00	RR 10.87 EL 15.22	0.93 0.59	142 537	255 967	1.80	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P169	30.00 X 30.00	RR 48.44 RR 48.44	15.06 8.34	192 1272	656 4338	3.41	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P170	30.00 X 30.00	RR 49.02 RR 49.02	20.34 9.46	809 2155	1791 4774	2.22	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P171	30.00 X 30.00	RR 49.02 RR 49.02	24.43 11.49	376 2982	682 5405	1.81	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P172	30.00 X 30.00	RR 48.44 RR 48.44	23.20 10.92	188 3045	330 5344	1.76	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P173	30.00 X 30.00	RR 48.44 RR 48.44	27.30 12.87	83 2496	194 5811	2.33	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P174	30.00 X 30.00	RR 49.02 RR 49.02	14.78 7.39	1537 851	4137 2291	2.69	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P175	30.00 X 30.00	RR 66.32 RR 49.02	11.44 6.32	683 867	2866 3639	4.20	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P176	30.00 X 30.00	RR 66.32 RR 49.02	15.64 8.52	309 1275	1047 4322	3.39	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P177	30.00 X 30.00	RR 66.32 RR 49.02	23.34 12.74	734 2613	1440 5127	1.96	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P178	30.00 X 30.00	RR 66.32 RR 49.02	22.67 12.26	406 2579	815 5177	2.01	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P179	30.00 X 30.00	RR 66.32 RR	26.74 14.64	1022 2607	2086 5322	2.04	2.45 (2 ø 12.5) 2.45

		49.02					(2 ø 12.5)
P180	30.00 X 30.00	RR 49.02 RR 49.02	23.61 12.83	1374 2452	2747 4902	2.00	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P181	30.00 X 30.00	RR 49.02 RR 49.02	18.37 10.13	2007 1118	4382 2440	2.18	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P182	30.00 X 30.00	RR 49.02 RR 49.02	18.19 10.19	1597 3182	2254 4490	1.41	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P183	30.00 X 30.00	RR 49.02 RR 66.32	9.51 5.00	292 559	1877 3585	6.42	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P184	30.00 X 30.00	RR 48.44 RR 48.44	17.82 9.64	19 2176	43 4811	2.21	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P185	30.00 X 30.00	RR 49.02 RR 49.02	16.33 8.38	155 1955	363 4588	2.35	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P186	30.00 X 30.00	RR 49.02 RR 49.02	21.06 10.06	725 2357	1507 4899	2.08	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P187	30.00 X 30.00	RR 49.02 RR 49.02	23.66 11.32	231 2614	475 5366	2.05	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P188	30.00 X 30.00	RR 48.44 RR 48.44	23.19 10.96	2832 66	5382 125	1.90	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P189	15.00 X 30.00	RR 96.88 RR 48.44	11.44 5.51	813 0	1369 0	1.68	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P190	30.00 X 30.00	RR 49.02 RR 49.02	13.56 6.92	656 1145	2251 3930	3.43	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P191	15.00 X 25.00	RR 96.88 RR 58.13	17.63 9.56	1234 987	1264 1011	1.02	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P192	15.00 X 30.00	RR 96.88 RR	21.31 10.41	1475 1798	1514 1846	1.03	1.57 (2 ø 10.0) 2.36

		48.44					(3 ø 10.0)
P193	15.00 X 30.00	RR 96.88 RR 48.44	9.67 4.89	742 394	1169 621	1.58	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P194	15.00 X 30.00	RR 96.88 RR 48.44	15.51 7.89	1003 818	1307 1065	1.30	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P196	15.00 X 30.00	RR 96.88 RR 48.44	24.12 13.03	2032 1043	2276 1168	1.12	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P197	30.00 X 30.00	RR 49.02 RR 49.02	11.40 6.00	802 378	3849 1815	4.80	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P198	30.00 X 30.00	RR 49.02 RR 66.32	9.97 4.94	340 665	1860 3637	5.47	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P199	30.00 X 30.00	RR 48.44 RR 48.44	25.62 13.51	1182 2179	2763 5091	2.34	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P200	30.00 X 30.00	RR 48.44 RR 48.44	27.25 14.39	1032 1543	3308 4949	3.21	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P201	30.00 X 30.00	RR 48.44 RR 48.44	28.79 15.16	1642 2249	3545 4855	2.16	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P202	30.00 X 30.00	RR 48.44 RR 48.44	21.81 11.21	1722 3503	2370 4823	1.38	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P203	30.00 X 30.00	RR 49.02 RR 49.02	13.42 7.13	539 759	2745 3865	5.09	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P204	30.00 X 30.00	RR 49.02 RR 49.02	18.49 9.78	502 3349	715 4777	1.43	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P205	30.00 X 30.00	RR 49.02 RR 66.32	31.63 17.39	1357 1231	4540 4119	3.35	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P206	30.00 X 30.00	RR 49.02 RR	35.91 20.29	1414 1376	4553 4431	3.22	2.45 (2 ø 12.5) 2.45

		49.02					(2 ø 12.5)
P207	30.00 X 30.00	RR 65.74 RR 48.44	15.73 7.87	2534 384	4488 680	1.77	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P208	30.00 X 30.00	RR 49.02 RR 49.02	15.38 7.53	322 3785	382 4496	1.19	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P209	30.00 X 30.00	RR 48.44 RR 48.44	21.02 10.56	526 3986	667 5054	1.27	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P210	15.00 X 30.00	RR 96.88 RR 48.44	15.37 8.10	1171 1088	1273 1182	1.09	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P211	30.00 X 30.00	RR 49.02 RR 49.02	7.50 3.60	9 1429	22 3577	2.50	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P212	30.00 X 30.00	RR 49.02 RR 49.02	8.16 4.44	842 483	3471 1992	4.12	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P213	30.00 X 30.00	RR 49.02 RR 49.02	13.01 7.14	345 1461	963 4079	2.79	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P214	30.00 X 30.00	RR 48.44 RR 48.44	10.93 5.97	32 3297	38 4020	1.22	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P215	20.00 X 30.00	RR 72.66 RR 48.44	16.53 9.79	1756 739	2144 903	1.22	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P216	30.00 X 30.00	RR 48.44 RR 48.44	14.69 8.49	3512 1337	4231 1611	1.20	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P217	15.00 X 30.00	RR 96.88 RR 48.44	12.77 7.47	1326 630	1543 733	1.16	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P218	30.00 X 30.00	RR 48.44 RR 48.44	18.30 10.58	1227 348	4592 1303	3.74	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P219	15.00 X 30.00	RR 96.88 RR	12.21 6.92	874 473	1263 683	1.44	1.57 (2 ø 10.0) 1.57

		48.44					(2 ø 10.0)
P220	15.00 X 30.00	RR 96.88 RR 48.44	6.42 3.56	535 306	1032 590	1.93	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P221	15.00 X 30.00	RR 96.88 RR 48.44	11.54 6.70	929 614	1211 800	1.30	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P222	30.00 X 30.00	RR 48.44 RR 48.44	17.74 10.64	619 606	3657 3584	5.91	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P223	30.00 X 30.00	RR 48.44 RR 48.44	10.06 5.77	1346 111	3865 319	2.87	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P224	30.00 X 30.00	RR 48.44 RR 48.44	9.27 5.18	957 182	3733 709	3.90	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P225	30.00 X 30.00	RR 65.74 RR 48.44	11.31 6.57	1025 152	3997 591	3.90	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P226	30.00 X 30.00	RR 65.74 RR 48.44	11.45 6.64	660 274	3882 1613	5.89	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P227	30.00 X 35.00	RR 48.44 RR 41.52	8.28 4.49	1002 504	3450 1733	3.44	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P228	30.00 X 30.00	RR 49.02 RR 49.02	7.57 4.07	372 756	1673 3403	4.50	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P229	30.00 X 30.00	RR 49.02 RR 49.02	10.22 5.67	267 1532	672 3859	2.52	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P230	30.00 X 30.00	RR 48.44 RR 48.44	11.10 6.17	2980 136	4024 183	1.35	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P231	30.00 X 30.00	RR 48.44 RR 48.44	19.71 11.67	3869 536	4913 680	1.27	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P232	30.00 X 30.00	RR 48.44 RR	16.40 9.57	3197 821	4485 1152	1.40	2.45 (2 ø 12.5) 2.45

		48.44					(2 ø 12.5)
P233	30.00 X 30.00	RR 48.44 RR 48.44	13.83 7.96	3934 298	4324 327	1.10	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P234	30.00 X 30.00	RR 48.44 RR 48.44	12.92 7.45	1613 251	4142 644	2.57	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P235	30.00 X 30.00	RR 49.02 RR 49.02	5.94 2.92	199 415	1561 3259	7.84	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)

Cálculo dos Pilares

CLARABOIA	fck = 350.00 kgf/cm ²	E = 294029 kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 3		cobr = 2.50 cm	

Pilar	Seção (cm)	vínc esb B vínc esb H	Nd máx Nd mín (tf)	Msd(x) Msd(y) (kgf.m)	Mrd(x) Mrd(y) (kgf.m)	Mrd/Msd	As b As h (cm ²)
P1	30.00 X 30.00	RR 11.07 RR 11.07	2.05 0.73	617 727	2332 2748	3.78	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P2	15.00 X 30.00	RR 22.14 EL 22.14	1.12 0.39	19 195	175 1815	9.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P3	15.00 X 30.00	RR 22.14 EL 22.14	0.99 0.32	71 39	807 437	11.35	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P4	30.00 X 30.00	EL 22.14 RR 11.07	1.98 0.69	75 762	286 2916	3.83	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P5	30.00 X 30.00	RR 11.07 EL 22.14	1.98 0.69	594 573	2620 2527	4.41	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P6	30.00 X	RR 11.07	1.21 0.27	176 376	1280 2740	7.29	2.45 (2 ø 12.5)

	30.00	EL 22.14					2.45 (2 ø 12.5)
P7	30.00 X 30.00	RR 11.07 EL 22.14	1.04 0.17	26 196	369 2790	14.25	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P8	15.00 X 30.00	RR 22.14 EL 22.14	1.53 0.68	375 73	864 167	2.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P9	30.00 X 30.00	RR 11.07 EL 22.14	1.88 0.72	825 82	2903 287	3.52	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P10	30.00 X 30.00	RR 11.07 EL 22.14	1.84 0.70	929 78	2901 244	3.12	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P11	30.00 X 30.00	RR 11.07 RR 11.07	1.96 0.76	1401 68	2925 141	2.09	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P12	15.00 X 30.00	RR 22.14 EL 22.14	1.15 0.37	130 47	829 298	6.39	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P21	30.00 X 30.00	RR 11.07 EL 22.14	1.06 0.20	123 61	2716 1349	22.10	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P22	30.00 X 30.00	EL 22.14 RR 11.07	1.30 0.33	236 45	2807 533	11.88	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P31	30.00 X 30.00	EL 22.14 RR 11.07	1.04 0.19	558 49	2800 247	5.02	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P32	30.00 X 30.00	RR 11.07 RR 11.07	2.20 0.81	1078 610	2828 1600	2.62	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P33	30.00 X 30.00	RR 11.07 EL 22.14	2.04 0.73	684 1	2947 5	4.31	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P34	15.00 X 30.00	RR 22.14 EL 22.14	0.93 0.28	8 159	97 1805	11.37	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P35	30.00 X	EL 22.14	1.67 0.51	217 39	2848 514	13.12	2.45 (2 ø 12.5)

	30.00	RR 11.07					2.45 (2 ø 12.5)
P36	30.00 X 30.00	RR 11.07 EL 22.14	1.69 0.52	205 65	2828 890	13.79	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P39	30.00 X 30.00	RR 11.07 EL 22.14	1.39 0.41	424 14	2856 96	6.74	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P40	30.00 X 30.00	RR 11.07 EL 22.14	2.11 0.88	1729 103	2942 175	1.70	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P41	30.00 X 30.00	RR 11.07 RR 11.07	2.18 0.91	2419 40	2960 49	1.22	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P42	40.00 X 40.00	RR 14.79 RR 14.79	2.17 0.55	308 472	3992 6122	12.97	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P43	40.00 X 40.00	EL 127.33 RR 14.36	1.74 0.27	662 51	6300 483	9.52	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P44	40.00 X 40.00	RR 14.36 RR 14.36	2.21 0.59	260 588	2750 6222	10.58	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P45	30.00 X 30.00	RR 11.07 RR 11.07	1.89 0.73	935 538	2791 1607	2.99	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P46	15.00 X 30.00	RR 22.14 EL 22.14	0.94 0.33	277 158	803 459	2.90	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P47	30.00 X 30.00	RR 11.07 EL 22.14	1.09 0.23	44 174	707 2771	15.93	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P48	15.00 X 30.00	RR 22.14 EL 22.14	0.68 0.13	16 195	143 1768	9.08	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P49	30.00 X 30.00	RR 11.07 EL 22.14	1.16 0.27	26 127	575 2790	22.02	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P50	15.00 X	RR 22.14	0.74 0.18	111 158	732 1042	6.60	1.57 (2 ø 10.0)

	30.00	EL 22.14					1.57 (2 ø 10.0)
P51	30.00 X 30.00	RR 11.07 EL 22.14	1.09 0.22	32 190	466 2789	14.72	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P52	15.00 X 30.00	EL 44.29 RR 11.07	0.68 0.14	155 35	818 183	5.29	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P53	30.00 X 30.00	RR 11.07 EL 22.14	1.15 0.27	126 26	2788 573	22.06	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P54	15.00 X 30.00	RR 22.14 EL 22.14	0.75 0.19	15 184	144 1779	9.66	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P57	15.00 X 30.00	RR 22.14 EL 22.14	0.91 0.25	132 189	737 1058	5.60	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P58	15.00 X 30.00	RR 22.14 EL 22.14	0.85 0.22	169 14	839 68	4.97	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P59	15.00 X 30.00	RR 22.14 EL 22.14	1.13 0.40	12 121	176 1817	14.97	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P60	15.00 X 30.00	RR 22.14 EL 22.14	1.11 0.39	14 257	103 1825	7.11	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P61	30.00 X 30.00	RR 11.07 RR 11.07	1.56 0.46	610 772	2138 2709	3.51	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P62	40.00 X 40.00	RR 14.36 EL 101.38	0.58 -0.77	32 861	230 6117	7.11	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P64	40.00 X 40.00	RR 14.36 EL 101.38	0.57 -0.78	40 1162	210 6116	5.26	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P65	30.00 X 30.00	EL 22.14 RR 11.07	1.10 0.21	280 412	1826 2680	6.51	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P81	30.00 X	EL 22.14	1.20 0.26	13 443	85 2833	6.40	2.45 (2 ø 12.5)

	30.00	RR 11.07					2.45 (2 ø 12.5)
P82	40.00 X 40.00	RR 14.36 EL 101.38	0.58 -0.77	32 861	230 6117	7.11	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P84	40.00 X 40.00	RR 14.36 EL 101.38	0.57 -0.78	40 1162	210 6116	5.26	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P85	30.00 X 30.00	EL 22.14 RR 11.07	1.78 0.64	365 671	1515 2787	4.15	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P97	30.00 X 30.00	EL 22.14 RR 11.07	1.98 0.69	132 1252	307 2913	2.33	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P100	40.00 X 40.00	RR 14.36 RR 14.36	2.17 0.55	308 472	3992 6122	12.97	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P101	40.00 X 40.00	RR 14.36 EL 127.33	1.74 0.27	51 662	483 6300	9.52	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P102	40.00 X 40.00	RR 14.36 RR 14.36	2.21 0.59	260 588	2750 6222	10.58	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P103	30.00 X 30.00	RR 11.07 RR 11.07	1.91 0.75	312 1111	803 2863	2.58	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P104	15.00 X 30.00	EL 44.29 RR 11.07	1.33 0.57	552 873	739 1169	1.34	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P105	30.00 X 30.00	EL 22.14 RR 11.07	1.86 0.71	88 878	291 2901	3.30	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P106	15.00 X 30.00	RR 22.14 EL 22.14	0.69 0.13	11 308	62 1781	5.77	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P108	30.00 X 30.00	RR 27.68 RR 27.68	3.45 1.68	1346 451	3023 1013	2.25	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P109	30.00 X	RR 27.68	12.75 7.51	425 7059	563 9343	1.32	6.03 (3 ø 16.0)

	30.00	RR 27.68					6.03 (3 ø 16.0)
P110	30.00 X 30.00	RR 27.68 RR 27.68	11.85 6.92	6921 605	9167 801	1.32	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P111	30.00 X 30.00	RR 27.68 RR 27.68	3.38 1.65	380 811	1398 2984	3.68	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P113	30.00 X 30.00	RR 11.07 EL 22.14	2.00 0.72	354 92	2878 751	8.13	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P114	30.00 X 30.00	RR 11.07 EL 22.14	2.36 0.90	62 285	638 2917	10.23	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P115	30.00 X 30.00	RR 11.07 RR 11.07	3.12 1.32	1056 1883	1645 2931	1.56	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P123	30.00 X 30.00	RR 27.68 RR 27.68	14.76 8.71	5668 2112	5667 2111	1.00	4.02 (2 ø 16.0) 4.02 (2 ø 16.0)
P130	30.00 X 30.00	RR 27.68 RR 27.68	14.95 8.85	6747 2147	8737 2780	1.29	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P132	30.00 X 30.00	RR 11.07 EL 22.14	1.55 0.46	82 431	540 2840	6.58	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P133	30.00 X 30.00	EL 22.14 RR 11.07	1.52 0.44	13 296	124 2871	9.71	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P134	30.00 X 30.00	RR 11.07 EL 22.14	1.63 0.50	75 322	663 2834	8.80	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P135	30.00 X 30.00	RR 11.07 RR 11.07	2.68 1.05	900 1976	1325 2909	1.47	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P153	30.00 X 30.00	RR 11.07 RR 11.07	1.09 0.21	519 51	2803 273	5.40	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P154	30.00 X	RR 11.07	1.28 0.35	27 133	563 2804	21.12	2.45 (2 ø 12.5)

	30.00	EL 22.14					2.45 (2 ø 12.5)
P155	30.00 X 30.00	RR 11.07 EL 22.14	1.65 0.58	335 48	2864 413	8.55	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P156	30.00 X 30.00	RR 11.07 EL 22.14	1.65 0.58	463 55	2869 342	6.20	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P157	30.00 X 30.00	RR 11.07 EL 22.14	1.74 0.65	639 78	2881 351	4.51	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P158	30.00 X 30.00	RR 11.07 EL 22.14	1.68 0.60	970 34	2894 102	2.98	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P160	30.00 X 30.00	RR 27.68 RR 27.68	4.91 2.60	2407 889	3180 1175	1.32	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P164	30.00 X 30.00	RR 27.68 RR 27.68	13.49 7.93	488 7212	635 9389	1.30	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P165	30.00 X 30.00	RR 27.68 RR 27.68	12.60 7.37	784 6634	1080 9140	1.38	6.03 (3 ø 16.0) 6.03 (3 ø 16.0)
P169	30.00 X 30.00	RR 27.68 RR 27.68	4.67 2.45	58 1621	117 3257	2.01	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P174	30.00 X 30.00	EL 22.14 RR 11.07	1.90 0.63	249 1402	512 2885	2.06	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P175	30.00 X 30.00	EL 22.14 RR 11.07	1.54 0.49	151 776	551 2837	3.65	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P190	30.00 X 30.00	EL 22.14 RR 11.07	1.75 0.57	70 1191	169 2896	2.43	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P197	30.00 X 30.00	EL 22.14 RR 11.07	1.50 0.46	82 813	289 2854	3.51	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P206	30.00 X	RR 28.37	5.25 3.14	2466 523	3266 693	1.32	2.45 (2 ø 12.5)

	30.00	RR 28.37					2.45 (2 ø 12.5)
P207	30.00 X 30.00	EL 56.74 RR 28.37	1.89 0.75	783 85	2901 316	3.71	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P208	30.00 X 30.00	RR 11.07 EL 22.14	1.37 0.37	894 17	2858 56	3.20	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P209	30.00 X 30.00	RR 11.07 EL 22.14	1.97 0.69	1102 225	2888 591	2.62	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P210	15.00 X 30.00	RR 22.14 EL 22.14	1.60 0.67	308 313	792 804	2.57	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P211	30.00 X 30.00	RR 11.07 RR 11.07	2.05 0.74	227 1634	404 2915	1.78	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P212	30.00 X 30.00	EL 22.14 RR 11.07	1.12 0.23	89 351	700 2771	7.90	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P222	30.00 X 30.00	RR 28.37 RR 28.37	9.51 5.58	425 475	2990 3346	7.04	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P223	30.00 X 30.00	EL 56.74 RR 28.37	2.32 1.01	172 359	1369 2854	7.95	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P224	30.00 X 30.00	EL 56.74 RR 28.37	2.11 0.83	1075 108	2919 293	2.71	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P225	30.00 X 30.00	EL 56.74 RR 28.37	3.41 1.85	634 117	3058 566	4.83	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P226	30.00 X 30.00	EL 56.74 RR 28.37	2.13 0.85	892 167	2899 544	3.25	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P227	30.00 X 35.00	RR 28.37 RR 24.32	2.20 0.88	743 66	2862 256	3.85	1.57 (2 ø 10.0) 2.36 (3 ø 10.0)
P228	30.00 X	RR 11.07	1.43 0.46	567 385	2719 1844	4.79	2.45 (2 ø 12.5)

	30.00	RR 11.07					2.45 (2 ø 12.5)
P229	30.00 X 30.00	RR 11.07 EL 22.14	1.20 0.30	373 81	2793 604	7.50	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P230	30.00 X 30.00	EL 22.14 RR 11.07	1.09 0.23	133 209	1716 2690	12.89	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P231	30.00 X 30.00	EL 22.14 RR 11.07	1.77 0.65	150 840	514 2869	3.42	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P232	30.00 X 30.00	EL 22.14 RR 11.07	1.57 0.52	85 1176	208 2870	2.44	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P233	30.00 X 30.00	EL 22.14 RR 11.07	0.98 0.15	219 514	1162 2720	5.29	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P234	30.00 X 30.00	EL 22.14 RR 11.07	1.18 0.29	9 317	79 2832	8.93	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P235	30.00 X 30.00	RR 11.07 RR 11.07	1.13 0.24	247 88	2753 982	11.15	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P236	15.00 X 25.00	EL 44.29 RR 13.29	0.20 -0.33	1 98	20 1383	14.16	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P237	15.00 X 25.00	EL 44.29 RR 13.29	0.34 -0.15	14 3	782 136	54.32	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P238	15.00 X 25.00	EL 44.29 RR 13.29	0.43 -0.04	7 96	97 1399	14.53	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P239	15.00 X 25.00	EL 44.29 RR 13.29	0.13 -0.42	14 894	22 1370	1.53	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P240	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.84	2 41	51 1347	32.45	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P241	15.00 X	EL 44.29	0.18 -0.34	12 878	19 1379	1.57	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P242	15.00 X 25.00	EL 44.29 RR 13.29	0.27 -0.21	33 113	386 1342	11.83	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P243	15.00 X 25.00	EL 44.29 RR 13.29	0.35 -0.10	6 54	160 1383	25.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P244	15.00 X 25.00	EL 44.29 RR 13.29	0.25 -0.18	7 947	11 1394	1.47	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P245	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.76	8 76	131 1324	17.39	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P246	15.00 X 25.00	EL 44.29 RR 13.29	0.13 -0.33	8 952	12 1381	1.45	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P247	15.00 X 25.00	EL 44.29 RR 13.29	0.54 0.10	4 107	49 1420	13.29	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P248	15.00 X 25.00	EL 44.29 RR 13.29	0.09 -0.37	12 950	18 1376	1.45	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P249	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.61	14 177	106 1341	7.59	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P250	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.73	19 781	32 1340	1.72	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P251	15.00 X 25.00	EL 44.29 RR 13.29	0.02 -0.61	27 402	91 1347	3.35	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P252	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.58	8 55	201 1345	24.53	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P253	15.00 X 25.00	EL 44.29 RR 13.29	0.51 0.07	28 68	525 1294	19.08	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P254	15.00 X	EL 44.29	0.40 -0.05	7 373	27 1407	3.78	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P255	15.00 X 25.00	EL 44.29 RR 13.29	0.42 -0.03	4 159	39 1407	8.87	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P256	15.00 X 25.00	EL 44.29 RR 13.29	0.40 -0.02	12 59	274 1374	23.35	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P257	15.00 X 25.00	EL 44.29 RR 13.29	0.09 -0.44	212 49	758 174	3.58	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P258	15.00 X 25.00	EL 44.29 RR 13.29	0.56 0.11	35 73	604 1257	17.21	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P259	15.00 X 25.00	EL 44.29 RR 13.29	0.01 -0.58	60 678	119 1344	1.98	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P260	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.79	151 28	743 137	4.93	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P261	15.00 X 25.00	EL 44.29 RR 13.29	0.04 -0.51	104 817	170 1343	1.64	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P262	15.00 X 25.00	EL 44.29 RR 13.29	0.40 -0.07	1 45	46 1403	31.38	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P263	15.00 X 25.00	EL 44.29 RR 13.29	0.34 -0.15	1 140	6 1401	10.01	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P264	15.00 X 25.00	EL 44.29 RR 13.29	0.30 -0.18	2 397	6 1397	3.52	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P265	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.62	3 74	53 1350	18.12	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P266	15.00 X 25.00	EL 44.29 RR 13.29	0.34 -0.14	6 480	19 1397	2.91	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P267	15.00 X	EL 44.29	0.28 -0.15	0 126	0 1400	11.07	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P268	15.00 X 25.00	RR 22.14 RR 13.29	0.65 0.13	54 12	793 171	14.58	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P269	15.00 X 25.00	RR 22.14 RR 13.29	0.97 0.36	78 667	169 1445	2.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P270	15.00 X 25.00	EL 44.29 RR 13.29	0.18 -0.27	79 262	401 1326	5.05	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P271	15.00 X 25.00	EL 44.29 RR 13.29	0.57 0.12	5 140	53 1422	10.18	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P272	15.00 X 25.00	EL 44.29 RR 13.29	0.06 -0.40	13 1849	14 2075	1.12	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P273	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.88	20 306	84 1318	4.32	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P274	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.79	37 1498	51 2034	1.36	2.45 (2 ø 12.5) 2.45 (2 ø 12.5)
P275	15.00 X 25.00	EL 44.29 RR 13.29	0.61 0.14	11 107	142 1415	13.18	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P276	15.00 X 25.00	EL 44.29 RR 13.29	0.47 0.04	58 7	793 94	13.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P277	15.00 X 25.00	EL 44.29 RR 13.29	0.08 -0.37	181 53	756 222	4.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P278	15.00 X 25.00	EL 44.29 RR 13.29	0.51 0.07	3 52	86 1412	26.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P279	15.00 X 25.00	EL 44.29 RR 13.29	0.50 0.07	3 176	28 1420	8.07	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P280	15.00 X	EL 44.29	0.47 0.06	4 33	156 1399	42.42	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P281	15.00 X 25.00	RR 22.14 RR 13.29	0.67 0.17	17 152	156 1419	9.31	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P282	15.00 X 25.00	RR 22.14 RR 13.29	1.04 0.37	101 416	346 1426	3.43	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P283	15.00 X 25.00	EL 44.29 RR 13.29	0.13 -0.39	5 104	64 1371	13.15	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P284	15.00 X 25.00	EL 44.29 RR 13.29	0.63 0.11	2 68	48 1427	20.94	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P285	15.00 X 25.00	EL 44.29 RR 13.29	0.32 -0.18	2 107	22 1395	13.06	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P286	15.00 X 25.00	EL 44.29 RR 13.29	0.35 -0.14	0 108	5 1402	12.96	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P287	15.00 X 25.00	EL 44.29 RR 13.29	0.20 -0.33	32 19	733 445	23.18	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P288	15.00 X 25.00	EL 44.29 RR 13.29	0.17 -0.35	44 340	176 1365	4.01	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P289	15.00 X 25.00	EL 44.29 RR 13.29	0.10 -0.38	52 17	754 250	14.46	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P290	15.00 X 25.00	EL 44.29 RR 13.29	0.09 -0.49	27 31	684 799	25.75	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P291	15.00 X 25.00	EL 44.29 RR 13.29	0.60 0.09	4 98	60 1421	14.56	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P292	15.00 X 25.00	EL 44.29 RR 13.29	0.72 0.19	7 72	129 1425	19.76	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P293	15.00 X	EL 44.29	0.00 -0.49	441 675	661 1013	1.50	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P294	15.00 X 25.00	EL 44.29 RR 13.29	0.04 -0.52	41 1195	47 1357	1.14	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P295	15.00 X 25.00	EL 44.29 RR 13.29	0.05 -0.37	91 63	724 501	8.00	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P296	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -1.02	245 98	714 285	2.92	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P297	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.54	51 635	108 1349	2.13	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P298	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.99	77 1116	90 1308	1.17	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P299	15.00 X 25.00	EL 44.29 RR 13.29	0.01 -0.44	66 657	135 1352	2.06	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P300	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.65	5 206	31 1347	6.53	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P301	15.00 X 25.00	EL 44.29 RR 13.29	0.11 -0.34	2 900	3 1381	1.53	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P302	15.00 X 25.00	EL 44.29 RR 13.29	0.59 0.13	43 13	783 232	18.43	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P303	15.00 X 25.00	RR 22.14 RR 13.29	0.88 0.30	50 470	153 1439	3.06	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P304	15.00 X 25.00	EL 44.29 RR 13.29	0.27 -0.22	13 230	81 1381	6.01	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P305	15.00 X 25.00	EL 44.29 RR 13.29	0.36 -0.11	4 1158	5 1402	1.21	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P306	15.00 X	EL 44.29	0.00 -0.84	1 128	12 1335	10.45	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P307	15.00 X 25.00	EL 44.29 RR 13.29	0.27 -0.23	4 988	5 1391	1.41	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P308	15.00 X 25.00	EL 44.29 RR 13.29	0.40 -0.04	5 846	8 1410	1.67	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P309	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.67	13 248	70 1337	5.39	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P310	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.64	50 623	108 1339	2.15	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P311	15.00 X 25.00	EL 44.29 RR 13.29	0.68 0.10	23 166	192 1403	8.45	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P312	15.00 X 25.00	EL 44.29 RR 13.29	0.83 0.26	4 144	41 1442	9.99	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P313	15.00 X 25.00	EL 44.29 RR 13.29	0.46 0.03	16 139	160 1396	10.07	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P314	15.00 X 25.00	EL 44.29 RR 13.29	0.45 0.03	8 209	52 1410	6.73	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P315	15.00 X 25.00	RR 22.14 RR 13.29	1.01 0.35	115 388	416 1404	3.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P316	15.00 X 25.00	EL 44.29 RR 13.29	0.16 -0.38	11 184	81 1365	7.42	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P317	15.00 X 25.00	EL 44.29 RR 13.29	0.26 -0.26	11 112	137 1372	12.21	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P318	15.00 X 25.00	EL 44.29 RR 13.29	0.18 -0.37	6 109	78 1370	12.57	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P319	15.00 X	EL 44.29	0.03 -0.58	37 180	270 1320	7.32	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P320	15.00 X 25.00	EL 44.29 RR 13.29	0.30 -0.09	4 52	110 1389	26.81	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P321	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -1.02	47 1200	51 1310	1.09	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P322	15.00 X 25.00	EL 44.29 RR 13.29	0.45 0.03	4 161	31 1413	8.77	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P323	15.00 X 25.00	EL 44.29 RR 13.29	0.87 0.30	75 18	800 193	10.67	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P324	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.99	16 129	164 1303	10.06	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P325	15.00 X 25.00	EL 44.29 RR 13.29	0.50 0.08	2 176	19 1421	8.06	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P326	15.00 X 25.00	EL 44.29 RR 13.29	0.01 -0.57	6 1262	7 1357	1.08	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P327	15.00 X 25.00	EL 44.29 RR 13.29	0.24 -0.19	8 54	191 1368	25.18	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P328	15.00 X 25.00	EL 44.29 RR 13.29	0.41 -0.01	1 60	26 1410	23.60	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P329	15.00 X 25.00	EL 44.29 RR 13.29	0.27 -0.16	5 600	12 1397	2.33	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P330	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.48	3 34	140 1352	40.36	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P331	15.00 X 25.00	EL 44.29 RR 13.29	0.23 -0.20	5 619	12 1393	2.25	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P332	15.00 X	EL 44.29	0.46 0.03	1 33	64 1410	42.95	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P333	15.00 X 25.00	EL 44.29 RR 13.29	0.23 -0.21	7 856	11 1392	1.63	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P334	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.55	6 53	156 1340	25.12	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P335	15.00 X 25.00	EL 44.29 RR 13.29	0.13 -0.32	8 852	14 1380	1.62	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P336	15.00 X 25.00	RR 22.14 RR 13.29	0.54 0.01	48 155	420 1347	8.69	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P337	15.00 X 25.00	EL 44.29 RR 13.29	0.73 0.20	4 59	102 1431	24.06	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P338	15.00 X 25.00	EL 44.29 RR 13.29	1.05 0.36	6 57	159 1450	25.33	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P339	15.00 X 25.00	EL 44.29 RR 13.29	0.17 -0.28	25 761	46 1381	1.81	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P340	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.57	61 1036	80 1347	1.30	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P341	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.68	3 69	66 1349	19.58	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P342	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.85	93 28	731 218	7.87	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P343	15.00 X 25.00	EL 44.29 RR 13.29	0.23 -0.25	65 716	124 1372	1.92	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P344	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.79	27 1015	35 1335	1.32	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P345	15.00 X	EL 44.29	0.19 -0.37	8 190	57 1369	7.20	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P346	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.70	23 963	33 1340	1.39	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P347	15.00 X 25.00	EL 44.29 RR 13.29	0.12 -0.38	187 857	292 1336	1.56	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P348	15.00 X 25.00	EL 44.29 RR 13.29	0.80 0.24	2 39	59 1440	36.72	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P349	15.00 X 25.00	EL 44.29 RR 13.29	0.35 -0.07	22 304	99 1395	4.59	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P350	20.00 X 30.00	EL 85.12 RR 28.37	0.00 -6.29	61 902	66 981	1.09	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P351	15.00 X 25.00	EL 44.29 RR 13.29	0.36 -0.03	62 8	787 108	12.73	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P352	15.00 X 25.00	EL 44.29 RR 13.29	0.34 -0.10	7 276	35 1403	5.09	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P353	15.00 X 25.00	EL 44.29 RR 13.29	0.21 -0.23	19 47	520 1268	26.72	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P354	15.00 X 25.00	EL 44.29 RR 13.29	0.52 0.08	10 46	296 1384	29.78	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P355	15.00 X 25.00	EL 44.29 RR 13.29	0.15 -0.30	3 849	5 1384	1.63	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P356	15.00 X 25.00	EL 44.29 RR 13.29	0.00 -0.60	7 43	210 1329	30.88	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P357	15.00 X 25.00	EL 44.29 RR 13.29	0.06 -0.40	13 851	22 1372	1.61	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)
P358	15.00 X	EL 44.29	0.98 0.37	26 0	831 0	31.75	1.57 (2 ø 10.0)

	25.00	RR 13.29					1.57 (2 ø 10.0)
P359	15.00 X 25.00	EL 44.29 RR 13.29	0.33 -0.10	4 56	94 1391	24.75	1.57 (2 ø 10.0) 1.57 (2 ø 10.0)

Vigas do pavimento TERREO

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VA1	652.65 638.00 383.67 1456.87 639.49 438.55 0.11 1838.37 360.39 1688.82	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1100.32 -1186.66 -995.60 -2552.83 -2489.31 -1184.38 -488.99 -2281.79 -3004.52 -2925.62 -2264.09	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 02, 48
VA2	496.03	3 ø 8.0					26, 137
VA3	708.10 538.51 603.99 398.97 588.67 137.52 0.11 1805.05 339.12 1679.50	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-954.58 -1170.10 -1275.94 -1103.93 -259.08 -1040.24 -271.59 -2253.06 -3125.92 -2936.81 -2752.80	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 02
VA4	2945.85 300.07 608.92 816.39 1068.06	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-3416.32 -3924.34 -756.85 -1740.66 -1756.60 -1451.40	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA5	316.05 716.21 2701.02	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-759.03 -1120.82 -4786.23 -4504.39	2 ø 10.0 2 ø 10.0 3 ø 10.0 3 ø 10.0	2 ø 6.3 2 ø 6.3	26, 48
VA6	1405.10	2 ø 10.0					26, 137
VA7	1747.35	2 ø 10.0					26, 137
VA8	2827.64	2 ø 10.0		-2758.23	2 ø 10.0		26, 48

	308.15 595.86 837.02 1070.20	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-3694.41 -741.26 -1620.28 -1819.73 -1358.26	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VA9	1632.14 371.48 2852.42	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2359.51 -2693.86 -4799.45 -4164.89	2 ø 10.0 2 ø 10.0 3 ø 10.0 3 ø 10.0		26, 48
VA10	1353.99 1354.04	2 ø 10.0 2 ø 10.0		-2242.47 -2790.11 -2363.40	2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VA11	2755.17 0.11 601.88 396.39 807.97 70.31 194.50 360.21 306.24 440.74	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-2648.13 -2393.33 -850.77 -831.00 -1374.11 -897.80 -719.78 -456.61 -920.24 -568.47 -867.78	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA12	1024.09 0.11 699.11 575.18 696.12	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1431.66 -1174.72 -859.04 -1259.53 -1168.33 -1093.80	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA13	883.25 1075.35	3 ø 12.5 3 ø 12.5		-674.07 -1886.74 -248.95	3 ø 12.5 3 ø 12.5 3 ø 12.5		
VA14	744.01	2 ø 10.0					26, 137
VA15	986.31	2 ø 10.0					26, 137
VA16	1052.05	2 ø 10.0					26, 137
VA17	2011.85	2 ø 10.0					26, 137
VA18	534.93	2 ø 10.0					26, 137
VA19	2577.47 0.11 549.41 415.41 844.85 0.11 284.04 177.35 351.31 469.35	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-2912.99 -2410.52 -1029.11 -756.93 -1495.38 -729.40 -739.83 -266.66 -814.87 -581.49 -788.32	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 02, 48
VA20	1046.61 0.11 694.75 600.23	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1392.77 -1181.63 -862.18 -1271.11	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48

	644.85	2 ø 10.0		-1134.54 -1255.56	2 ø 10.0 2 ø 10.0		
VA21	883.26 1075.35	3 ø 12.5 3 ø 12.5		-674.07 -1886.73 -248.95	3 ø 12.5 3 ø 12.5 3 ø 12.5		
VA22	0.11 1564.62 0.11 1631.51 221.70 669.53 375.60 637.57	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-858.96 -2148.74 -2501.73 -1605.52 -2220.50 -1008.96 -1257.50 -1201.36 -1070.75	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26, 02, 48
VA23	210.92 2045.50 1330.04	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-515.28 -3264.93 -3849.12 -2227.33	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26, 48
VA24	468.28	2 ø 10.0					26, 137
VA25	1353.99 1354.04	2 ø 10.0 2 ø 10.0		-2242.47 -2790.11 -2363.40	2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VA26	0.11 1554.49 0.11 1248.61 1566.80	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-661.64 -2128.39 -2519.90 -1224.68 -3290.37 -2812.81	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 02, 48
VA27	663.30 435.71 840.66	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2035.51 -1294.21 -1548.80 -1207.30	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		48
VA28	1360.98 1921.08 1402.33	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1916.01 -3649.55 -3690.75 -1996.54	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA29	535.57	3 ø 8.0	2 ø 6.3	-1004.37	3 ø 8.0	2 ø 6.3	26, 137
VA30	1092.60 740.66 874.06 894.67	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1461.48 -2046.77 -1766.57 -1828.26 -1399.43	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA31	484.68	3 ø 8.0	2 ø 6.3	-1146.71	3 ø 8.0	2 ø 6.3	26, 137
VA32	807.93 731.18 1522.19 557.42 2008.51 0.11 1960.71 570.72 825.62	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1077.62 -1595.88 -2695.94 -2697.23 -3386.47 -3249.28 -3229.48 -2147.77 -3415.73	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 06, 48

				-1085.07 -719.93 -1213.53 -1127.65	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VA33	1085.97 747.63 877.83 856.89	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1504.55 -2005.72 -1771.36 -1795.26 -1549.20	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA34	999.44 3857.17 511.61 344.09 623.63 257.03 942.54 912.46 816.77 1505.40	3 ø 8.0 2 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0		-6479.33 -4854.28 -950.72 -1118.79 -1248.17 -1791.07 -1961.53 -1813.45 -1880.62 -1779.47	3 ø 12.5 3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0		26, 48
VA35	2278.18	2 ø 10.0					26, 137
VA36	1150.40	2 ø 10.0		-914.29	2 ø 10.0		26, 137
VA37	584.94	2 ø 10.0					26, 137
VA38	3012.20	2 ø 10.0		-2453.35	2 ø 10.0		26, 137
VA39	1117.33	2 ø 10.0		-622.47 -503.66	2 ø 10.0 2 ø 10.0		26
VA40	587.50	2 ø 10.0		-233.36	2 ø 10.0		26, 137
VA41	1976.92	2 ø 10.0		-726.61	2 ø 10.0		26, 137
VA42	1101.67 890.94 1474.97 640.68 2063.94	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1388.60 -2200.82 -2750.34 -2752.95 -3587.33 -3026.79	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA43	142.02	2 ø 10.0		-1391.40	2 ø 10.0		26, 48, 137
VA44	2399.36	2 ø 10.0		-2113.42 -1521.26	2 ø 10.0 2 ø 10.0		26, 48
VA45	2049.14 126.08 860.35 1978.92 0.11	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1257.81 -3240.65 -1453.17 -3431.64 -2507.74 -425.68	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA46	1336.35 87.07 709.33 1737.41 200.07 894.50 484.17	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1614.23 -1828.20 -1276.10 -2997.31 -2997.20 -1349.73 -1967.55	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA47	0.11 1367.90	2 ø 10.0 2 ø 10.0		-2594.42 -385.00	2 ø 10.0 2 ø 10.0		26, 137
VA48	629.58	2 ø 10.0		-437.34	2 ø 10.0		26, 137

VA49	216.32 1482.44 652.56 121.88 232.97	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-219.44 -1979.86 -2024.06 -758.54 -443.79 -613.18	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VA50	821.53 143.60 708.07 1747.07 167.40 943.96 396.37	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1147.39 -1453.60 -1292.44 -3119.25 -2865.76 -1627.52 -1551.14 -612.31	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA51	1755.09 0.11 1511.65 196.45	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-2162.29 -2892.74 -2355.35 -2551.19 -692.59	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA52	598.10	2 ø 10.0		-632.13	2 ø 10.0		26, 137
VA53	416.85	2 ø 10.0		-239.42	2 ø 10.0		26, 137
VA54	1109.32 1060.59 1109.32	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1974.81 -2280.33 -2280.33 -1974.81	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VA55	2611.39	2 ø 10.0		-3090.01 -3334.60	2 ø 10.0 2 ø 10.0		26, 48
VA56	980.03 287.69	2 ø 10.0 2 ø 10.0		-1786.57 -736.73	2 ø 10.0 2 ø 10.0		26, 48, 137
VA57	462.77	2 ø 10.0		-150.34	2 ø 10.0		26, 137
VA58	1598.34	2 ø 10.0	2 ø 6.3	-2584.48 -2866.79	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26
VA59	1505.90 269.79	2 ø 10.0 2 ø 10.0		-2320.97 -2781.52 -722.76	2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA60	1843.87	2 ø 10.0		-3300.92 -1799.52	2 ø 10.0 2 ø 10.0		26
VA61	1557.94 249.47	2 ø 10.0 2 ø 10.0		-2189.25 -2820.15 -802.18	2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA62	1649.75 0.11 1166.26	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2106.45 -2719.89 -2117.22 -1658.86	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA63	1108.12 1055.58 1108.12	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1980.05 -2277.63 -2277.63 -1980.05	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VA64	1552.99	2 ø 10.0	2 ø 6.3	-2629.89 -2915.84	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26
VA65	2900.55	2 ø 10.0		-1246.53 -1332.01	2 ø 10.0 2 ø 10.0		26

VA66	2248.82	2 ø 10.0					26, 137
VA67	1503.32 260.01	2 ø 10.0 2 ø 10.0		-2339.11 -2779.78 -759.50	2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA68	2188.73	2 ø 10.0		-3569.98 -1013.52	2 ø 10.0 2 ø 10.0		26
VA69	2098.01	2 ø 10.0		-662.95 -1890.37	2 ø 10.0 2 ø 10.0		26
VA70	814.82	2 ø 10.0		-1226.72 -1432.84	2 ø 10.0 2 ø 10.0		26, 48
VA71	2224.32	2 ø 10.0		-3103.22 -3069.52	2 ø 10.0 2 ø 10.0		26
VA72	1728.33	2 ø 10.0		-2614.29 -2569.41	2 ø 10.0 2 ø 10.0		26
VA73	2575.01	2 ø 10.0		-2566.76 -2728.32	2 ø 10.0 2 ø 10.0		26
VA74	909.23	2 ø 10.0		-1058.10 -1253.01	2 ø 10.0 2 ø 10.0		26
VA75	1312.06 157.04 841.61	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1559.28 -1785.48 -919.37 -1096.41	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA76	1859.21 228.28	2 ø 10.0 2 ø 10.0		-3051.34 -2967.85 -728.94	2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA77	375.32	2 ø 10.0		-13.76	2 ø 10.0		26, 137
VA78	577.15 1623.91 2093.71 212.51	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0		-748.55 -2220.41 -3362.89 -3220.15 -710.08	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0		26, 48
VA79	4113.45	3 ø 10.0					26, 137
VA80	3200.82	2 ø 10.0		-95.69 -87.72	2 ø 10.0 2 ø 10.0		26
VA81	73.05 188.19 559.87	3 ø 8.0 3 ø 8.0 3 ø 8.0		-9.62 -394.76 -529.02	3 ø 8.0 3 ø 8.0 3 ø 8.0		26
VA82	796.44	2 ø 10.0		-1160.27 -1564.07	2 ø 10.0 2 ø 10.0		26, 48
VA83	814.65	2 ø 10.0		-865.45 -1057.55	2 ø 10.0 2 ø 10.0		26
VA84	1610.06 2062.41	3 ø 8.0 3 ø 8.0		-2272.28 -436.36 -4594.64	2 ø 10.0 2 ø 10.0 3 ø 10.0		26, 137
VA85	631.20	2 ø 10.0		-1332.26 -1144.84	2 ø 10.0 2 ø 10.0		26, 48
VA86	619.57	2 ø 10.0		-285.24	2 ø 10.0		26, 137
VA87	1242.95	2 ø 10.0		-1254.27 -1424.05	2 ø 10.0 2 ø 10.0		26
VA88	800.56	2 ø 10.0		-908.42 -1029.88	2 ø 10.0 2 ø 10.0		26
VA89	770.35	2 ø 10.0		-1044.38	2 ø 10.0		26

				-971.44	2 ø 10.0		
VA90	270.06	2 ø 10.0		-1362.33	2 ø 10.0		26, 137
VA91	2379.51	3 ø 8.0		-4112.63 -2352.45 -4431.45	3 ø 10.0 3 ø 8.0 3 ø 10.0		26, 48
VA92	1618.87 739.58 1472.22	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-2258.10 -3000.56 -2822.46 -2395.16	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA93	1800.97	2 ø 10.0		-1877.94 -2105.94	2 ø 10.0 2 ø 10.0		26, 48
VA94	730.26	2 ø 10.0		-694.64 -1548.47	2 ø 10.0 2 ø 10.0		26
VA95	176.25 278.54	2 ø 10.0 2 ø 10.0		-1521.75	2 ø 10.0		26, 137
VA96	2362.44	2 ø 10.0					26, 137
VA97	286.89	2 ø 10.0		-28.55	2 ø 10.0		26, 137
VA98	2629.69	2 ø 10.0		-701.67 -767.29	2 ø 10.0 2 ø 10.0		26
VA99	639.74	2 ø 10.0		-1262.48 -1180.66	2 ø 10.0 2 ø 10.0		26
VA100	1673.13	2 ø 10.0		-1701.70 -1934.20	2 ø 10.0 2 ø 10.0		26, 48
VA101	0.11 485.15	2 ø 10.0 2 ø 10.0		-360.33	2 ø 10.0		26, 137
VA102	1659.27 1236.12	2 ø 10.0 2 ø 10.0	2 ø 6.3	-1475.98 -2194.33 -2209.60	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26, 48
VA103	2556.08	2 ø 10.0		-1869.44 -1982.35	2 ø 10.0 2 ø 10.0		26
VA104	1185.96	2 ø 10.0					26, 137
VA105	436.63	2 ø 10.0					26, 137
VA106	314.69	2 ø 10.0		-894.25 -1137.62	2 ø 10.0 2 ø 10.0		26, 38, 48
VA107	1562.78	2 ø 10.0		-2559.20 -2473.93	2 ø 10.0 2 ø 10.0		26, 48
VA108	1431.37 617.03 1565.27	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2218.31 -2762.67 -2833.97 -2218.08	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA109	1497.22 547.51 921.84	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1471.12 -2303.27 -1247.24 -1098.35	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA110	742.61	2 ø 10.0		-689.73 -1479.35	2 ø 10.0 2 ø 10.0		26, 48
VA111	2626.94	2 ø 10.0		-3378.82	2 ø 10.0		26, 48, 137
VA112	1671.62 449.32 1551.85	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2345.43 -3024.35 -2811.70 -2273.69	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA113	768.67	2 ø 10.0		-1112.99	2 ø 10.0		26, 48

	612.01 653.36	2 ø 10.0 2 ø 10.0		-1634.13 -1408.86 -937.96	2 ø 10.0 2 ø 10.0 2 ø 10.0		
VA114	1677.91	2 ø 10.0		-412.84 -1741.25	2 ø 10.0 2 ø 10.0		26, 48
VA115	1454.16	2 ø 10.0		-1031.34 -1330.98	2 ø 10.0 2 ø 10.0		26
VA116	1522.78	2 ø 10.0	2 ø 6.3	-2853.74 -2412.06	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26, 48
VA117	1674.94	2 ø 10.0	2 ø 6.3	-2233.78 -3276.98	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26, 48
VA118	921.53	2 ø 10.0		-1101.79 -1216.15	2 ø 10.0 2 ø 10.0		26
VA119	386.78 462.96	2 ø 10.0 2 ø 10.0		-1086.69 -576.72 -953.56	2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VA120	697.58	2 ø 10.0		-1132.39 -1073.99	2 ø 10.0 2 ø 10.0		26, 48
VA121	935.59	2 ø 10.0		-1082.25 -1210.89	2 ø 10.0 2 ø 10.0		26
VA122	721.06	2 ø 10.0		-1098.72 -1043.98	2 ø 10.0 2 ø 10.0		26
VA123	1495.50	2 ø 10.0	2 ø 6.3	-2912.61 -2419.63	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26
VA124	1668.24	2 ø 10.0	2 ø 6.3	-2232.92 -3304.11	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26
VA125	889.53	2 ø 10.0		-1127.08 -1269.05	2 ø 10.0 2 ø 10.0		26
VA126	722.71	2 ø 10.0		-1155.56 -1013.69	2 ø 10.0 2 ø 10.0		26
VA127	380.23 442.61	2 ø 10.0 2 ø 10.0		-1066.76 -603.50 -957.03	2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA128	840.40	2 ø 10.0		-899.61 -1063.09	2 ø 10.0 2 ø 10.0		26
VA129	423.55	2 ø 10.0		-70.97 -686.48	2 ø 10.0 2 ø 10.0		26
VA130	1699.54	2 ø 10.0	2 ø 6.3	-2171.03 -3296.83	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	26
VA131	897.54	2 ø 10.0		-1116.17 -1259.42	2 ø 10.0 2 ø 10.0		26
VA132	743.20	2 ø 10.0		-1755.90	2 ø 10.0		26, 137
VA133	683.85	2 ø 10.0					26, 137
VA134	3256.49 0.11 1733.40	2 ø 10.0 2 ø 10.0 2 ø 10.0		-3248.92 -4446.43 -2598.32 -2566.21	2 ø 10.0 3 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA135	1588.26 122.27 809.81	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2261.06 -2693.79 -1347.78 -1254.90	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VA136	660.32	2 ø 10.0		-1006.96	2 ø 10.0		26, 48

	296.54	2 ø 10.0		-1238.92	2 ø 10.0		
	676.45	2 ø 10.0		-1261.84	2 ø 10.0		
				-952.18	2 ø 10.0		

Vigas do pavimento COBERTURA

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	1427.61	2 ø 10.0		-1491.24	3 ø 8.0		02, 04, 48
	1398.66	2 ø 10.0		-2076.59	3 ø 8.0		
	886.00	2 ø 10.0		-1731.33	3 ø 8.0		
	2472.71	2 ø 10.0	2 ø 6.3	-4039.60	3 ø 10.0		
	1462.66	2 ø 10.0		-4503.39	3 ø 10.0		
	695.53	2 ø 10.0		-1777.12	3 ø 8.0		
	0.11	2 ø 10.0		-990.11	3 ø 8.0		
	2399.25	2 ø 10.0	2 ø 6.3	-2941.30	3 ø 8.0		
	696.15	2 ø 10.0		-4304.80	4 ø 8.0		
	2296.13	2 ø 10.0	2 ø 6.3	-4011.78	4 ø 8.0		
				-2595.20	3 ø 8.0	2 ø 6.3	
VB2	780.06	2 ø 10.0		-18.92	2 ø 10.0		
				-127.61	2 ø 10.0		
VB3	2467.38	2 ø 10.0		-1042.51	2 ø 10.0		
	1999.46	2 ø 10.0		-3368.12	2 ø 10.0		
	147.75	2 ø 10.0		-1582.79	2 ø 10.0		
	6372.23	3 ø 12.5		-9348.98	2 ø 16.0		
	1636.82	2 ø 10.0		-249.85	2 ø 10.0		
	295.68	2 ø 10.0		-6873.79	3 ø 12.5		
	4349.26	3 ø 10.0		-305.31	2 ø 10.0		
	0.11	2 ø 10.0		-4835.70	3 ø 10.0		
	5099.59	3 ø 10.0		-5688.51	2 ø 12.5		
				-6121.20	2 ø 12.5		
				-3187.42	2 ø 10.0		
VB4	4186.72	3 ø 10.0		-2800.36	3 ø 8.0		
	922.96	3 ø 8.0		-5802.29	3 ø 10.0		
	1307.54	3 ø 8.0		-1677.22	3 ø 8.0		
	2873.54	3 ø 8.0		-10.28	3 ø 8.0		
	1466.21	3 ø 8.0		-4526.04	3 ø 10.0		
	0.11	3 ø 8.0		-4065.29	2 ø 12.5		
	4226.87	3 ø 10.0		-2404.13	3 ø 8.0		
	517.51	3 ø 8.0		-5632.52	3 ø 10.0		
	7165.82	3 ø 12.5		-4204.46	4 ø 8.0		
				-9620.10	6 ø 10.0		
				-5658.58	3 ø 10.0		
VB5	2082.01	2 ø 10.0		-263.94	2 ø 10.0		12
VB6	1972.57	2 ø 10.0		-116.66	2 ø 10.0		
				-27.45	2 ø 10.0		

VB7	2590.15 990.54 1138.24 1519.73 1961.46 265.03 4581.79 937.05 3573.53	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0 3 ø 10.0	2 ø 6.3 2 ø 8.0 2 ø 6.3	-2284.33 -3908.66 -1497.07 -2619.08 -3107.07 -1991.10 -4866.13 -3758.36 -6614.54 -4629.71	3 ø 8.0 2 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 8.0 3 ø 12.5 4 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	04, 06, 48
VB8	645.78 641.36	2 ø 10.0 2 ø 10.0		-1074.53 -1369.95 -1250.35	2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VB9	2852.85 0.11 422.99 369.00 650.72 0.11 357.71 338.91 175.78 2941.53 490.60 3007.30 0.11 1587.86 1347.87 1556.80	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-2216.56 -1686.81 -935.21 -231.61 -1185.26 -280.69 -955.12 -87.00 -966.75 -854.33 -2368.62 -3602.33 -1881.33 -361.97 -1589.75 -2281.43 -2134.27 -1452.39	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		04, 48
VB10	1108.03	2 ø 10.0		-138.33	2 ø 10.0		
VB11	1242.31	2 ø 10.0		-48.63 -56.24	2 ø 10.0 2 ø 10.0		
VB12	429.37	2 ø 10.0		-15.98 -17.18	2 ø 10.0 2 ø 10.0		
VB13	2965.93	2 ø 10.0		-129.43 -35.17	2 ø 10.0 2 ø 10.0		
VB14	209.92	2 ø 10.0		-153.94	2 ø 10.0		
VB15	3625.52 0.11 541.63 856.54 1359.64 5.22 661.16 332.88 387.02 1572.63 270.78 3107.61 0.11	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	-2536.82 -3088.16 -1158.72 -706.56 -627.66 -2349.92 -1098.35 -1544.16 -217.42 -46.67 -1316.91 -49.09 -881.78	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	02

	2365.28 1361.97 2626.99	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1996.83 -4023.45 -2777.14 -826.17 -2242.26 -3191.60 -3212.70 -1469.03	2 ø 10.0 3 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB16	50.96 3441.35 0.11 1094.66 3851.82 614.25 657.86 3758.12 0.11 3576.35 5071.13 4328.71	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 4 ø 8.0 3 ø 8.0 3 ø 8.0 4 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 10.0 4 ø 8.0	2 ø 6.3 2 ø 6.3	-446.61 -3722.67 -4676.88 -1136.96 -806.09 -5552.09 -4855.78 -979.48 -3081.96 -4005.10 -4653.57 -9104.42 -9435.14 -2943.19	3 ø 8.0 3 ø 8.0 4 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 10.0 4 ø 8.0 3 ø 8.0 3 ø 8.0 4 ø 8.0 4 ø 8.0 2 ø 16.0 2 ø 16.0 3 ø 8.0	2 ø 6.3 2 ø 6.3	
VB17	66.73 5276.73 391.01 4636.27 0.11 443.49 358.48	2 ø 10.0 3 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-650.60 -584.29 -6412.40 -219.29 -1203.95 -5323.50 -4669.49 -327.29 -1400.70	2 ø 10.0 2 ø 10.0 3 ø 12.5 2 ø 10.0 2 ø 10.0 2 ø 12.5 3 ø 10.0 2 ø 10.0 2 ø 10.0		02, 12
VB18	89.05	2 ø 10.0		-210.05 -77.85	2 ø 10.0 2 ø 10.0		
VB19	4984.70 5144.23 5160.59	3 ø 10.0 3 ø 10.0 3 ø 10.0		-90.36 -10533.45 -10153.94 -344.99	2 ø 10.0 3 ø 16.0 3 ø 16.0 2 ø 10.0		12
VB20	645.78 641.36	2 ø 10.0 2 ø 10.0		-1074.53 -1369.95 -1250.35	2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VB21	0.11 2148.46 231.56 701.79 0.11 0.11 4633.55	2 ø 10.0 2 ø 10.0 2 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0	2 ø 6.3 2 ø 8.0	-840.65 -2263.89 -3659.55 -0.04 -542.16 -945.44 -7257.75 -5713.40	2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 3 ø 12.5 2 ø 12.5	2 ø 6.3 2 ø 6.3	02, 04, 48
VB22	581.82 313.91 1755.98	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	-3850.73 -362.20 -1721.18 -2498.29	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	

VB23	543.82 3062.39 2655.22 2122.43	3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 8.0	2 ø 6.3 2 ø 6.3	-1413.22 -4184.67 -6037.29 -5452.80 -17.55 -2403.73	2 ø 12.5 2 ø 12.5 2 ø 12.5 3 ø 10.0 3 ø 8.0 3 ø 8.0	2 ø 6.3	04, 48
VB24	47.80 5997.86	3 ø 8.0 3 ø 12.5	2 ø 6.3	-85.20 -7202.40 -265.04	3 ø 8.0 3 ø 12.5 3 ø 8.0	2 ø 6.3	04
VB25	2565.02 3100.30 2046.09 2224.06 2378.78	2 ø 12.5 2 ø 12.5 2 ø 10.0 2 ø 10.0 2 ø 10.0		-5440.82 -4363.95 -3787.86 -4115.49 -2113.47	2 ø 12.5 2 ø 12.5 2 ø 10.0 3 ø 10.0 2 ø 10.0		04, 48
VB26	73.66 5949.15	3 ø 8.0 3 ø 12.5	2 ø 6.3	-52.10 -7957.44 -130.06	3 ø 8.0 3 ø 12.5 3 ø 8.0	2 ø 6.3	04
VB27	1121.32 1063.48 1653.90 956.98 2067.05 0.11 4159.36 377.46 470.04 0.11 795.20	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 10.0 3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	-1097.68 -2053.60 -3228.59 -3105.25 -3921.38 -3418.66 -3424.76 -6252.48 -3879.94 -5660.37 -989.64 -825.84 -1669.63 -1279.31	3 ø 8.0 3 ø 8.0 3 ø 8.0 2 ø 10.0 3 ø 8.0 3 ø 10.0 3 ø 12.5 2 ø 10.0 2 ø 12.5 2 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	02, 04, 06, 48
VB28	472.38 3714.10 2656.77 3044.03 3740.30	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-1046.40 -4913.41 -5827.42 -5333.58 -5670.62 -2422.94	2 ø 10.0 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 10.0	2 ø 6.3 2 ø 6.3	
VB29	1802.15 777.90 3027.47 534.66 3969.11 0.11 5175.41 227.41 814.52 1073.56	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 2 ø 10.0 3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0		-1051.79 -2517.36 -4136.89 -4459.17 -5177.50 -4853.84 -6438.97 -5223.35 -903.97 -2135.62 -1698.41	3 ø 8.0 3 ø 8.0 3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 12.5 3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0		
VB30	2354.98	2 ø 10.0		-328.89	2 ø 10.0		
VB31	262.68 4052.53 3245.55	3 ø 10.0 3 ø 10.0 3 ø 10.0		-899.43 -5357.63 -6621.37	2 ø 12.5 3 ø 10.0 3 ø 12.5		

	3239.63 2761.78	3 ø 10.0 3 ø 10.0		-6036.36 -3803.87 -4790.57 -1431.00	2 ø 12.5 4 ø 8.0 4 ø 8.0 4 ø 8.0		
VB32	0.11 0.11	2 ø 10.0 2 ø 10.0		-85.55 -2319.25 -5208.87 -6.96	2 ø 10.0 2 ø 10.0 2 ø 12.5 2 ø 10.0		
VB33	1733.53 487.07 5294.47 0.11 6554.86 0.11 0.11 3508.95 20.24 4722.37	3 ø 8.0 3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 12.5 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 10.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	-110.35 -3680.03 -4512.14 -5749.03 -7458.27 -5799.89 -3101.68 -1810.10 -151.73 -3417.23 -4931.90 -151.30	3 ø 8.0 3 ø 8.0 3 ø 10.0 2 ø 12.5 2 ø 16.0 2 ø 12.5 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 10.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	151
VB34	3709.05	2 ø 10.0		-2397.16 -169.45	2 ø 10.0 2 ø 10.0		
VB35	521.25 385.12 900.00	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2109.85 -4620.61 -28.42	2 ø 10.0 3 ø 10.0 2 ø 10.0		
VB36	3366.92	2 ø 10.0		-569.63 -13.40	2 ø 10.0 2 ø 10.0		
VB37	1885.94 1077.71 4485.17 912.35 5654.48 0.11	3 ø 8.0 3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 10.0 3 ø 8.0	2 ø 8.0	-1346.27 -3120.94 -5786.01 -6482.38 -7481.92 -3917.83 -7551.42 -457.32	2 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 16.0 2 ø 16.0 2 ø 12.5 2 ø 16.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	
VB38	0.11 3010.63 0.11 10109.31	3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 16.0	2 ø 8.0 3 ø 6.3	-1706.06 -346.99 -3670.45 -519.70 -1266.71 -11704.14 -11907.73	2 ø 12.5 2 ø 12.5 2 ø 16.0 2 ø 16.0 2 ø 16.0 3 ø 16.0 3 ø 16.0	3 ø 6.3 4 ø 6.3 4 ø 6.3 3 ø 8.0	
VB39	2029.84 514.43 2359.72 3561.00 64.83	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3	-6910.91 -2104.39 -3556.69 -6978.26 -3519.37 -203.71	3 ø 12.5 3 ø 8.0 3 ø 8.0 3 ø 12.5 3 ø 8.0 3 ø 8.0		04, 48
VB40	1996.07 50.95 360.78 258.15	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-1234.87 -1976.91 -1182.87 -20.99	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		02

	3283.87 0.11 2473.77 557.70	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-4555.16 -3735.77 -1950.83 -1380.02 -3425.27	3 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB41	98.33 2130.34	2 ø 10.0 2 ø 10.0		-3323.70 -244.43	2 ø 10.0 2 ø 10.0		
VB42	108.26 157.56	2 ø 10.0 2 ø 10.0		-3079.61	2 ø 10.0		
VB43	163.15 0.11 0.11 1322.27 821.85 703.10 1377.47	2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5	2 ø 6.3 2 ø 6.3	-1440.24 -1188.62 -1616.89 -1534.05 -1224.17 -2238.01 -1252.30	2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5 2 ø 12.5	2 ø 6.3 2 ø 6.3	02, 04
VB44	1641.50 0.11 1099.86 3353.68 0.11 1741.75 1008.90	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3	-1221.65 -1883.31 -1402.46 -5267.24 -4267.90 -583.30 -2041.66 -2163.63 -688.40	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0		04, 48
VB45	654.78 0.11 2329.86 57.57	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-1115.53 -1615.70 -198.32 -2980.80 -3068.87 -76.36 -505.02	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		04, 48
VB46	994.91	2 ø 10.0		-789.63	2 ø 10.0		
VB47	703.69	2 ø 10.0		-296.32	2 ø 10.0		
VB48	521.12 479.73 521.12	2 ø 10.0 2 ø 10.0 2 ø 10.0		-949.52 -1173.38 -1173.38 -949.52	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26, 48
VB49	2672.09 607.59	2 ø 10.0 2 ø 10.0		-1790.85 -4047.27	2 ø 10.0 3 ø 10.0		
VB50	6003.59 0.11	2 ø 12.5 3 ø 8.0		-302.71 -3673.97 -638.62	3 ø 8.0 3 ø 8.0 3 ø 8.0		
VB51	715.77	2 ø 10.0		-270.50	2 ø 10.0		
VB52	5338.16	2 ø 12.5		-3130.20 -3432.64	2 ø 10.0 2 ø 10.0		
VB53	0.11 9342.09 205.98	3 ø 8.0 2 ø 16.0 3 ø 8.0		-236.86 -8408.76 -8553.47 -442.49	3 ø 8.0 3 ø 12.5 5 ø 10.0 3 ø 8.0		
VB54	7471.63	3 ø 12.5		-4641.53 -2205.70	3 ø 10.0 3 ø 8.0		

VB55	0.11 9412.51 211.69	3 ø 8.0 2 ø 16.0 3 ø 8.0		-63.16 -10320.56 -8479.48 -435.27	3 ø 8.0 3 ø 16.0 5 ø 10.0 3 ø 8.0		
VB56	1699.62 436.88 1178.83	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-1855.79 -3149.88 -2123.80 -1419.94	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		04, 48
VB57	523.45 466.20 523.45	2 ø 10.0 2 ø 10.0 2 ø 10.0		-921.03 -1202.63 -1202.63 -921.03	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VB58	5962.29	2 ø 12.5		-3675.41 -4118.93	3 ø 8.0 4 ø 8.0		
VB59	8223.28	3 ø 12.5		-1367.90 -1007.20	4 ø 8.0 4 ø 8.0		
VB60	2367.66	2 ø 10.0		-1.61 -207.73	2 ø 10.0 2 ø 10.0		12
VB61	0.11 11411.01 116.50	2 ø 16.0 3 ø 16.0 2 ø 16.0		-392.10 -9546.42 -10127.66 -586.79	4 ø 8.0 2 ø 16.0 6 ø 10.0 4 ø 8.0		
VB62	7208.08	3 ø 12.5		-4551.97 -1155.88	3 ø 10.0 2 ø 10.0		
VB63	3098.16	2 ø 10.0		-318.33 -1386.11	2 ø 10.0 2 ø 10.0		
VB64	2411.06	2 ø 10.0		-1274.68 -1345.08	2 ø 10.0 2 ø 10.0		
VB65	6439.97 26.11	3 ø 12.5 3 ø 10.0		-3279.71 -10380.31 -131.13	3 ø 10.0 3 ø 16.0 4 ø 8.0		
VB66	4329.53 0.11	3 ø 10.0 3 ø 10.0		-2068.81 -6052.45 -346.38	3 ø 10.0 2 ø 12.5 3 ø 10.0		
VB67	4072.80	3 ø 10.0		-1813.16 -1726.05	3 ø 8.0 3 ø 8.0		
VB68	10144.35 281.88	3 ø 16.0 2 ø 16.0		-4803.57 -9961.34 -352.07	2 ø 12.5 3 ø 16.0 2 ø 12.5		
VB69	3215.92	2 ø 10.0		-1169.59 -1226.71	2 ø 10.0 2 ø 10.0		
VB70	1858.24 454.09 1448.13	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-1550.59 -2128.90 -1385.02 -1438.38	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		04, 48
VB71	1461.79 524.66	2 ø 10.0 2 ø 10.0		-23.50 -794.09 -3.73	2 ø 10.0 2 ø 10.0 2 ø 10.0		12
VB72	546.53	2 ø 10.0					
VB73	190.14 1155.37 0.11	3 ø 10.0 3 ø 10.0 3 ø 10.0		-138.08 -1950.63 -1866.83	3 ø 10.0 4 ø 8.0 4 ø 8.0		02, 04, 12, 98, 48

				-593.30 -940.84	4 ø 8.0 4 ø 8.0		
VB74	719.72 1543.13 3822.83 0.11	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		-590.04 -1814.97 -5264.78 -4454.98 -663.74	3 ø 8.0 2 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 8.0		
VB75	3779.44	2 ø 10.0		-1023.31 -59.90	2 ø 10.0 2 ø 10.0		
VB76	4035.40	3 ø 10.0		-297.80 -165.46	3 ø 8.0 3 ø 8.0		
VB77	121.55 2085.26 0.11	2 ø 10.0 2 ø 10.0 2 ø 10.0		-2385.99 -1729.99 -3411.01	2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB78	4830.53 0.11 2579.13	3 ø 10.0 2 ø 10.0 2 ø 10.0		-5169.55 -7948.97 -2834.20 -1538.60	3 ø 10.0 3 ø 12.5 3 ø 8.0 3 ø 8.0		
VB79	900.66 2450.75	2 ø 10.0 2 ø 10.0		-151.69 -3977.61 -1132.36	2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB80	1763.34 4235.19	3 ø 8.0 3 ø 10.0		-1759.80 -509.37 -7235.73	3 ø 8.0 3 ø 8.0 3 ø 12.5	2 ø 6.3	
VB81	2401.41	2 ø 10.0		-1674.16 -1824.73	2 ø 10.0 2 ø 10.0		
VB82	1098.12	2 ø 10.0		-150.86	2 ø 10.0		
VB83	2794.48	2 ø 10.0		-1152.21 -1163.64	2 ø 10.0 2 ø 10.0		
VB84	1056.57 2760.75	2 ø 10.0 2 ø 10.0		-145.63 -3370.28 -1059.60	2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB85	3517.20	2 ø 10.0		-1298.65 -1408.03	2 ø 10.0 2 ø 10.0		
VB86	1075.89	2 ø 10.0		-314.52	2 ø 10.0		
VB87	5663.04	3 ø 12.5	2 ø 6.3	-4287.92 -1893.00 -3976.89	3 ø 10.0 2 ø 10.0 2 ø 10.0		
VB88	5043.63 1131.25 5028.99 0.11	3 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	-3589.84 -6467.10 -6240.17 -8258.91 -1473.76	2 ø 12.5 3 ø 12.5 3 ø 12.5 3 ø 12.5 2 ø 12.5	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	
VB89	2131.48	2 ø 10.0		-2147.76 -1137.86	2 ø 10.0 2 ø 10.0		
VB90	1493.84 3070.81	2 ø 10.0 2 ø 10.0		-190.66 -3108.38 -1839.40	2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB91	860.67 98.50	2 ø 10.0 2 ø 10.0		-338.67 -1890.44	2 ø 10.0 2 ø 10.0		
VB92	3722.71	2 ø 10.0		-1779.67 -133.24	2 ø 10.0 2 ø 10.0		

VB93	65.03	2 ø 10.0		-163.86	2 ø 10.0		
VB94	3271.32	2 ø 10.0		-381.03 -477.55	2 ø 10.0 2 ø 10.0		
VB95	3229.10	2 ø 10.0		-1876.64 -2092.02	2 ø 10.0 2 ø 10.0		
VB96	2382.59 4254.11 1987.55	3 ø 8.0 3 ø 10.0 3 ø 8.0	2 ø 6.3	-926.71 -5184.46 -1805.73 -3102.71	3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 8.0	2 ø 6.3	
VB97	4881.31 344.69	3 ø 10.0 3 ø 8.0		-2280.22 -6478.01 -127.52	3 ø 8.0 3 ø 12.5 3 ø 8.0		
VB98	2531.83	2 ø 10.0		-1390.48 -1385.61	2 ø 10.0 2 ø 10.0		
VB99	5949.38 603.42	2 ø 12.5 2 ø 10.0		-385.24 -8204.29	2 ø 12.5 3 ø 12.5		
VB100	4618.15 231.95	3 ø 10.0 3 ø 8.0		-2175.77 -6853.12 -104.20	3 ø 8.0 3 ø 12.5 3 ø 8.0		
VB101	1117.46 8610.75	3 ø 8.0 3 ø 12.5		-973.02 -10977.44 -5780.49	2 ø 10.0 3 ø 16.0 2 ø 12.5		
VB102	2610.87	2 ø 10.0		-1100.39 -1245.16	2 ø 10.0 2 ø 10.0		
VB103	4469.74 0.11 1462.45 748.24	3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 10.0	2 ø 6.3	-235.44 -4486.78 -1476.90 -2102.63 -545.66	3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 10.0		04, 12, 98, 48
VB104	1501.87	2 ø 10.0		-689.35 -104.87	2 ø 10.0 2 ø 10.0		
VB105	3075.50	2 ø 10.0		-85.37	2 ø 10.0		
VB106	1674.85	2 ø 10.0	2 ø 6.3	-1005.16 -5483.85	2 ø 10.0 2 ø 12.5	2 ø 6.3	38
VB107	5987.32 0.11	3 ø 12.5 3 ø 8.0	2 ø 6.3 2 ø 6.3	-7671.34 -6720.64 -1688.07	3 ø 12.5 4 ø 10.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	
VB108	3131.13 365.60 3256.02 0.11 1547.99 1038.32 2105.68	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3	-3877.29 -4939.44 -4480.30 -4505.70 -1992.00 -2646.79 -2811.14 -1336.90	3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	
VB109	2115.59	2 ø 10.0		-1353.35 -1196.52	2 ø 10.0 2 ø 10.0		
VB110	5330.16 0.11 6050.05 0.11 6061.12	3 ø 10.0 3 ø 8.0 3 ø 12.5 3 ø 8.0 2 ø 12.5	2 ø 6.3 2 ø 6.3 2 ø 6.3	-97.57 -6264.81 -6888.69 -7420.76 -6590.53	3 ø 8.0 3 ø 12.5 3 ø 12.5 3 ø 12.5 3 ø 12.5	2 ø 6.3 2 ø 6.3 2 ø 6.3	

	0.11 2598.75 1036.12 1484.38 541.87 2196.10	3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	-7155.74 -2663.56 -3673.91 -2530.14 -2244.86 -2429.52 -1386.29	3 ø 12.5 3 ø 8.0 2 ø 10.0 3 ø 8.0 3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	
VB111	7258.67	3 ø 12.5		-3638.54 -331.92	3 ø 10.0 3 ø 10.0		
VB112	1482.15	3 ø 10.0	2 ø 6.3	-454.50 -262.83	4 ø 8.0 4 ø 8.0	2 ø 6.3	04, 12, 98, 48
VB113	1608.62	3 ø 10.0	2 ø 6.3	-236.59 -388.70	3 ø 10.0 3 ø 10.0	2 ø 6.3 2 ø 6.3	04, 12, 98, 48
VB114	3459.13 0.11 710.30	2 ø 10.0 2 ø 10.0 2 ø 10.0		-387.25 -586.81 -2627.66 -886.93	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB115	7260.01 0.11 8596.58	3 ø 12.5 3 ø 8.0 3 ø 12.5		-4287.11 -7887.67 -9210.29 -5593.25	2 ø 12.5 3 ø 12.5 4 ø 12.5 2 ø 12.5		
VB116	3832.34	2 ø 10.0		-1582.53 -1605.25	3 ø 8.0 3 ø 8.0		
VB117	1867.22 1139.45 1577.69	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1641.22 -742.42 -3091.98 -277.57	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB118	1202.80	2 ø 10.0		-1137.10 -1259.46	2 ø 10.0 2 ø 10.0		
VB119	3813.63	2 ø 10.0		-1492.00 -1324.48	3 ø 8.0 3 ø 8.0		
VB120	653.96 27.43	2 ø 10.0 2 ø 10.0		-30.08 -447.70 -883.38	2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB121	8159.54	3 ø 12.5		-5114.00 -8915.06	3 ø 10.0 2 ø 16.0		
VB122	0.11 8644.37	3 ø 8.0 3 ø 12.5		-5577.46 -9167.62 -5180.77	3 ø 10.0 2 ø 16.0 3 ø 10.0		38
VB123	4389.31	3 ø 10.0		-1743.43 -1598.56	3 ø 8.0 3 ø 8.0		
VB124	0.11	2 ø 10.0		-987.30 -814.88	2 ø 10.0 2 ø 10.0		
VB125	1887.39 1002.08 1445.66	2 ø 10.0 2 ø 10.0 2 ø 10.0		-1653.63 -721.78 -3405.18 -159.79	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VB126	191.61 147.51	2 ø 10.0 2 ø 10.0		-3264.90 -411.64	2 ø 10.0 2 ø 10.0		
VB127	2387.56 78.35	2 ø 10.0 2 ø 10.0		-3810.89 -183.83	2 ø 10.0 2 ø 10.0		12
VB128	228.43	3 ø 8.0		-9624.70	2 ø 16.0		

	8142.06	3 ø 12.5		-5188.24	3 ø 10.0		
VB129	4296.81	3 ø 10.0		-1752.19 -1708.91	3 ø 8.0 3 ø 8.0		
VB130	2082.66	2 ø 10.0		-1849.22	2 ø 10.0		
VB131	1184.27	2 ø 10.0		-218.06	2 ø 10.0		
VB132	3027.41 0.11 3196.84	3 ø 8.0 3 ø 8.0 3 ø 8.0	2 ø 6.3 2 ø 6.3	-3000.76 -4174.01 -321.61 -4751.20 -3678.02	2 ø 10.0 3 ø 10.0 2 ø 10.0 3 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	04, 48
VB133	3619.90 191.43 1784.29	2 ø 10.0 3 ø 8.0 3 ø 8.0	2 ø 6.3	-3491.91 -4934.16 -2294.11 -1663.86	3 ø 8.0 3 ø 10.0 3 ø 8.0 3 ø 8.0	2 ø 6.3	04, 48
VB134	431.01 313.42 458.22	2 ø 10.0 2 ø 10.0 2 ø 10.0		-730.47 -984.53 -894.59 -678.28	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		04, 48
VB135	26.74	6 ø 8.0		-46.21 -51.61	6 ø 12.5 6 ø 12.5		
VB136	26.61	6 ø 8.0		-52.56 -45.73	6 ø 12.5 6 ø 12.5		
VB137	172.08 172.08	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	-21.96 -78.51 -21.96	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	
VB138	172.07 172.07	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	-21.96 -78.51 -21.96	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	
VB139	172.10 172.10	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	-21.96 -78.48 -21.96	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	
VB140	172.10 172.10	2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	-21.96 -78.48 -21.96	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	
VB141	28.44	6 ø 8.0		-47.70 -46.22	6 ø 12.5 6 ø 12.5		
VB142	28.46	6 ø 8.0		-46.85 -47.22	6 ø 12.5 6 ø 12.5		
VB143	9.32 58.58 0.11	6 ø 8.0 6 ø 8.0 6 ø 8.0		-149.30 -86.43	6 ø 12.5 6 ø 12.5		02, 38
VB144	0.11 87.56 9.81	6 ø 8.0 6 ø 8.0 6 ø 8.0		-112.99 -129.90	6 ø 12.5 6 ø 12.5		38
VB145	158.80	2 ø 10.0		-139.92 -139.96	2 ø 10.0 2 ø 10.0		
VB146	15.58	2 ø 10.0		-328.40	2 ø 10.0		
VB147	15.58	2 ø 10.0		-328.40	2 ø 10.0		
VB148	158.79	2 ø 10.0		-139.92 -139.95	2 ø 10.0 2 ø 10.0		
VB149	158.80	2 ø 10.0		-139.92 -139.96	2 ø 10.0 2 ø 10.0		

VB150	15.58	2 ø 10.0		-328.40	2 ø 10.0		
VB151	15.58	2 ø 10.0		-328.38	2 ø 10.0		
VB152	158.80	2 ø 10.0		-139.92 -139.96	2 ø 10.0 2 ø 10.0		
VB153	120.49 152.33 0.11	6 ø 8.0 6 ø 8.0 6 ø 8.0		-80.89 -95.92 -160.53 -194.26	6 ø 12.5 6 ø 12.5 6 ø 12.5 6 ø 12.5		38
VB154	101.45 145.84 0.11	6 ø 8.0 6 ø 8.0 6 ø 8.0		-81.18 -101.65 -145.47 -194.45	6 ø 12.5 6 ø 12.5 6 ø 12.5 6 ø 12.5		38

Vigas do pavimento CLARABOIA

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VC1				-268.02	2 ø 8.0		
				-162.21	2 ø 8.0		
				-144.06	2 ø 8.0		
				-0.57	2 ø 8.0		
	182.28	2 ø 8.0		-612.57	2 ø 8.0		
	116.31	2 ø 8.0		-162.83	2 ø 8.0		
	68.88	2 ø 8.0		-172.15	2 ø 8.0		
	418.76	2 ø 8.0		-574.20	2 ø 8.0		
	121.24	2 ø 8.0		-155.55	2 ø 8.0		
	66.79	2 ø 8.0		-98.99	2 ø 8.0		
	0.11	2 ø 8.0		-419.70	2 ø 8.0		
	435.73	2 ø 8.0		-167.52	2 ø 8.0		
	29.36	2 ø 8.0		-191.87	2 ø 8.0		
	8.92	2 ø 8.0		-616.54	2 ø 8.0		
	482.61	2 ø 8.0		-38.22	2 ø 8.0		
				-618.04	2 ø 8.0		
				-196.68	2 ø 8.0		
				-54.66	2 ø 8.0		
				-664.49	2 ø 8.0		
VC2				-559.81	2 ø 8.0		
				-87.16	2 ø 8.0		
	387.08	2 ø 8.0		-139.50	2 ø 8.0		
	69.67	2 ø 8.0		-574.99	2 ø 8.0		
	132.30	2 ø 8.0		-104.86	2 ø 8.0		
	212.96	2 ø 8.0		-284.86	2 ø 8.0		
	87.38	2 ø 8.0		-74.45	2 ø 8.0		
				-110.65	2 ø 8.0		
				-320.76	2 ø 8.0		
				-29.61	2 ø 8.0		

VC3	235.65 50.12 13.56 818.17	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-238.58 -319.95 -56.72 -1039.83 -408.43 -169.72 -1074.05	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VC4	369.81 367.05	2 ø 10.0 2 ø 10.0		-508.60 -743.84 -612.89	2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VC5	281.58 0.11 26.97 29.17 58.41 53.48 22.68 22.06 45.77 36.05 7.53	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-386.16 -228.93 -141.08 -8.08 -32.05 -54.76 -123.17 -70.46 -119.83 -34.18 -134.72 -44.48 -47.01	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC6	174.21 0.11 0.11 164.42 130.64 168.82	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-185.76 -146.57 -92.97 -165.13 -183.30 -174.15 -244.99	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC7	369.81 367.05	2 ø 10.0 2 ø 10.0		-508.60 -743.84 -612.89	2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VC8	400.92 8.44 13.60 11.69	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-208.19 -455.09 -56.65 -193.91 -599.93 -42.22 -47.74 -1.08	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC9	1055.00 362.33 909.31	2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3	-356.42 -1262.13 -1128.30 -425.28	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0	2 ø 6.3 2 ø 6.3	
VC10	199.23 434.95 389.62	2 ø 6.3 2 ø 6.3 2 ø 6.3		-178.99 -617.05 -290.26 -202.49 -605.65 -254.00 -30.98	2 ø 6.3 2 ø 8.0 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3 2 ø 6.3		

				-556.65	2 ø 6.3		
VC11	11304.86	2 ø 16.0		-6270.94 -7336.55	3 ø 10.0 3 ø 10.0		
VC12	209.41 207.31 259.07 325.86	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-163.97 -289.48 -350.24 -390.35 -347.60	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC13	133.24 86.21 280.89 51.89 414.27 19.95	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-193.66 -186.98 -392.73 -124.66 -122.35 -416.90 -532.36 -179.35 -143.69 -576.35 -26.56	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC14	969.88 337.71 974.90	2 ø 10.0 2 ø 10.0 2 ø 10.0		-614.44 -1301.92 -1281.86 -241.75	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		
VC15	2600.63	3 ø 16.0	2 ø 6.3	-86.56	3 ø 16.0	2 ø 6.3	26
VC16	53.93 300.89 674.14 20.30	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 6.3 2 ø 6.3	-160.97 -421.19 -824.70 -36.39 -450.68 -2.95	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	
VC17	689.23 0.11 0.11 54.07 598.15 740.63	3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0		-8041.90 -4082.11 -1654.08 -541.71 -11.44 -406.59 -0.04 -224.92	3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0 3 ø 16.0		26, 02
VC18	146.14 26.70 31.22 28.19 427.29 127.36 39.62	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 6.3	-207.97 -200.14 -115.08 -0.11 -559.80 -161.61 -131.20 -592.48 -140.94 -198.36 -183.46 -105.66	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC19	142.18 36.07	2 ø 8.0 2 ø 8.0		-210.73 -50.61	2 ø 8.0 2 ø 8.0		

	41.46 341.36 36.97 15.50	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-60.59 -212.94 -93.68 -479.14 -145.24 -147.29 -488.72 -84.87 -14.61	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC20	290.87 243.03 290.87	2 ø 10.0 2 ø 10.0 2 ø 10.0		-425.35 -669.62 -669.62 -425.35	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VC21	368.94 14.60 41.86 169.67	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-527.69 -72.41 -122.17 -502.67 -61.30 -201.81 -61.01 -293.94	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC22	292.15 229.39 292.15	2 ø 10.0 2 ø 10.0 2 ø 10.0		-395.97 -702.12 -702.12 -395.97	2 ø 10.0 2 ø 10.0 2 ø 10.0 2 ø 10.0		26
VC23	205.55 57.18 232.17	2 ø 8.0 2 ø 8.0 2 ø 8.0		-284.63 -194.63 -46.91 -156.26 -70.49 -41.41 -382.28	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC24	52.13 84.18 18.09 0.11	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 6.3 2 ø 6.3	-0.33 -66.41 -104.39 -37.98 -52.19 -117.17 -112.72 -11.64	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0	2 ø 6.3 2 ø 6.3 2 ø 6.3	
VC25	58.01	2 ø 8.0		-87.07 -119.31	2 ø 8.0 2 ø 8.0		
VC26	2292.88 791.81	3 ø 8.0 3 ø 8.0		-1630.91 -3944.26 -492.94	3 ø 8.0 2 ø 10.0 3 ø 8.0		
VC27	13104.61	3 ø 16.0		-7059.03 -6899.17	3 ø 10.0 3 ø 10.0		
VC28	12765.28	3 ø 16.0		-6504.68 -6805.50	3 ø 10.0 3 ø 10.0		
VC29	31.74 20.95	2 ø 8.0 2 ø 8.0		-46.79 -44.71 -37.68	2 ø 8.0 2 ø 8.0 2 ø 8.0		

VC30	2791.91	3 ø 16.0		-621.92	3 ø 16.0		26, 38
VC31	2445.09 611.48	2 ø 10.0 2 ø 10.0		-1446.65 -3935.85 -610.22	2 ø 10.0 2 ø 10.0 2 ø 10.0		
VC32	89.71	2 ø 8.0		-120.30 -7.30 -58.58	2 ø 8.0 2 ø 8.0 2 ø 8.0		
VC33	69.89	2 ø 8.0		-95.52 -72.18	2 ø 8.0 2 ø 8.0		
VC34	560.94 687.07	2 ø 8.0 2 ø 8.0		-804.19 -135.08 -164.47 -697.12 -165.72 -816.29 -237.74 -122.59 -956.65	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 3 ø 6.3 2 ø 6.3 2 ø 6.3 4 ø 6.3		
VC35	643.36 32.10 9.44 232.42	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-928.47 -115.28 -238.36 -779.80 -91.87 -264.37 -303.69	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 6.3 2 ø 6.3		
VC36	5.91 23.39 39.62 37.15 19.85	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		-70.50 -29.79 -81.72 -0.85 -86.04 -8.80 -81.30	2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0 2 ø 8.0		

Cálculos das Lajes

COBERTURA	fck = 350.00 kgf/cm ²	E = 294029 kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 2		cobr = 2.00 cm	

ARMADURAS POSITIVAS (LAJE)												
Laje	Direção	Momento positivo				Momento negativo				Armadura inferior	Armadura superior	Cisalhamento
		Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)	Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)			

LB1	X	bw = 100.0 cm h = 10.0 cm	Md = 638 kgf. m/m As = 1.98 cm ² /m A's = 0.00 cm ² /m	Fd = 0.09 tf Situação : GE As = 1.97 cm ² /m A's = 0.00 cm ² /m	Fd = 0.07 tf Situaã o: GE As = 1.99 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.99 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 268.04 kgf.m/m F = 0.04 tf fiss = 0.03 mm	vsd = 2.06 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 647 kgf. m/m As = 2.27 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situação : GE As = 2.26 cm ² /m A's = 0.00 cm ² /m	Fd = 0.30 tf Situaã o: GE As = 2.32 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 2.32 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 265.21 kgf.m/m F = 0.16 tf fiss = 0.04 mm	vsd = 2.06 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB2	X	bw = 100.0 cm h = 10.0 cm	Md = 633 kgf. m/m As = 1.97 cm ² /m A's = 0.00 cm ² /m	Fd = 0.07 tf Situação : GE As = 1.96 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situaã o: GE As = 1.97 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.97 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 265.27 kgf.m/m F = 0.03 tf fiss = 0.03 mm	vsd = 2.03 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm	Md = 645 kgf. m/m	Fd = 0.08 tf Situação : GE		bw = 100.0 cm				As = 2.26 cm ² /m ø8.0 c/20	vsd = 2.07 tf/m vrd1 = 5.63 tf/m

		h = 10. 0 cm	As = 2.26 cm ² / m A's = 0.00 cm ² / m	As = 2.25 cm ² / m A's = 0.00 cm ² / m		h = 10. 0 cm				(2.51 cm ² / m) M = 270.22 kgf.m/ m F = 0.00 tf fiss = 0.04 mm		vr2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB3	X	bw = 100. 0 cm h = 10. 0 cm	Md = 678 kgf. m/m As = 2.11 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 2.10 cm ² / m A's = 0.00 cm ² / m	Fd = 0.15 tf Situaã o: GE As = 2.13 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 2.13 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 249.19 kgf.m/ m F = 0.08 tf fiss = 0.03 mm		vsd = 1.99 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 703 kgf. m/m As = 2.47 cm ² / m A's = 0.00 cm ² / m	Fd = 0.19 tf Situação : GE As = 2.44 cm ² / m A's = 0.00 cm ² / m	Fd = 0.01 tf Situaã o: GE As = 2.47 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 2.47 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 271.67 kgf.m/ m F = 0.01 tf fiss = 0.04 mm		vsd = 2.15 tf/m vr1 = 5.63 tf/m vr2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB4	X	bw = 100. 0 cm h = 10. 0 cm	Md = 1122 kgf. m/m As = 3.62 cm ² / m	Fd = 0.78 tf Situação : GE As = 3.51 cm ² / m A's = 0.00 cm ² / m	Fd = 0.10 tf Situaã o: GE As = 3.63 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm	Md = 668 kgf. m/m As = 2.08 cm ² / m	Fd = 0.78 tf Situação : GE As = 1.96 cm ² / m A's = 0.00 cm ² / m	Fd = 0.10 tf Situaã o: GE As = 2.09 cm ² / m A's = 0.00 cm ² / m	As = 3.63 cm ² / m ø10.0 c/20 (3.93 cm ² / m) M = 524.57	A's = 1.68 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 0.00	vsd = 2.20 tf/m vr1 = 6.47 tf/m Modelo I vr2 = 40.64 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m				A's = 0.00 cm ² / m			kgf.m/ m F = 0.05 tf fiss = 0.06 mm	kgf.m/ m F = 0.05 tf fiss = 0.00 mm	asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 1049 kgf. m/m As = 3.96 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 3.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.58 tf Situaçã o: GE As = 4.06 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm	Md = 611 kgf. m/m As = 2.13 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 2.12 cm ² /m A's = 0.00 cm ² /m	Fd = 0.58 tf Situaçã o: GE As = 2.23 cm ² /m A's = 0.00 cm ² /m	As = 4.06 cm ² /m ø10.0 c/19 (4.13 cm ² /m) M = 257.71 kgf.m/ m F = 0.30 tf fiss = 0.02 mm	A's = 2.16 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 10.91 kgf.m/ m F = 0.30 tf fiss = 0.00 mm	vsd = 2.59 tf/m vrd1 = 5.82 tf/m vrd2 = 34.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB5	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.17 tf Situação : GE As = 0.90 cm ² /m A's = 0.00 cm ² /m	Fd = 0.31 tf Situaçã o: GE As = 0.96 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 227.63 kgf.m/ m F = 0.17 tf fiss = 0.12 mm		vsd = 1.44 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.43 tf Situação : GE As = 0.60 cm ² /m A's = 0.00 cm ² /m	Fd = 0.13 tf Situaçã o: GE As = 0.67 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 152.41 kgf.m/ m F = 0.07 tf		vsd = 1.67 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.06 mm		
LB6	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.13 tf Situação : GE As = 0.51 cm ² / m A's = 0.00 cm ² / m	Fd = 0.48 tf Situação : GE As = 0.59 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 131.25 kgf.m/ m F = 0.26 tf fiss = 0.04 mm		vsd = 1.06 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.96 tf Situação : GE As = 0.33 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situação : GE As = 0.46 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 105.33 kgf.m/ m F = 0.03 tf fiss = 0.03 mm		vsd = 1.28 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB7	X	bw = 100.0 cm h = 10.0 cm	Md = 422 kgf. m/m As = 1.28 cm ² / m A's = 0.00 cm ² / m	Fd = 0.23 tf Situação : GE As = 1.25 cm ² / m A's = 0.00 cm ² / m	Fd = 0.17 tf Situação : GE As = 1.31 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.31 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 260.32 kgf.m/ m F = 0.09 tf fiss = 0.05 mm		vsd = 1.58 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.02 cm ² /m A's = 0.00 cm ² /m	Fd = 0.23 tf Situação : GE As = 0.84 cm ² /m A's = 0.00 cm ² /m	Fd = 0.07 tf Situação o: GE As = 0.88 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 170.98 kgf.m/m F = 0.04 tf fiss = 0.08 mm		vsd = 1.97 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.08 tf Situação : GE As = 0.49 cm ² /m A's = 0.00 cm ² /m	Fd = 0.07 tf Situação o: GE As = 0.51 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 127.86 kgf.m/m F = 0.04 tf fiss = 0.04 mm		vsd = 1.49 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m	Fd = 0.21 tf Situação : GE As = 0.44 cm ² /m A's = 0.00 cm ² /m	Fd = 0.07 tf Situação o: GE As = 0.48 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 113.46 kgf.m/m F = 0.03 tf fiss = 0.03 mm		vsd = 1.29 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB9	X	bw = 10.0 cm	Md = 470 kgf. m/N	Fd = 0.02 tf/N Situação : GE	Fd = 0.04 tf/N Situação o: GE	bw = 10.0 cm				As = 0.59 cm ² /N (TR 12645		vsd = 0.56 tf/N vrd1 = 1.12 tf/N Modelo I

		h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	As = 0.59 cm ² / N A's = 0.00 cm ² / N	As = 0.59 cm ² /N A's = 0.00 cm ² /N	As = 0.59 cm ² /N A's = 0.00 cm ² /N	h = 17. 0 cm				- 0.39 cm ² /N 1ø5.0 c/N (0.20 cm ² /N) M = 313.28 kgf.m/ N F = 0.02 tf/N fiss = 0.09 mm		vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 0	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 442 kgf. m/N As = 0.55 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situação : GE As = 0.55 cm ² /N A's = 0.00 cm ² /N	Fd = 0.05 tf/N Situaçã o: GE As = 0.56 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.56 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 294.40 kgf.m/ N F = 0.03 tf/N fiss = 0.08 mm		vsd = 0.53 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 1	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 466 kgf. m/N As = 0.58 cm ² / N A's = 0.00 cm ² / N		Fd = 0.06 tf/N Situaçã o: GE As = 0.59 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.59 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 310.55 kgf.m/ N		vsd = 0.56 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		5.0 cm								F = 0.03 tf/N fiss = 0.09 mm		
LB1 2	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.11 tf Situação : GE As = 0.47 cm ² / m A's = 0.00 cm ² / m	Fd = 0.13 tf Situaçã o: GE As = 0.50 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 124.25 kgf.m/ m F = 0.07 tf fiss = 0.03 mm		vsd = 1.56 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.30 tf Situação : GE As = 0.42 cm ² / m A's = 0.00 cm ² / m	Fd = 0.03 tf Situaçã o: GE As = 0.47 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 109.35 kgf.m/ m F = 0.02 tf fiss = 0.03 mm		vsd = 1.37 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 3	X	bw = 100.0 cm h = 10.0 cm	Md = 422 kgf. m/m As = 1.28 cm ² / m A's = 0.00 cm ² / m	Fd = 0.10 tf Situação : GE As = 1.27 cm ² / m A's = 0.00 cm ² / m	Fd = 0.16 tf Situaçã o: GE As = 1.31 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.31 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 260.24 kgf.m/ m F = 0.08 tf		vsd = 1.62 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

										fiss = 0.05 mm		
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.02 cm ² /m A's = 0.00 cm ² /m	Fd = 0.25 tf Situação : GE As = 0.85 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situação : GE As = 0.89 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 176.14 kgf.m/m F = 0.02 tf fiss = 0.08 mm		vsd = 1.92 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	X	bw = 100.0 cm h = 10.0 cm	Md = 435 kgf. m/m As = 1.32 cm ² /m A's = 0.00 cm ² /m	Fd = 0.08 tf Situação : GE As = 1.31 cm ² /m A's = 0.00 cm ² /m	Fd = 0.12 tf Situação : GE As = 1.34 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.34 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 268.74 kgf.m/m F = 0.06 tf fiss = 0.06 mm		vsd = 2.00 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 4	Y	bw = 100.0 cm h = 10.0 cm	Md = 392 kgf. m/m As = 1.30 cm ² /m A's = 0.00 cm ² /m	Fd = 0.23 tf Situação : GE As = 1.27 cm ² /m A's = 0.00 cm ² /m		bw = 100.0 cm h = 10.0 cm				As = 1.30 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 167.86 kgf.m/m F = 0.00 tf fiss = 0.03 mm		vsd = 1.97 tf/m vrd1 = 5.58 tf/m vrd2 = 38.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

LB1 5	X	bw = 100.0 cm h = 10.0 cm	Md = 442 kgf. m/m As = 1.35 cm ² /m A's = 0.00 cm ² /m	Fd = 0.08 tf Situação : GE As = 1.34 cm ² /m A's = 0.00 cm ² /m	Fd = 0.06 tf Situação : GE As = 1.36 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.36 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 273.40 kgf.m/m F = 0.03 tf fiss = 0.06 mm	vsd = 1.75 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.02 cm ² /m A's = 0.00 cm ² /m	Fd = 0.09 tf Situação : GE As = 0.94 cm ² /m A's = 0.00 cm ² /m		bw = 100.0 cm h = 10.0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 148.48 kgf.m/m F = 0.00 tf fiss = 0.06 mm	vsd = 1.87 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 6	X	bw = 100.0 cm h = 10.0 cm	Md = 700 kgf. m/m As = 2.18 cm ² /m A's = 0.00 cm ² /m	Fd = 0.44 tf Situação : GE As = 2.12 cm ² /m A's = 0.00 cm ² /m	Fd = 0.06 tf Situação : GE As = 2.19 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 2.19 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 403.12 kgf.m/m F = 0.03 tf fiss = 0.06 mm	vsd = 1.87 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm	Md = 527 kgf. m/m			bw = 100.0 cm				As = 1.83 cm ² /m ø8.0 c/20	vsd = 2.12 tf/m vrd1 = 5.63 tf/m

		h = 10. 0 cm	As = 1.83 cm ² / m A's = 0.00 cm ² / m			h = 10. 0 cm				(2.51 cm ² /m) M = 185.85 kgf.m/ m F = 0.00 tf fiss = 0.02 mm		vr2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 7	X	bw = 100 .0 cm h = 10. 0 cm	Md = 730 kgf. m/m As = 2.28 cm ² / m A's = 0.00 cm ² / m	Fd = 1.27 tf Situação : GE As = 2.09 cm ² /m A's = 0.00 cm ² /m	Fd = 0.14 tf Situaçã o: GE As = 2.30 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 2.30 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 450.71 kgf.m/ m F = 0.07 tf fiss = 0.08 mm		vsd = 1.87 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 436 kgf. m/m As = 1.49 cm ² / m A's = 0.00 cm ² / m	Fd = 0.31 tf Situação : GE As = 1.44 cm ² /m A's = 0.00 cm ² /m		bw = 100 .0 cm h = 10. 0 cm				As = 1.49 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 186.02 kgf.m/ m F = 0.00 tf fiss = 0.03 mm		vsd = 2.15 tf/m vr1 = 5.46 tf/m vr2 = 37.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 8	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m	Fd = 0.31 tf Situação : GE As = 0.77 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situaçã o: GE As = 0.81 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 203.94		vsd = 1.43 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.02 tf fiss = 0.09 mm		asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.03 tf Situação : GE As = 0.63 cm ² /m A's = 0.00 cm ² /m	Fd = 0.30 tf Situaçã o: GE As = 0.67 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 151.31 kgf.m/ m F = 0.16 tf fiss = 0.06 mm		vsd = 1.75 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 9	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 246 kgf. m/N As = 0.31 cm ² / N A's = 0.00 cm ² / N	Fd = 0.05 tf/N Situação : GE As = 0.30 cm ² /N A's = 0.00 cm ² /N	Fd = 0.11 tf/N Situaçã o: GE As = 0.32 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 163.68 kgf.m/ N F = 0.06 tf/N fiss = 0.03 mm		vsd = 0.41 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB2 0	X	bw = 10.0 cm h = 17.0 cm	Md = 231 kgf. m/N As = 0.29 cm ² / N	Fd = 0.12 tf/N Situação : GE As = 0.27 cm ² /N	Fd = 0.08 tf/N Situaçã o: GE As = 0.30 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N		vsd = 0.39 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N

		bf = 40.0 cm hf = 5.0 cm	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N					(0.20 cm ² /N) M = 154.04 kgf.m/N F = 0.05 tf/N fiss = 0.02 mm		asw = 0.00 cm ² /m
LB2 1	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 244 kgf.m/N As = 0.30 cm ² /N A's = 0.00 cm ² /N	Fd = 0.01 tf/N Situação : GE As = 0.30 cm ² /N A's = 0.00 cm ² /N	Fd = 0.07 tf/N Situaçã o: GE As = 0.31 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 162.82 kgf.m/N F = 0.04 tf/N fiss = 0.03 mm		vsd = 0.41 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB2 2	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf.m/m As = 0.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.55 tf Situação : GE As = 0.21 cm ² /m A's = 0.00 cm ² /m		bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 69.99 kgf.m/m F = 0.01 tf fiss = 0.01 mm		vsd = 0.87 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100	Md = 373 kgf.m/m		Fd = 0.23 tf Situaçã o: GE	bw = 100				As = 1.01 cm ² /m		vsd = 0.83 tf/m vrd1 = 5.59 tf/m

		.0 cm h = 10. 0 cm	As = 1.00 cm ² / m A's = 0.00 cm ² / m		As = 0.26 cm ² /m A's = 0.00 cm ² /m	.0 cm h = 10. 0 cm				ø5.0 c/19 (1.03 cm ² /m) M = 53.78 kgf.m/ m F = 0.13 tf fiss = 0.01 mm		vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB2 3	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m		Fd = 0.10 tf Situaçã o: GE As = 0.38 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 90.80 kgf.m/ m F = 0.06 tf fiss = 0.02 mm		vsd = 1.00 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.36 tf Situação : GE As = 0.40 cm ² /m A's = 0.00 cm ² /m		bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 103.92 kgf.m/ m F = 0.01 tf fiss = 0.03 mm		vsd = 1.03 tf/m vr1 = 5.59 tf/m vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB2 4	X	bw = 100 .0 cm h = 10.	Md = 373 kgf. m/m As = 0.94	Fd = 0.29 tf Situação : GE As = 0.76 cm ² /m	Fd = 0.34 tf Situaçã o: GE As = 0.83 cm ² /m	bw = 100 .0 cm h = 10.				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m)		vsd = 1.22 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m

		0 cm	cm ² / m A's = 0.00 cm ² / m	A's = 0.00 cm ² /m	A's = 0.00 cm ² /m	0 cm				M = 194.73 kgf.m/ m F = 0.18 tf fiss = 0.09 mm		vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.11 tf Situação : GE As = 0.50 cm ² /m A's = 0.00 cm ² /m	Fd = 0.10 tf Situaã o: GE As = 0.53 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 120.70 kgf.m/ m F = 0.05 tf fiss = 0.04 mm		vsd = 1.46 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB2 5	X	bw = 100.0 cm h = 10.0 cm	Md = 646 kgf. m/m As = 2.01 cm ² / m A's = 0.00 cm ² / m	Fd = 0.14 tf Situação : GE As = 1.99 cm ² /m A's = 0.00 cm ² /m	Fd = 0.37 tf Situaã o: GE As = 2.06 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 532 kgf. m/m As = 1.65 cm ² / m A's = 0.00 cm ² / m	Fd = 0.14 tf Situação : GE As = 1.63 cm ² /m A's = 0.00 cm ² /m	Fd = 0.37 tf Situaã o: GE As = 1.70 cm ² /m A's = 0.00 cm ² /m	As = 2.06 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 208.07 kgf.m/ m F = 0.20 tf fiss = 0.02 mm	A's = 1.65 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 43.23 kgf.m/ m F = 0.20 tf fiss = 0.00 mm	vsd = 4.83 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 687 kgf. m/m As = 2.41 cm ² / m A's = 0.00	Fd = 0.55 tf Situação : GE As = 2.32 cm ² /m A's = 0.00	Fd = 0.05 tf Situaã o: GE As = 2.42 cm ² /m A's = 0.00	bw = 100.0 cm h = 10.0 cm	Md = 526 kgf. m/m As = 1.83 cm ² / m A's = 0.00		Fd = 0.05 tf Situaã o: GE As = 1.84 cm ² /m A's = 0.00	As = 2.42 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 230.22 kgf.m/ m	A's = 1.83 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 0.00 kgf.m/ m	vsd = 4.24 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

			cm ² / m				cm ² / m			F = 0.03 tf fiss = 0.03 mm	F = 0.03 tf fiss = 0.00 mm	
LB2 6	X	bw = 100 .0 cm h = 10. 0 cm	Md = 613 kgf. m/m As = 1.90 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situação : GE As = 1.89 cm ² / m A's = 0.00 cm ² / m	Fd = 0.02 tf Situaçã o: GE As = 1.91 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.91 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 255.40 kgf.m/ m F = 0.01 tf fiss = 0.03 mm		vsd = 1.97 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 637 kgf. m/m As = 2.23 cm ² / m A's = 0.00 cm ² / m	Fd = 0.33 tf Situação : GE As = 2.18 cm ² / m A's = 0.00 cm ² / m		bw = 100 .0 cm h = 10. 0 cm				As = 2.23 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 272.76 kgf.m/ m F = 0.01 tf fiss = 0.04 mm		vsd = 2.05 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB2 7	X	bw = 100 .0 cm h = 10. 0 cm	Md = 871 kgf. m/m As = 2.74 cm ² / m A's = 0.00 cm ² / m	Fd = 0.18 tf Situação : GE As = 2.71 cm ² / m A's = 0.00 cm ² / m	Fd = 0.04 tf Situaçã o: GE As = 2.74 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm	Md = 456 kgf. m/m As = 1.39 cm ² / m A's = 0.00 cm ² / m	Fd = 0.18 tf Situação : GE As = 1.36 cm ² / m A's = 0.00 cm ² / m	Fd = 0.04 tf Situaçã o: GE As = 1.40 cm ² / m A's = 0.00 cm ² / m	As = 2.74 cm ² / m ø8.0 c/18 (2.79 cm ² / m) M = 355.18 kgf.m/ m F = 0.02 tf fiss = 0.04 mm	A's = 1.39 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 17.26 kgf.m/ m F = 0.02 tf fiss = 0.00 mm	vsd = 2.11 tf/m vrd1 = 6.26 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

	Y	bw = 100.0 cm h = 10.0 cm	Md = 863 kgf.m/m As = 3.11 cm ² /m A's = 0.00 cm ² /m	Fd = 0.27 tf Situação : GE As = 3.07 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situaçã o: GE As = 3.12 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 668 kgf.m/m As = 2.28 cm ² /m A's = 0.00 cm ² /m	Fd = 0.27 tf Situação : GE As = 2.24 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situaçã o: GE As = 2.29 cm ² /m A's = 0.00 cm ² /m	As = 3.12 cm ² /m ø10.0 c/20 (3.93 cm ² /m) M = 264.34 kgf.m/m F = 0.00 tf fiss = 0.02 mm	A's = 2.28 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 0.00 kgf.m/m F = 0.00 tf fiss = 0.00 mm	vsd = 2.39 tf/m vrd1 = 5.91 tf/m vrd2 = 35.99 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB2 8	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf.m/m As = 0.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.74 tf Situação : GE As = 0.46 cm ² /m A's = 0.00 cm ² /m		bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 137.16 kgf.m/m F = 0.00 tf fiss = 0.04 mm		vsd = 1.25 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf.m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m	Fd = 0.18 tf Situação : GE As = 0.57 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situaçã o: GE As = 0.60 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 138.00 kgf.m/m F = 0.03 tf fiss = 0.05 mm		vsd = 1.66 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB2 9	X	bw = 100.0 cm	Md = 373 kgf.m/m	Fd = 0.26 tf Situação : GE	Fd = 0.05 tf Situaçã o: GE	bw = 100.0 cm				As = 1.01 cm ² /m ø5.0 c/19		vsd = 0.60 tf/m vrd1 = 5.93 tf/m Modelo I

		h = 10. 0 cm	As = 0.94 cm ² / m A's = 0.00 cm ² / m	As = 0.18 cm ² /m A's = 0.00 cm ² /m	As = 0.22 cm ² /m A's = 0.00 cm ² /m	h = 10. 0 cm				(1.03 cm ² /m) M = 52.60 kgf.m/ m F = 0.03 tf fiss = 0.01 mm		vr2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 1.05 tf Situação : GE As = 0.05 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situaã o: GE As = 0.19 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 43.65 kgf.m/ m F = 0.01 tf fiss = 0.00 mm		vsd = 0.66 tf/m vr1 = 5.59 tf/m vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB3 0	X	bw = 100. 0 cm h = 10. 0 cm	Md = 425 kgf. m/m As = 1.30 cm ² / m A's = 0.00 cm ² / m	Fd = 0.51 tf Situação : GE As = 1.22 cm ² /m A's = 0.00 cm ² /m	Fd = 0.13 tf Situaã o: GE As = 1.31 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm				As = 1.31 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 261.85 kgf.m/ m F = 0.07 tf fiss = 0.05 mm		vsd = 1.59 tf/m vr1 = 6.02 tf/m Modelo I vr2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.02 cm ² / m	Fd = 0.52 tf Situação : GE As = 0.79 cm ² /m A's = 0.00 cm ² /m	Fd = 0.24 tf Situaã o: GE As = 0.89 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 166.91		vsd = 1.94 tf/m vr1 = 5.49 tf/m vr2 = 38.43 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.12 tf fiss = 0.08 mm		asw = 0.00 cm ² /m
LB3 1	X	bw = 100 .0 cm h = 10. 0 cm	Md = 417 kgf. m/m As = 1.27 cm ² / m A's = 0.00 cm ² / m	Fd = 0.62 tf Situação : GE As = 1.18 cm ² /m A's = 0.00 cm ² /m	Fd = 0.12 tf Situaçã o: GE As = 1.29 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.29 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 265.21 kgf.m/ m F = 0.07 tf fiss = 0.06 mm		vsd = 1.38 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.02 cm ² / m A's = 0.00 cm ² / m	Fd = 0.37 tf Situação : GE As = 0.58 cm ² /m A's = 0.00 cm ² /m	Fd = 1.78 tf Situaçã o: GE As = 0.87 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 146.95 kgf.m/ m F = 0.92 tf fiss = 0.08 mm		vsd = 1.74 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB3 2	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm	Md = 466 kgf. m/N As = 0.58 cm ² / N A's = 0.00 cm ² / N	Fd = 0.23 tf/N Situação : GE As = 0.56 cm ² /N A's = 0.00 cm ² /N	Fd = 0.06 tf/N Situaçã o: GE As = 0.59 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.59 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 310.73		vsd = 0.57 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		hf = 5.0 cm								kgf.m/ N F = 0.03 tf/N fiss = 0.09 mm		
LB3 3	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 500 kgf. m/N As = 0.63 cm ² / N A's = 0.00 cm ² / N	Fd = 0.03 tf/N Situação : GE As = 0.62 cm ² / N A's = 0.00 cm ² / N	Fd = 0.05 tf/N Situaçã o: GE As = 0.63 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.63 cm ² / N (TR 12645 - 0.39 cm ² / N) 2ø5.0 c/N (0.39 cm ² / N) M = 333.08 kgf.m/ N F = 0.03 tf/N fiss = 0.07 mm		vsd = 0.60 tf/N vrd1 = 1.17 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB3 4	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 464 kgf. m/N As = 0.58 cm ² / N A's = 0.00 cm ² / N	Fd = 0.05 tf/N Situação : GE As = 0.58 cm ² / N A's = 0.00 cm ² / N	Fd = 0.26 tf/N Situaçã o: GE As = 0.61 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.61 cm ² / N (TR 12645 - 0.39 cm ² / N) 2ø5.0 c/N (0.39 cm ² / N) M = 308.99 kgf.m/ N F = 0.14 tf/N fiss = 0.06 mm		vsd = 0.56 tf/N vrd1 = 1.17 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB3 5	X	bw = 100	Md = 373		Fd = 0.19 tf	bw = 100				As = 1.01 cm ² /m		vsd = 1.25 tf/m

		.0 cm h = 10. 0 cm	kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m		Situaçã o: GE As = 0.80 cm ² /m A's = 0.00 cm ² /m	.0 cm h = 10. 0 cm				ø5.0 c/19 (1.03 cm ² /m) M = 191.37 kgf.m/ m F = 0.11 tf fiss = 0.08 mm		vrđ1 = 5.93 tf/m Modelo I vrđ2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 0.51 cm ² /m A's = 0.00 cm ² /m	Fd = 0.41 tf Situaçã o: GE As = 0.57 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 120.09 kgf.m/ m F = 0.22 tf fiss = 0.04 mm		vsd = 1.29 tf/m vrđ1 = 5.59 tf/m vrđ2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB3 6	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 1.75 tf Situação : GE As = 0.41 cm ² /m A's = 0.00 cm ² /m	Fd = 0.02 tf Situaçã o: GE As = 0.63 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 154.09 kgf.m/ m F = 0.01 tf fiss = 0.05 mm		vsd = 1.22 tf/m vrđ1 = 5.93 tf/m Modelo I vrđ2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m	Fd = 0.39 tf Situação : GE As = 0.38 cm ² /m	Fd = 0.06 tf Situaçã o: GE As = 0.44 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m)		vsd = 1.22 tf/m vrđ1 = 5.59 tf/m vrđ2 = 39.18 tf/m

		0 cm	cm ² / m A's = 0.00 cm ² / m	A's = 0.00 cm ² /m	A's = 0.00 cm ² /m	0 cm				M = 99.61 kgf.m/ m F = 0.02 tf fiss = 0.02 mm		vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB3 7	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.38 tf Situação : GE As = 0.19 cm ² /m A's = 0.00 cm ² /m		bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 58.45 kgf.m/ m F = 0.00 tf fiss = 0.01 mm		vsd = 0.65 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.13 tf Situaçã o: GE As = 0.16 cm ² /m A's = 0.00 cm ² /m		bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 34.00 kgf.m/ m F = 0.05 tf fiss = 0.00 mm		vsd = 0.55 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB3 8	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00	Fd = 0.42 tf Situação : GE As = 0.31 cm ² /m A's = 0.00 cm ² /m	Fd = 0.02 tf Situaçã o: GE As = 0.36 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 89.21 kgf.m/ m		vsd = 0.67 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m

			cm ² / m							F = 0.01 tf fiss = 0.02 mm		asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m			bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 36.41 kgf.m/ m F = 0.00 tf fiss = 0.00 mm		vsd = 0.57 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB3 9	X	bw = 100 .0 cm h = 10. 0 cm	Md = 416 kgf. m/m As = 1.27 cm ² / m A's = 0.00 cm ² / m	Fd = 0.35 tf Situação : GE As = 1.22 cm ² /m A's = 0.00 cm ² /m	Fd = 0.40 tf Situaçã o: GE As = 1.32 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.32 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 256.20 kgf.m/ m F = 0.24 tf fiss = 0.05 mm		vsd = 1.61 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.02 cm ² / m A's = 0.00 cm ² / m	Fd = 0.67 tf Situação : GE As = 0.69 cm ² /m A's = 0.00 cm ² /m	Fd = 0.46 tf Situaçã o: GE As = 0.84 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 168.97 kgf.m/ m F = 0.26 tf fiss = 0.08 mm		vsd = 1.89 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

LB4 0	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.06 tf Situação : GE As = 0.35 cm ² /m A's = 0.00 cm ² /m	Fd = 0.60 tf Situação : GE As = 0.43 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 88.69 kgf.m/m F = 0.34 tf fiss = 0.02 mm		vsd = 0.68 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m		Fd = 1.60 tf Situação : GE As = 0.40 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 45.22 kgf.m/m F = 0.88 tf fiss = 0.01 mm		vsd = 0.63 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB4 1	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.02 tf/N Situação : GE As = 0.22 cm ² /N A's = 0.00 cm ² /N	Fd = 0.02 tf/N Situação : GE As = 0.23 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 120.18 kgf.m/N F = 0.01 tf/N fiss = 0.01 mm		vsd = 0.34 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB4 2	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N		Fd = 0.05 tf/N Situação: o: GE As = 0.23 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 122.84 kgf.m/ N F = 0.03 tf/N fiss = 0.01 mm		vsd = 0.35 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB4 3	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situação: : GE As = 0.15 cm ² / N A's = 0.00 cm ² / N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 84.03 kgf.m/ N F = 0.01 tf/N fiss = 0.01 mm		vsd = 0.29 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB4 4	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 377 kgf. m/N As = 0.47 cm ² / N A's = 0.00	Fd = 0.02 tf/N Situação: : GE As = 0.47 cm ² / N A's = 0.00 cm ² / N	Fd = 0.02 tf/N Situação: o: GE As = 0.47 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N)		vsd = 0.50 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N

		40.0 cm hf = 5.0 cm	cm ² /N							M = 251.15 kgf.m/N F = 0.01 tf/N fiss = 0.06 mm		asw = 0.00 cm ² /m
LB4 5	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 377 kgf.m/N As = 0.47 cm ² /N A's = 0.00 cm ² /N	Fd = 0.01 tf/N Situação : GE As = 0.47 cm ² /N A's = 0.00 cm ² /N	Fd = 0.06 tf/N Situaçã o: GE As = 0.48 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 251.16 kgf.m/N F = 0.03 tf/N fiss = 0.06 mm		vsd = 0.50 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB4 6	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 473 kgf.m/N As = 0.59 cm ² /N A's = 0.00 cm ² /N	Fd = 0.11 tf/N Situação : GE As = 0.58 cm ² /N A's = 0.00 cm ² /N	Fd = 0.05 tf/N Situaçã o: GE As = 0.60 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.60 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 315.25 kgf.m/N F = 0.02 tf/N fiss = 0.09 mm		vsd = 0.56 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB4 7	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.10 tf/N Situação : GE As = 0.17 cm ² /N A's = 0.00 cm ² /N	Fd = 0.03 tf/N Situação : GE As = 0.18 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 94.30 kgf.m/N F = 0.01 tf/N fiss = 0.01 mm		vsd = 0.31 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB4 8	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.07 tf/N Situação : GE As = 0.18 cm ² /N A's = 0.00 cm ² /N	Fd = 0.02 tf/N Situação : GE As = 0.19 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 101.28 kgf.m/N F = 0.01 tf/N fiss = 0.01 mm		vsd = 0.33 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB4 9	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.12 tf/N Situação : GE As = 0.22 cm ² /N A's = 0.00 cm ² /N	Fd = 0.24 tf/N Situação : GE As = 0.25 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N)		vsd = 0.35 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N

		40.0 cm hf = 5.0 cm	cm ² / N							M = 123.12 kgf.m/ N F = 0.14 tf/N fiss = 0.02 mm	asw = 0.00 cm ² /m
LB5 0	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.12 tf/N Situação : GE As = 0.17 cm ² /N A's = 0.00 cm ² /N	Fd = 0.02 tf/N Situaçã o: GE As = 0.19 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 99.28 kgf.m/ N F = 0.01 tf/N fiss = 0.01 mm	vsd = 0.30 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB5 1	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.14 tf/N Situação : GE As = 0.15 cm ² /N A's = 0.00 cm ² /N	Fd = 0.04 tf/N Situaçã o: GE As = 0.17 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 90.11 kgf.m/ N F = 0.02 tf/N fiss = 0.01 mm	vsd = 0.35 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB5 2	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.16 tf Situação : GE As = 0.23 cm ² /m A's = 0.00 cm ² /m	Fd = 0.14 tf Situação : GE As = 0.27 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 62.83 kgf.m/m F = 0.08 tf fiss = 0.01 mm		vsd = 0.68 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m			bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 43.26 kgf.m/m F = 0.00 tf fiss = 0.00 mm		vsd = 0.68 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB5 3	X	bw = 100.0 cm h = 10.0 cm	Md = 490 kgf. m/m As = 1.50 cm ² /m A's = 0.00 cm ² /m	Fd = 1.26 tf Situação : GE As = 1.31 cm ² /m A's = 0.00 cm ² /m	Fd = 0.23 tf Situação : GE As = 1.53 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.53 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 302.07 kgf.m/m F = 0.14 tf fiss = 0.07 mm		vsd = 1.60 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm	Md = 373 kgf. m/m	Fd = 0.68 tf Situação : GE	Fd = 0.46 tf Situação : GE	bw = 100.0 cm				As = 1.02 cm ² /m ø5.0 c/19		vsd = 1.98 tf/m vrd1 = 5.49 tf/m

		h = 10. 0 cm	As = 1.02 cm ² / m A's = 0.00 cm ² / m	As = 0.81 cm ² / m A's = 0.00 cm ² / m	As = 0.96 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm				(1.03 cm ² / m) M = 169.57 kgf.m/ m F = 0.25 tf fiss = 0.08 mm		vr2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB5 4	X	bw = 100 .0 cm h = 10. 0 cm	Md = 912 kgf. m/m As = 2.91 cm ² / m A's = 0.00 cm ² / m	Fd = 0.14 tf Situação : GE As = 2.89 cm ² / m A's = 0.00 cm ² / m	Fd = 1.90 tf Situaçã o: GE As = 3.19 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm	Md = 469 kgf. m/m As = 1.45 cm ² / m A's = 0.00 cm ² / m	Fd = 0.14 tf Situação : GE As = 1.43 cm ² / m A's = 0.00 cm ² / m	Fd = 1.90 tf Situaçã o: GE As = 1.73 cm ² / m A's = 0.00 cm ² / m	As = 3.19 cm ² / m ø10.0 c/20 (3.93 cm ² / m) M = 346.06 kgf.m/ m F = 1.04 tf fiss = 0.03 mm	A's = 1.73 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 0.00 kgf.m/ m F = 1.04 tf fiss = 0.00 mm	vsd = 2.29 tf/m vr1 = 6.47 tf/m Modelo I vr2 = 40.64 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 886 kgf. m/m As = 3.31 cm ² / m A's = 0.00 cm ² / m		Fd = 0.22 tf Situaçã o: GE As = 3.35 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm	Md = 443 kgf. m/m As = 1.51 cm ² / m A's = 0.00 cm ² / m	Fd = 0.63 tf Situação : GE As = 1.41 cm ² / m A's = 0.00 cm ² / m	Fd = 0.22 tf Situaçã o: GE As = 1.55 cm ² / m A's = 0.00 cm ² / m	As = 3.35 cm ² / m ø10.0 c/20 (3.93 cm ² / m) M = 306.62 kgf.m/ m F = 0.13 tf fiss = 0.03 mm	A's = 1.46 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 0.00 kgf.m/ m F = 0.13 tf fiss = 0.00 mm	vsd = 2.29 tf/m vr1 = 5.77 tf/m vr2 = 34.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB5 5	X	bw = 100 .0 cm h = 10. 0 cm	Md = 421 kgf. m/m As = 1.28 cm ² / m	Fd = 0.27 tf Situação : GE As = 1.24 cm ² / m A's = 0.00 cm ² / m	Fd = 0.10 tf Situaçã o: GE As = 1.30 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.30 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 259.77		vsd = 1.33 tf/m vr1 = 6.02 tf/m Modelo I vr2 = 41.71 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.06 tf fiss = 0.05 mm		asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.02 cm ² / m A's = 0.00 cm ² / m	Fd = 0.13 tf Situação : GE As = 0.67 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situaçã o: GE As = 0.70 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 156.73 kgf.m/ m F = 0.03 tf fiss = 0.06 mm		vsd = 1.74 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB5 6	X	bw = 100 .0 cm h = 10. 0 cm	Md = 699 kgf. m/m As = 2.18 cm ² / m A's = 0.00 cm ² / m	Fd = 0.21 tf Situação : GE As = 2.15 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situaçã o: GE As = 2.19 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 2.19 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 313.17 kgf.m/ m F = 0.02 tf fiss = 0.04 mm		vsd = 2.05 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 719 kgf. m/m As = 2.53 cm ² / m A's = 0.00 cm ² / m	Fd = 0.14 tf Situação : GE As = 2.51 cm ² /m A's = 0.00 cm ² /m	Fd = 0.01 tf Situaçã o: GE As = 2.53 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 2.53 cm ² /m ø8.0 c/19 (2.65 cm ² /m) M = 285.32 kgf.m/ m F = 0.01 tf		vsd = 2.22 tf/m vrd1 = 5.67 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.04 mm		
LB5 7	X	bw = 100.0 cm h = 10.0 cm	Md = 694 kgf. m/m As = 2.16 cm ² /m A's = 0.00 cm ² /m	Fd = 0.13 tf Situação : GE As = 2.14 cm ² /m A's = 0.00 cm ² /m	Fd = 0.06 tf Situação : GE As = 2.17 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 2.17 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 305.17 kgf.m/m F = 0.03 tf fiss = 0.04 mm		vsd = 2.03 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 723 kgf. m/m As = 2.54 cm ² /m A's = 0.00 cm ² /m	Fd = 0.14 tf Situação : GE As = 2.52 cm ² /m A's = 0.00 cm ² /m	Fd = 0.02 tf Situação : GE As = 2.55 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 2.55 cm ² /m ø8.0 c/19 (2.65 cm ² /m) M = 289.28 kgf.m/m F = 0.01 tf fiss = 0.04 mm		vsd = 2.21 tf/m vrd1 = 5.67 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB5 8	X	bw = 100.0 cm h = 10.0 cm	Md = 744 kgf. m/m As = 2.32 cm ² /m A's = 0.00 cm ² /m	Fd = 0.14 tf Situação : GE As = 2.30 cm ² /m A's = 0.00 cm ² /m	Fd = 0.15 tf Situação : GE As = 2.35 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 329 kgf. m/m As = 0.82 cm ² /m A's = 0.00 cm ² /m	Fd = 0.14 tf Situação : GE As = 0.81 cm ² /m A's = 0.00 cm ² /m	Fd = 0.15 tf Situação : GE As = 0.84 cm ² /m A's = 0.00 cm ² /m	As = 2.35 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 316.27 kgf.m/m F = 0.08 tf fiss = 0.04 mm	A's = 0.25 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 0.00 kgf.m/m F = 0.08 tf fiss = 0.00 mm	vsd = 2.12 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

	Y	bw = 100.0 cm h = 10.0 cm	Md = 752 kgf.m/m As = 2.65 cm ² /m A's = 0.00 cm ² /m	Fd = 0.11 tf Situação : GE As = 2.63 cm ² /m A's = 0.00 cm ² /m	Fd = 0.11 tf Situação : GE As = 2.67 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 327 kgf.m/m As = 1.06 cm ² /m A's = 0.00 cm ² /m	Fd = 0.11 tf Situação : GE As = 1.05 cm ² /m A's = 0.00 cm ² /m	Fd = 0.11 tf Situação : GE As = 1.08 cm ² /m A's = 0.00 cm ² /m	As = 2.67 cm ² /m ø8.0 c/18 (2.79 cm ² /m) M = 275.29 kgf.m/m F = 0.06 tf fiss = 0.03 mm	A's = 0.47 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 0.00 kgf.m/m F = 0.06 tf fiss = 0.00 mm	vsd = 2.21 tf/m vrd1 = 5.70 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB59	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.11 tf/N Situação : GE As = 0.17 cm ² /N A's = 0.00 cm ² /N	Fd = 0.04 tf/N Situação : GE As = 0.18 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 95.81 kgf.m/N F = 0.02 tf/N fiss = 0.01 mm		vsd = 0.32 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB60	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf =	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.14 tf/N Situação : GE As = 0.11 cm ² /N A's = 0.00 cm ² /N	Fd = 0.03 tf/N Situação : GE As = 0.13 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 65.82 kgf.m/N		vsd = 0.24 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		5.0 cm								F = 0.02 tf/N fiss = 0.00 mm		
LB6 1	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.27 tf/N Situação : GE As = 0.11 cm ² / N A's = 0.00 cm ² / N	Fd = 0.10 tf/N Situaçã o: GE As = 0.15 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 74.32 kgf.m/ N F = 0.06 tf/N fiss = 0.01 mm		vsd = 0.28 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² / m
LB6 2	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 1.19 tf Situação : GE As = 0.17 cm ² / m A's = 0.00 cm ² / m	Fd = 0.21 tf Situaçã o: GE As = 0.34 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 79.08 kgf.m/ m F = 0.12 tf fiss = 0.02 mm		vsd = 0.70 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m		Fd = 0.08 tf Situaçã o: GE As = 0.20 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 45.11		vsd = 0.60 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.00 tf fiss = 0.01 mm		asw = 0.00 cm ² /m
LB6 3	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N		Fd = 0.11 tf/N Situaçã o: GE As = 0.05 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 21.68 kgf.m/ N F = 0.06 tf/N fiss = 0.00 mm		vsd = 0.15 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB6 4	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situação : GE As = 0.04 cm ² /N A's = 0.00 cm ² /N	Fd = 0.02 tf/N Situaçã o: GE As = 0.04 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 22.33 kgf.m/ N F = 0.01 tf/N fiss = 0.00 mm		vsd = 0.15 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB6 5	X	bw = 10.0 cm	Md = 215 kgf. m/N	Fd = 0.06 tf/N Situação : GE	Fd = 0.02 tf/N	bw = 10.0 cm				As = 0.48 cm ² /N		vsd = 0.13 tf/N vrd1 = 1.12 tf/N

		0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	As = 0.27 cm ² / N A's = 0.00 cm ² / N	As = 0.03 cm ² /N A's = 0.00 cm ² /N	Situaçã o: GE As = 0.04 cm ² /N A's = 0.00 cm ² /N	0 cm h = 17. 0 cm				(TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 19.24 kgf.m/ N F = 0.01 tf/N fiss = 0.00 mm		Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB6 6	X	bw = 100 .0 cm h = 10. 0 cm	Md = 801 kgf. m/m As = 2.51 cm ² / m A's = 0.00 cm ² / m	Fd = 0.43 tf Situação : GE As = 2.45 cm ² /m A's = 0.00 cm ² /m	Fd = 0.40 tf Situaçã o: GE As = 2.57 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 2.57 cm ² /m ø8.0 c/19 (2.65 cm ² /m) M = 496.68 kgf.m/ m F = 0.22 tf fiss = 0.09 mm		vsd = 1.98 tf/m vrd1 = 6.22 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 500 kgf. m/m As = 1.74 cm ² / m A's = 0.00 cm ² / m		Fd = 0.04 tf Situaçã o: GE As = 1.74 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.74 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 188.98 kgf.m/ m F = 0.02 tf fiss = 0.02 mm		vsd = 2.31 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB6 7	X	bw = 100	Md = 700	Fd = 0.33 tf	Fd = 0.21 tf	bw = 100				As = 2.21 cm ² /m		vsd = 1.85 tf/m

		.0 cm h = 10. 0 cm	kgf. m/m As = 2.18 cm ² / m A's = 0.00 cm ² / m	Situação : GE As = 2.13 cm ² / m A's = 0.00 cm ² / m	Situaçã o: GE As = 2.21 cm ² / m A's = 0.00 cm ² / m	.0 cm h = 10. 0 cm				ø8.0 c/20 (2.51 cm ² / m) M = 433.71 kgf.m/ m F = 0.12 tf fiss = 0.08 mm		vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 460 kgf. m/m As = 1.57 cm ² / m A's = 0.00 cm ² / m	Fd = 0.16 tf Situação : GE As = 1.55 cm ² / m A's = 0.00 cm ² / m	Fd = 0.19 tf Situaçã o: GE As = 1.60 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.60 cm ² / m ø6.3 c/19 (1.64 cm ² / m) M = 188.88 kgf.m/ m F = 0.08 tf fiss = 0.03 mm		vsd = 2.27 tf/m vr1 = 5.48 tf/m vr2 = 37.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB6 8	X	bw = 100 .0 cm h = 10. 0 cm	Md = 677 kgf. m/m As = 2.11 cm ² / m A's = 0.00 cm ² / m	Fd = 0.23 tf Situação : GE As = 2.08 cm ² / m A's = 0.00 cm ² / m	Fd = 0.43 tf Situaçã o: GE As = 2.17 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm	Md = 445 kgf. m/m As = 1.36 cm ² / m A's = 0.00 cm ² / m	Fd = 0.23 tf Situação : GE As = 1.32 cm ² / m A's = 0.00 cm ² / m	Fd = 0.43 tf Situaçã o: GE As = 1.42 cm ² / m A's = 0.00 cm ² / m	As = 2.17 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 398.85 kgf.m/ m F = 0.25 tf fiss = 0.07 mm	A's = 1.36 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 28.46 kgf.m/ m F = 0.25 tf fiss = 0.00 mm	vsd = 2.55 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 638 kgf. m/m As = 2.23 cm ² / m	Fd = 0.19 tf Situação : GE As = 2.20 cm ² / m	Fd = 0.57 tf Situaçã o: GE As = 2.33 cm ² / m	bw = 100 .0 cm h = 10. 0 cm	Md = 379 kgf. m/m As = 1.26 cm ² / m	Fd = 0.19 tf Situação : GE As = 1.23 cm ² / m	Fd = 0.57 tf Situaçã o: GE As = 1.35 cm ² / m	As = 2.33 cm ² / m ø8.0 c/20 (2.51 cm ² / m)	A's = 1.32 cm ² / m ø6.3 c/20 (1.56 cm ² / m)	vsd = 2.54 tf/m vr1 = 5.63 tf/m vr2 = 36.57 tf/m

		0 cm	cm ² / m A's = 0.00 cm ² / m	A's = 0.00 cm ² /m	A's = 0.00 cm ² /m	0 cm	cm ² / m A's = 0.00 cm ² / m	A's = 0.00 cm ² /m	A's = 0.00 cm ² /m	M = 176.45 kgf.m/ m F = 0.30 tf fiss = 0.02 mm	M = 11.73 kgf.m/ m F = 0.30 tf fiss = 0.00 mm	vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB6 9	X	bw = 100 .0 cm h = 10. 0 cm	Md = 435 kgf. m/m As = 1.33 cm ² / m A's = 0.00 cm ² / m	Fd = 1.25 tf Situação : GE As = 1.14 cm ² /m A's = 0.00 cm ² /m	Fd = 0.89 tf Situaçã o: GE As = 1.46 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.46 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 268.62 kgf.m/ m F = 0.51 tf fiss = 0.06 mm		vsd = 1.86 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.24 cm ² / m A's = 0.00 cm ² / m	Fd = 0.20 tf Situação : GE As = 1.19 cm ² /m A's = 0.00 cm ² /m	Fd = 1.35 tf Situaçã o: GE As = 1.43 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.43 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 168.33 kgf.m/ m F = 0.77 tf fiss = 0.03 mm		vsd = 1.99 tf/m vrd1 = 5.58 tf/m vrd2 = 38.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB7 0	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00	Fd = 1.28 tf Situação : GE As = 0.73 cm ² /m A's = 0.00 cm ² /m	Fd = 0.22 tf Situaçã o: GE As = 0.92 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 214.82 kgf.m/ m		vsd = 1.93 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m

			cm ² / m							F = 0.12 tf fiss = 0.10 mm		asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.21 tf Situação : GE As = 0.70 cm ² /m A's = 0.00 cm ² /m	Fd = 1.34 tf Situação o: GE As = 0.91 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 170.35 kgf.m/ m F = 0.76 tf fiss = 0.10 mm		vsd = 1.82 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 1.00 tf Situação : GE As = 0.64 cm ² /m A's = 0.00 cm ² /m	Fd = 0.77 tf Situação o: GE As = 0.86 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 191.47 kgf.m/ m F = 0.41 tf fiss = 0.09 mm		vsd = 1.60 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB7 1	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 1.61 tf Situação : GE As = 0.50 cm ² /m A's = 0.00 cm ² /m	Fd = 0.64 tf Situação o: GE As = 0.79 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 168.40 kgf.m/ m F = 0.36 tf fiss = 0.08 mm		vsd = 1.86 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

LB7 2	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.86 tf Situação : GE As = 0.25 cm ² / m A's = 0.00 cm ² / m	Fd = 0.19 tf Situaçã o: GE As = 0.38 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 88.22 kgf.m/ m F = 0.10 tf fiss = 0.02 mm	vsd = 0.75 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m		Fd = 0.50 tf Situaçã o: GE As = 0.26 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 44.71 kgf.m/ m F = 0.27 tf fiss = 0.01 mm	vsd = 0.74 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB7 3	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.90 tf Situação : GE As = 0.65 cm ² / m A's = 0.00 cm ² / m	Fd = 0.64 tf Situaçã o: GE As = 0.84 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 186.48 kgf.m/ m F = 0.36 tf fiss = 0.09 mm	vsd = 1.61 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm	Md = 373 kgf. m/m	Fd = 0.29 tf Situação : GE	Fd = 0.56 tf Situaçã o: GE	bw = 100.0 cm				As = 1.01 cm ² / m ø5.0 c/19	vsd = 1.55 tf/m vrd1 = 5.59 tf/m

		h = 10. 0 cm	As = 1.00 cm ² / m A's = 0.00 cm ² / m	As = 0.62 cm ² / m A's = 0.00 cm ² / m	As = 0.73 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm				(1.03 cm ² / m) M = 152.04 kgf.m/ m F = 0.32 tf fiss = 0.07 mm		vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB7 4	X	bw = 100 .0 cm h = 10. 0 cm	Md = 636 kgf. m/m As = 1.98 cm ² / m A's = 0.00 cm ² / m	Fd = 0.01 tf Situação : GE As = 1.97 cm ² / m A's = 0.00 cm ² / m	Fd = 0.61 tf Situaã o: GE As = 2.07 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 2.07 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 392.48 kgf.m/ m F = 0.34 tf fiss = 0.06 mm		vsd = 1.79 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 412 kgf. m/m As = 1.41 cm ² / m A's = 0.00 cm ² / m		Fd = 0.33 tf Situaã o: GE As = 1.46 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.46 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 170.84 kgf.m/ m F = 0.18 tf fiss = 0.03 mm		vsd = 2.20 tf/m vr1 = 5.46 tf/m vr2 = 37.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB7 5	X	bw = 100 .0 cm h = 10. 0 cm	Md = 740 kgf. m/m As = 2.31 cm ² / m	Fd = 0.03 tf Situação : GE As = 2.31 cm ² / m A's = 0.00 cm ² / m	Fd = 0.18 tf Situaã o: GE As = 2.34 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 2.34 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 456.97		vsd = 1.83 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.10 tf fiss = 0.08 mm	asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 434 kgf. m/m As = 1.48 cm ² / m A's = 0.00 cm ² / m	Fd = 0.24 tf Situação : GE As = 1.44 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situaçã o: GE As = 1.49 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.49 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 167.77 kgf.m/ m F = 0.01 tf fiss = 0.03 mm	vsd = 2.16 tf/m vrd1 = 5.46 tf/m vrd2 = 37.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB7 6	X	bw = 100 .0 cm h = 10. 0 cm	Md = 646 kgf. m/m As = 2.01 cm ² / m A's = 0.00 cm ² / m	Fd = 0.25 tf Situação : GE As = 1.97 cm ² /m A's = 0.00 cm ² /m	Fd = 0.18 tf Situaçã o: GE As = 2.04 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 2.04 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 398.94 kgf.m/ m F = 0.10 tf fiss = 0.06 mm	vsd = 1.82 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 426 kgf. m/m As = 1.45 cm ² / m A's = 0.00 cm ² / m		Fd = 0.04 tf Situaçã o: GE As = 1.46 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.46 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 171.65 kgf.m/ m F = 0.02 tf	vsd = 2.16 tf/m vrd1 = 5.46 tf/m vrd2 = 37.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.03 mm		
LB7 7	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.06 tf Situação : GE As = 0.36 cm ² / m A's = 0.00 cm ² / m	Fd = 0.18 tf Situaçã o: GE As = 0.39 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 92.31 kgf.m/ m F = 0.10 tf fiss = 0.02 mm		vsd = 0.91 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.33 tf Situação : GE As = 0.25 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situaçã o: GE As = 0.30 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 68.83 kgf.m/ m F = 0.05 tf fiss = 0.01 mm		vsd = 0.93 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB7 8	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.30 tf Situação : GE As = 0.44 cm ² / m A's = 0.00 cm ² / m	Fd = 0.01 tf Situaçã o: GE As = 0.48 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 118.71 kgf.m/ m F = 0.00 tf fiss = 0.03 mm		vsd = 0.97 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m	Fd = 0.16 tf Situação : GE As = 0.32 cm ² /m A's = 0.00 cm ² /m	Fd = 0.15 tf Situação : GE As = 0.36 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 82.49 kgf.m/m F = 0.08 tf fiss = 0.02 mm		vsd = 1.02 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB7 9	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.24 tf Situação : GE As = 0.34 cm ² /m A's = 0.00 cm ² /m	Fd = 0.04 tf Situação : GE As = 0.37 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 91.48 kgf.m/m F = 0.02 tf fiss = 0.02 mm		vsd = 1.06 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m	Fd = 0.01 tf Situação : GE As = 0.35 cm ² /m A's = 0.00 cm ² /m	Fd = 0.23 tf Situação : GE As = 0.38 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 83.09 kgf.m/m F = 0.12 tf fiss = 0.02 mm		vsd = 1.20 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8 0	X	bw = 100.0 cm	Md = 373 kgf. m/m	Fd = 0.12 tf Situação : GE	Fd = 0.02 tf Situação : GE	bw = 100.0 cm				As = 1.01 cm ² /m ø5.0 c/19		vsd = 0.85 tf/m vrd1 = 5.93 tf/m Modelo I

		h = 10. 0 cm	As = 0.94 cm ² / m A's = 0.00 cm ² / m	As = 0.43 cm ² /m A's = 0.00 cm ² /m	As = 0.44 cm ² /m A's = 0.00 cm ² /m	h = 10. 0 cm				(1.03 cm ² /m) M = 109.14 kgf.m/ m F = 0.01 tf fiss = 0.03 mm		vr2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.20 tf Situação : GE As = 0.24 cm ² /m A's = 0.00 cm ² /m	Fd = 0.08 tf Situaã o: GE As = 0.27 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 61.85 kgf.m/ m F = 0.04 tf fiss = 0.01 mm		vsd = 0.80 tf/m vr1 = 5.59 tf/m vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8 1	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.26 tf Situação : GE As = 0.08 cm ² /m A's = 0.00 cm ² /m	Fd = 0.26 tf Situaã o: GE As = 0.15 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 29.64 kgf.m/ m F = 0.14 tf fiss = 0.00 mm		vsd = 0.73 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m	Fd = 0.57 tf Situação : GE As = 0.20 cm ² /m A's = 0.00 cm ² /m		bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 65.26		vsd = 1.25 tf/m vr1 = 5.59 tf/m vr2 = 39.18 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.00 tf fiss = 0.01 mm		asw = 0.00 cm ² /m
LB8 2	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.23 tf Situação : GE As = 0.45 cm ² /m A's = 0.00 cm ² /m	Fd = 0.34 tf Situaçã o: GE As = 0.52 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 118.16 kgf.m/ m F = 0.19 tf fiss = 0.03 mm		vsd = 0.96 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.45 tf Situação : GE As = 0.30 cm ² /m A's = 0.00 cm ² /m		bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 87.43 kgf.m/ m F = 0.00 tf fiss = 0.02 mm		vsd = 1.05 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8 3	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 1.13 tf Situação : GE As = 0.31 cm ² /m A's = 0.00 cm ² /m	Fd = 0.28 tf Situaçã o: GE As = 0.49 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 112.23 kgf.m/ m F = 0.16 tf		vsd = 0.97 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.03 mm		
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 1.13 tf Situação : GE As = 0.24 cm ² /m A's = 0.00 cm ² /m		bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 92.99 kgf.m/ m F = 0.00 tf fiss = 0.02 mm		vsd = 1.14 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8 4	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 1.20 tf Situação : GE As = 0.27 cm ² /m A's = 0.00 cm ² /m	Fd = 0.12 tf Situaçã o: GE As = 0.43 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 103.35 kgf.m/ m F = 0.07 tf fiss = 0.02 mm		vsd = 0.94 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 1.03 tf Situação : GE As = 0.26 cm ² /m A's = 0.00 cm ² /m		bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 93.67 kgf.m/ m F = 0.00 tf fiss = 0.02 mm		vsd = 1.14 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

LB8 5	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 1.46 tf Situação : GE As = 0.21 cm ² / m A's = 0.00 cm ² / m	Fd = 1.13 tf Situaã o: GE As = 0.53 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 95.70 kgf.m/ m F = 0.63 tf fiss = 0.03 mm		vsd = 0.92 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.57 tf Situação : GE As = 0.30 cm ² / m A's = 0.00 cm ² / m	Fd = 1.51 tf Situaã o: GE As = 0.58 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 90.22 kgf.m/ m F = 0.84 tf fiss = 0.04 mm		vsd = 1.18 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB8 6	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.06 tf Situação : GE As = 0.36 cm ² / m A's = 0.00 cm ² / m	Fd = 2.65 tf Situaã o: GE As = 0.69 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 90.88 kgf.m/ m F = 1.48 tf fiss = 0.05 mm		vsd = 0.82 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm	Md = 373 kgf. m/m	Fd = 0.52 tf Situação : GE	Fd = 1.52 tf Situaã o: GE	bw = 100.0 cm				As = 1.01 cm ² / m ø5.0 c/19		vsd = 0.96 tf/m vrd1 = 5.59 tf/m

		h = 10. 0 cm	As = 1.00 cm ² / m A's = 0.00 cm ² / m	As = 0.15 cm ² /m A's = 0.00 cm ² /m	As = 0.41 cm ² /m A's = 0.00 cm ² /m	h = 10. 0 cm				(1.03 cm ² /m M = 54.88 kgf.m/ m F = 0.85 tf fiss = 0.02 mm		vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8 7	X	bw = 100. 0 cm h = 10. 0 cm	Md = 656 kgf. m/m As = 2.04 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situação : GE As = 2.03 cm ² /m A's = 0.00 cm ² /m	Fd = 1.86 tf Situaã o: GE As = 2.31 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm				As = 2.31 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 404.46 kgf.m/ m F = 1.04 tf fiss = 0.08 mm		vsd = 1.71 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 444 kgf. m/m As = 1.54 cm ² / m A's = 0.00 cm ² / m		Fd = 0.90 tf Situaã o: GE As = 1.69 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm	Md = 320 kgf. m/m As = 0.97 cm ² / m A's = 0.00 cm ² / m	Fd = 0.16 tf Situação : GE As = 0.95 cm ² /m A's = 0.00 cm ² /m	Fd = 0.90 tf Situaã o: GE As = 1.10 cm ² /m A's = 0.00 cm ² /m	As = 1.69 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 179.00 kgf.m/ m F = 0.52 tf fiss = 0.02 mm	A's = 1.09 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 4.54 kgf.m/ m F = 0.52 tf fiss = 0.00 mm	vsd = 2.22 tf/m vr1 = 5.63 tf/m vr2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8 8	X	bw = 100. 0 cm h = 10. 0 cm	Md = 685 kgf. m/m As = 2.13 cm ² / m	Fd = 0.06 tf Situação : GE As = 2.12 cm ² /m A's = 0.00 cm ² /m	Fd = 0.31 tf Situaã o: GE As = 2.18 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm				As = 2.18 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 422.64		vsd = 1.84 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.18 tf fiss = 0.07 mm		asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 505 kgf. m/m As = 1.75 cm ² / m A's = 0.00 cm ² / m		Fd = 0.60 tf Situaçã o: GE As = 1.85 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.85 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 185.25 kgf.m/ m F = 0.34 tf fiss = 0.02 mm		vsd = 2.26 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB8 9	X	bw = 100 .0 cm h = 10. 0 cm	Md = 798 kgf. m/m As = 2.50 cm ² / m A's = 0.00 cm ² / m	Fd = 0.07 tf Situação : GE As = 2.49 cm ² /m A's = 0.00 cm ² /m	Fd = 0.02 tf Situaçã o: GE As = 2.50 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 2.50 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 492.72 kgf.m/ m F = 0.01 tf fiss = 0.10 mm		vsd = 1.84 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 514 kgf. m/m As = 1.79 cm ² / m A's = 0.00 cm ² / m		Fd = 0.11 tf Situaçã o: GE As = 1.80 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.80 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 181.68 kgf.m/ m F = 0.06 tf		vsd = 2.35 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.02 mm		
LB9 0	X	bw = 100.0 cm h = 10.0 cm	Md = 685 kgf. m/m As = 2.13 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situação : GE As = 2.13 cm ² /m A's = 0.00 cm ² /m	Fd = 0.74 tf Situaçã o: GE As = 2.24 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 2.24 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 422.70 kgf.m/ m F = 0.39 tf fiss = 0.08 mm		vsd = 1.82 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 489 kgf. m/m As = 1.70 cm ² / m A's = 0.00 cm ² / m		Fd = 0.07 tf Situaçã o: GE As = 1.71 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.71 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 194.51 kgf.m/ m F = 0.04 tf fiss = 0.02 mm		vsd = 2.27 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB9 1	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N		Fd = 0.16 tf/N Situaçã o: GE As = 0.17 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 80.66 kgf.m/ N F = 0.09 tf/N		vsd = 0.28 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

										fiss = 0.01 mm		
LB9 2	X	bw = 10.0 cm h = 17.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 586 kgf. m/N As = 0.88 cm²/N A's = 0.00 cm²/N	Fd = 0.27 tf/N Situação : GE As = 0.85 cm²/N A's = 0.00 cm²/N	Fd = 0.02 tf/N Situação : GE As = 0.88 cm²/N A's = 0.00 cm²/N	bw = 10.0 cm h = 17.0 cm				As = 0.88 cm²/N (TR 12645 - 0.39 cm²/N) 1ø10.0 c/N (0.79 cm²/N) M = 392.06 kgf.m/N F = 0.01 tf/N fiss = 0.06 mm		vsd = 0.84 tf/N vrd1 = 1.26 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
	Y	bw = 9.0 cm h = 17.0 cm bf = 49.0 cm hf = 5.0 cm	Md = 311 kgf. m/N As = 0.53 cm²/N A's = 0.00 cm²/N	Fd = 0.02 tf/N Situação : GE As = 0.52 cm²/N A's = 0.00 cm²/N	Fd = 0.22 tf/N Situação : GE As = 0.56 cm²/N A's = 0.00 cm²/N	bw = 9.0 cm h = 17.0 cm	Md = 165 kgf. m/N As = 0.22 cm²/N A's = 0.00 cm²/N	Fd = 0.02 tf/N Situação : GE As = 0.22 cm²/N A's = 0.00 cm²/N	Fd = 0.22 tf/N Situação : GE As = 0.24 cm²/N A's = 0.00 cm²/N	As = 0.56 cm²/N 2ø6.3 c/N (0.62 cm²/N) M = 207.96 kgf.m/N F = 0.13 tf/N fiss = 0.03 mm	A's = 0.29 cm²/m ø5.0 c/20 (0.98 cm²/m) M = 44.05 kgf.m/N F = 0.13 tf/N fiss = 0.00 mm	vsd = 0.84 tf/N vrd1 = 1.01 tf/N vrd2 = 6.89 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
LB9 3	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 215 kgf. m/N As = 0.27 cm²/N A's = 0.00 cm²/N	Fd = 0.13 tf/N Situação : GE As = 0.03 cm²/N A's = 0.00 cm²/N	Fd = 0.01 tf/N Situação : GE As = 0.04 cm²/N A's = 0.00 cm²/N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm²/N (TR 12645 - 0.39 cm²/N) 1ø5.0 c/N (0.20 cm²/N)		vsd = 0.14 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m

		0 cm hf = 5.0 cm	cm ² / N							M = 22.81 kgf.m/ N F = 0.01 tf/N fiss = 0.00 mm		
LB9 4	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 268 kgf. m/N As = 0.33 cm ² / N A's = 0.00 cm ² / N	Fd = 0.05 tf/N Situação : GE As = 0.33 cm ² /N A's = 0.00 cm ² /N	Fd = 0.16 tf/N Situaçã o: GE As = 0.35 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 178.67 kgf.m/ N F = 0.09 tf/N fiss = 0.03 mm		vsd = 0.42 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB9 5	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situação : GE As = 0.04 cm ² /N A's = 0.00 cm ² /N	Fd = 0.13 tf/N Situaçã o: GE As = 0.06 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 24.68 kgf.m/ N F = 0.07 tf/N fiss = 0.00 mm		vsd = 0.16 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB9 6	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 560 kgf.m/N As = 0.70 cm ² /N A's = 0.00 cm ² /N	Fd = 0.14 tf/N Situação : GE As = 0.69 cm ² /N A's = 0.00 cm ² /N	Fd = 0.19 tf/N Situação : GE As = 0.72 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.72 cm ² /N (TR 12645 - 0.39 cm ² /N) 2ø5.0 c/N (0.39 cm ² /N) M = 374.11 kgf.m/N F = 0.11 tf/N fiss = 0.09 mm		vsd = 0.60 tf/N vrd1 = 1.17 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 17.0 cm bf = 113.2 cm hf = 5.0 cm	Md = 832 kgf.m/N As = 1.43 cm ² /N A's = 0.00 cm ² /N	Fd = 0.16 tf/N Situação : GE As = 1.41 cm ² /N A's = 0.00 cm ² /N	Fd = 0.24 tf/N Situação : GE As = 1.47 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17.0 cm	Md = 738 kgf.m/N As = 1.28 cm ² /N A's = 0.00 cm ² /N	Fd = 0.16 tf/N Situação : GE As = 1.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.24 tf/N Situação : GE As = 1.31 cm ² /N A's = 0.00 cm ² /N	As = 1.47 cm ² /N 2ø10.0 c/N (1.57 cm ² /N) M = 216.93 kgf.m/N F = 0.14 tf/N fiss = 0.01 mm	A's = 0.96 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 23.10 kgf.m/N F = 0.14 tf/N fiss = 0.00 mm	vsd = 1.48 tf/N vrd1 = 1.23 tf/N vrd2 = 6.79 tf/N vsw = 0.12 tf/N asw = 0.35 cm ² /m
	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 456 kgf.m/N As = 0.57 cm ² /N A's = 0.00 cm ² /N	Fd = 0.14 tf/N Situação : GE As = 0.56 cm ² /N A's = 0.00 cm ² /N	Fd = 0.07 tf/N Situação : GE As = 0.58 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.58 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 303.96 kgf.m/N		vsd = 0.55 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		hf = 5.0 cm								F = 0.04 tf/N fiss = 0.09 mm		
LB98	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 327 kgf.m/N As = 0.41 cm ² /N A's = 0.00 cm ² /N	Fd = 0.14 tf/N Situação : GE As = 0.39 cm ² /N A's = 0.00 cm ² /N	Fd = 0.21 tf/N Situaã o: GE As = 0.43 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 217.91 kgf.m/N F = 0.12 tf/N fiss = 0.05 mm		vsd = 0.47 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB99	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.02 tf/N Situação : GE As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.35 tf/N Situaã o: GE As = 0.30 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 143.20 kgf.m/N F = 0.20 tf/N fiss = 0.02 mm		vsd = 0.38 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB100	X	bw = 10.0 cm	Md = 215 kgf.m/N	Fd = 0.06 tf/N Situação : GE	Fd = 0.06 tf/N Situaã o: GE	bw = 10.0 cm				As = 0.48 cm ² /N (TR 12645		vsd = 0.31 tf/N vrd1 = 1.12 tf/N Modelo I

		h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	As = 0.27 cm ² / N A's = 0.00 cm ² / N	As = 0.16 cm ² /N A's = 0.00 cm ² /N	As = 0.18 cm ² /N A's = 0.00 cm ² /N	h = 17. 0 cm				- 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 91.52 kgf.m/ N F = 0.03 tf/N fiss = 0.01 mm		vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 01	X	bw = 100. 0 cm h = 10. 0 cm	Md = 691 kgf. m/m As = 2.15 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 2.14 cm ² /m A's = 0.00 cm ² /m	Fd = 0.88 tf Situaçã o: GE As = 2.28 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm				As = 2.28 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 426.41 kgf.m/ m F = 0.48 tf fiss = 0.08 mm		vsd = 1.85 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 485 kgf. m/m As = 1.68 cm ² / m A's = 0.00 cm ² / m		Fd = 0.15 tf Situaçã o: GE As = 1.71 cm ² /m A's = 0.00 cm ² /m	bw = 100. 0 cm h = 10. 0 cm				As = 1.71 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 182.63 kgf.m/ m F = 0.08 tf fiss = 0.02 mm		vsd = 2.21 tf/m vr1 = 5.63 tf/m vr2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 02	X	bw = 100. 0 cm	Md = 804 kgf. m/m	Fd = 0.14 tf Situação : GE	Fd = 0.03 tf Situaçã o: GE	bw = 100. 0 cm				As = 2.52 cm ² /m ø8.0 c/19		vsd = 1.85 tf/m vr1 = 6.22 tf/m Modelo I

		h = 10. 0 cm	As = 2.52 cm ² / m A's = 0.00 cm ² / m	As = 2.50 cm ² / m A's = 0.00 cm ² / m	As = 2.52 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm				(2.65 cm ² / m) M = 496.40 kgf.m/ m F = 0.02 tf fiss = 0.09 mm		vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 505 kgf. m/m As = 1.75 cm ² / m A's = 0.00 cm ² / m		Fd = 0.21 tf Situaçã o: GE As = 1.79 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.79 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 178.24 kgf.m/ m F = 0.11 tf fiss = 0.02 mm		vsd = 2.29 tf/m vr1 = 5.63 tf/m vr2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 03	X	bw = 100. 0 cm h = 10. 0 cm	Md = 691 kgf. m/m As = 2.16 cm ² / m A's = 0.00 cm ² / m	Fd = 0.07 tf Situação : GE As = 2.14 cm ² / m A's = 0.00 cm ² / m	Fd = 0.73 tf Situaçã o: GE As = 2.26 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 2.26 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 426.90 kgf.m/ m F = 0.39 tf fiss = 0.08 mm		vsd = 1.82 tf/m vr1 = 6.19 tf/m Modelo I vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 490 kgf. m/m As = 1.70 cm ² / m		Fd = 0.26 tf Situaçã o: GE As = 1.74 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.74 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 185.09		vsd = 2.21 tf/m vr1 = 5.63 tf/m vr2 = 36.57 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.14 tf fiss = 0.02 mm		asw = 0.00 cm ² /m
LB1 04	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.20 tf/N Situação : GE As = 0.04 cm ² /N A's = 0.00 cm ² /N	Fd = 0.05 tf/N Situaçã o: GE As = 0.06 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 31.31 kgf.m/ N F = 0.03 tf/N fiss = 0.00 mm		vsd = 0.18 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 05	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.18 tf/N Situação : GE As = 0.21 cm ² /N A's = 0.00 cm ² /N	Fd = 0.22 tf/N Situaçã o: GE As = 0.26 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 124.96 kgf.m/ N F = 0.13 tf/N fiss = 0.02 mm		vsd = 0.36 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 06	X	bw = 100	Md = 433 kgf. m/m	Fd = 0.71 tf Situação : GE	Fd = 0.48 tf Situaçã o: GE	bw = 100				As = 1.39 cm ² /m		vsd = 1.66 tf/m vrd1 = 6.02 tf/m

		.0 cm h = 10. 0 cm	As = 1.32 cm ² / m A's = 0.00 cm ² / m	As = 1.21 cm ² / m A's = 0.00 cm ² / m	As = 1.39 cm ² / m A's = 0.00 cm ² / m	.0 cm h = 10. 0 cm				ø6.3 c/20 (1.56 cm ² / m) M = 267.06 kgf.m/ m F = 0.27 tf fiss = 0.06 mm		Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.02 cm ² / m A's = 0.00 cm ² / m	Fd = 0.10 tf Situação : GE As = 0.84 cm ² / m A's = 0.00 cm ² / m	Fd = 1.06 tf Situaçã o: GE As = 0.99 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.02 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 164.57 kgf.m/ m F = 0.59 tf fiss = 0.09 mm		vsd = 1.89 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 07	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.24 tf Situação : GE As = 0.34 cm ² / m A's = 0.00 cm ² / m	Fd = 0.31 tf Situaçã o: GE As = 0.41 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 91.07 kgf.m/ m F = 0.16 tf fiss = 0.02 mm		vsd = 0.79 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m	Fd = 0.23 tf Situação : GE As = 0.15 cm ² / m	Fd = 1.67 tf Situaçã o: GE As = 0.40 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m)		vsd = 0.69 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m

		0 cm	cm ² / m A's = 0.00 cm ² / m	A's = 0.00 cm ² /m	A's = 0.00 cm ² /m	0 cm				M = 43.14 kgf.m/ m F = 0.90 tf fiss = 0.01 mm		vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 08	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situação : GE As = 0.05 cm ² /N A's = 0.00 cm ² /N	Fd = 0.29 tf/N Situaçã o: GE As = 0.08 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 28.11 kgf.m/ N F = 0.16 tf/N fiss = 0.00 mm		vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 09	X	bw = 10.0 cm h = 17.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 586 kgf. m/N As = 0.88 cm ² / N A's = 0.00 cm ² / N	Fd = 0.65 tf/N Situação : GE As = 0.80 cm ² /N A's = 0.00 cm ² /N	Fd = 1.40 tf/N Situaçã o: GE As = 1.05 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm	Md = 133 kgf. m/N As = 0.18 cm ² / N A's = 0.00 cm ² / N	Fd = 0.65 tf/N Situação : GE As = 0.11 cm ² /N A's = 0.00 cm ² /N	Fd = 1.40 tf/N Situaçã o: GE As = 0.33 cm ² /N A's = 0.00 cm ² /N	As = 1.05 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø10.0 c/N (0.79 cm ² /N) M = 392.26 kgf.m/ N F = 0.79 tf/N fiss = 0.08 mm	A's = 0.47 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 0.00 kgf.m/ N F = 0.79 tf/N fiss = 0.00 mm	vsw = 0.88 tf/N vrd1 = 1.26 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

	Y	bw = 9.0 cm h = 17.0 cm bf = 49.0 cm hf = 5.0 cm	Md = 381 kgf.m/N As = 0.66 cm ² /N A's = 0.00 cm ² /N	Fd = 2.35 tf/N Situação : GE As = 0.32 cm ² /N A's = 0.00 cm ² /N	Fd = 0.54 tf/N Situação : GE As = 0.73 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17.0 cm	Md = 190 kgf.m/N As = 0.26 cm ² /N A's = 0.00 cm ² /N		Fd = 0.54 tf/N Situação : GE As = 0.32 cm ² /N A's = 0.00 cm ² /N	As = 0.73 cm ² /N 1ø10.0 c/N (0.79 cm ² /N) M = 251.39 kgf.m/N F = 0.31 tf/N fiss = 0.06 mm	A's = 0.54 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 56.90 kgf.m/N F = 0.31 tf/N fiss = 0.00 mm	vsd = 0.85 tf/N vrd1 = 1.04 tf/N vrd2 = 6.79 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 10	X	bw = 100.0 cm h = 10.0 cm	Md = 600 kgf.m/m As = 1.86 cm ² /m A's = 0.00 cm ² /m	Fd = 3.49 tf Situação : GE As = 1.35 cm ² /m A's = 0.00 cm ² /m	Fd = 1.67 tf Situação : GE As = 2.11 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 342 kgf.m/m As = 1.04 cm ² /m A's = 0.00 cm ² /m	Fd = 3.49 tf Situação : GE As = 0.52 cm ² /m A's = 0.00 cm ² /m	Fd = 1.67 tf Situação : GE As = 1.28 cm ² /m A's = 0.00 cm ² /m	As = 2.11 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 370.36 kgf.m/m F = 0.95 tf fiss = 0.06 mm	A's = 1.10 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 0.00 kgf.m/m F = 0.95 tf fiss = 0.00 mm	vsd = 2.23 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 530 kgf.m/m As = 1.84 cm ² /m A's = 0.00 cm ² /m		Fd = 1.59 tf Situação : GE As = 2.11 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 337 kgf.m/m As = 1.12 cm ² /m A's = 0.00 cm ² /m		Fd = 1.59 tf Situação : GE As = 1.37 cm ² /m A's = 0.00 cm ² /m	As = 2.11 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 123.06 kgf.m/m F = 0.90 tf fiss = 0.01 mm	A's = 1.26 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 44.10 kgf.m/m F = 0.90 tf fiss = 0.01 mm	vsd = 2.62 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 11	X	bw = 100	Md = 1564 kgf.m/m	Fd = 0.68 tf Situação : GE	Fd = 0.49 tf Situação : GE	bw = 100	Md = 992 kgf.m/m	Fd = 0.68 tf Situação : GE	Fd = 0.49 tf Situação : GE	As = 5.33 cm ² /m	A's = 3.13 cm ² /m	vsd = 2.67 tf/m vrd1 = 6.92 tf/m

		.0 cm h = 10. 0 cm	As = 5.26 cm ² / m A's = 0.00 cm ² / m	As = 5.17 cm ² / m A's = 0.00 cm ² / m	As = 5.33 cm ² / m A's = 0.00 cm ² / m	.0 cm h = 10. 0 cm	As = 3.18 cm ² / m A's = 0.00 cm ² / m	As = 3.08 cm ² / m A's = 0.00 cm ² / m	As = 3.25 cm ² / m A's = 0.00 cm ² / m	ø12.5 c/20 (6.14 cm ² / m) M = 565.78 kgf.m/ m F = 0.28 tf fiss = 0.04 mm	ø10.0 c/20 (3.93 cm ² / m) M = 0.00 kgf.m/ m F = 0.28 tf fiss = 0.00 mm	Modelo I vrd2 = 39.91 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 1551 kgf. m/m As = 6.54 cm ² / m A's = 0.00 cm ² / m	Fd = 0.40 tf Situação : GE As = 6.47 cm ² / m A's = 0.00 cm ² / m	Fd = 2.22 tf Situaçã o: GE As = 6.93 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm	Md = 1009 kgf. m/m As = 3.80 cm ² / m A's = 0.00 cm ² / m	Fd = 0.40 tf Situação : GE As = 3.73 cm ² / m A's = 0.00 cm ² / m	Fd = 2.22 tf Situaçã o: GE As = 4.18 cm ² / m A's = 0.00 cm ² / m	As = 6.93 cm ² / m ø12.5 c/17 (7.22 cm ² / m) M = 398.55 kgf.m/ m F = 1.24 tf fiss = 0.02 mm	A's = 4.19 cm ² / m ø10.0 c/18 (4.36 cm ² / m) M = 0.00 kgf.m/ m F = 1.24 tf fiss = 0.00 mm	vsd = 2.99 tf/m vrd1 = 6.32 tf/m vrd2 = 32.65 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 12	X	bw = 100 .0 cm h = 10. 0 cm	Md = 1481 kgf. m/m As = 4.86 cm ² / m A's = 0.00 cm ² / m	Fd = 0.31 tf Situação : GE As = 4.82 cm ² / m A's = 0.00 cm ² / m	Fd = 0.26 tf Situaçã o: GE As = 4.90 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm	Md = 923 kgf. m/m As = 2.91 cm ² / m A's = 0.00 cm ² / m	Fd = 0.31 tf Situação : GE As = 2.86 cm ² / m A's = 0.00 cm ² / m	Fd = 0.26 tf Situaçã o: GE As = 2.94 cm ² / m A's = 0.00 cm ² / m	As = 4.90 cm ² / m ø10.0 c/16 (4.91 cm ² / m) M = 553.02 kgf.m/ m F = 0.15 tf fiss = 0.04 mm	A's = 2.93 cm ² / m ø8.0 c/17 (2.96 cm ² / m) M = 0.00 kgf.m/ m F = 0.15 tf fiss = 0.00 mm	vsd = 2.58 tf/m vrd1 = 6.71 tf/m Modelo I vrd2 = 40.64 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10.	Md = 1470 kgf. m/m As = 5.85	Fd = 1.04 tf Situação : GE As = 5.68	Fd = 0.06 tf Situaçã o: GE As = 5.86	bw = 100 .0 cm h = 10.	Md = 907 kgf. m/m As = 3.28	Fd = 1.04 tf Situação : GE As = 3.11	Fd = 0.06 tf Situaçã o: GE As = 3.29	As = 5.86 cm ² / m ø12.5 c/20 (6.14 cm ² / m)	A's = 3.29 cm ² / m ø10.0 c/20 (3.93 cm ² / m)	vsd = 2.91 tf/m vrd1 = 6.23 tf/m vrd2 = 34.10 tf/m

		0 cm	cm ² / m A's = 0.00 cm ² / m	A's = 0.00 cm ² /m	A's = 0.00 cm ² /m	0 cm	cm ² / m A's = 0.00 cm ² / m	A's = 0.00 cm ² /m	A's = 0.00 cm ² /m	M = 401.91 kgf.m/ m F = 0.03 tf fiss = 0.03 mm	M = 0.00 kgf.m/ m F = 0.03 tf fiss = 0.00 mm	vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 13	X	bw = 100 .0 cm h = 10. 0 cm	Md = 1417 kgf. m/m As = 4.64 cm ² / m A's = 0.00 cm ² / m	Fd = 0.37 tf Situação : GE As = 4.59 cm ² /m A's = 0.00 cm ² /m	Fd = 0.12 tf Situaçã o: GE As = 4.66 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm	Md = 874 kgf. m/m As = 2.75 cm ² / m A's = 0.00 cm ² / m	Fd = 0.37 tf Situação : GE As = 2.69 cm ² /m A's = 0.00 cm ² /m	Fd = 0.12 tf Situaçã o: GE As = 2.77 cm ² /m A's = 0.00 cm ² /m	As = 4.66 cm ² /m ø10.0 c/16 (4.91 cm ² /m) M = 554.47 kgf.m/ m F = 0.07 tf fiss = 0.04 mm	A's = 2.74 cm ² /m ø8.0 c/18 (2.79 cm ² /m) M = 0.00 kgf.m/ m F = 0.07 tf fiss = 0.00 mm	vsd = 2.46 tf/m vrd1 = 6.71 tf/m Modelo I vrd2 = 40.64 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 1399 kgf. m/m As = 5.54 cm ² / m A's = 0.00 cm ² / m	Fd = 0.52 tf Situação : GE As = 5.45 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situaçã o: GE As = 5.55 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm	Md = 860 kgf. m/m As = 3.10 cm ² / m A's = 0.00 cm ² / m	Fd = 0.52 tf Situação : GE As = 3.01 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situaçã o: GE As = 3.11 cm ² /m A's = 0.00 cm ² /m	As = 5.55 cm ² /m ø12.5 c/20 (6.14 cm ² /m) M = 373.35 kgf.m/ m F = 0.02 tf fiss = 0.02 mm	A's = 3.11 cm ² /m ø10.0 c/20 (3.93 cm ² /m) M = 0.00 kgf.m/ m F = 0.02 tf fiss = 0.00 mm	vsd = 2.89 tf/m vrd1 = 6.23 tf/m vrd2 = 34.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 14	X	bw = 100 .0 cm h = 10. 0 cm	Md = 1452 kgf. m/m As = 4.76 cm ² / m A's = 0.00	Fd = 0.26 tf Situação : GE As = 4.73 cm ² /m A's = 0.00 cm ² /m	Fd = 0.38 tf Situaçã o: GE As = 4.82 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm	Md = 942 kgf. m/m As = 2.97 cm ² / m A's = 0.00	Fd = 0.26 tf Situação : GE As = 2.93 cm ² /m A's = 0.00 cm ² /m	Fd = 0.38 tf Situaçã o: GE As = 3.02 cm ² /m A's = 0.00 cm ² /m	As = 4.82 cm ² /m ø10.0 c/16 (4.91 cm ² /m) M = 564.32 kgf.m/ m	A's = 2.98 cm ² /m ø8.0 c/16 (3.14 cm ² /m) M = 0.00 kgf.m/ m	vsd = 2.53 tf/m vrd1 = 6.71 tf/m Modelo I vrd2 = 40.64 tf/m vsw = 0.00 tf/m

			cm ² / m				cm ² / m			F = 0.20 tf fiss = 0.05 mm	F = 0.20 tf fiss = 0.00 mm	asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 1419 kgf. m/m As = 5.63 cm ² / m A's = 0.00 cm ² / m	Fd = 0.44 tf Situação : GE As = 5.55 cm ² /m A's = 0.00 cm ² /m	Fd = 0.78 tf Situaçã o: GE As = 5.76 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 909 kgf. m/m As = 3.28 cm ² / m A's = 0.00 cm ² / m	Fd = 0.44 tf Situação : GE As = 3.21 cm ² /m A's = 0.00 cm ² /m	Fd = 0.78 tf Situaçã o: GE As = 3.41 cm ² /m A's = 0.00 cm ² /m	As = 5.76 cm ² /m ø12.5 c/20 (6.14 cm ² /m) M = 350.85 kgf.m/ m F = 0.41 tf fiss = 0.02 mm	A's = 3.31 cm ² /m ø10.0 c/20 (3.93 cm ² /m) M = 0.00 kgf.m/ m F = 0.41 tf fiss = 0.00 mm	vsd = 2.86 tf/m vrd1 = 6.23 tf/m vrd2 = 34.10 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 15	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.27 tf/N Situação : GE As = 0.03 cm ² /N A's = 0.00 cm ² /N	Fd = 0.39 tf/N Situaçã o: GE As = 0.10 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 31.06 kgf.m/ N F = 0.21 tf/N fiss = 0.00 mm		vsd = 0.18 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 16	X	bw = 10.0 cm h = 17.0 cm bf = =	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00	Fd = 0.23 tf/N Situação : GE As = 0.21 cm ² /N A's = 0.00 cm ² /N	Fd = 0.56 tf/N Situaçã o: GE As = 0.29 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N)		vsd = 0.36 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N

		40.0 cm hf = 5.0 cm	cm ² / N							M = 125.09 kgf.m/ N F = 0.31 tf/N fiss = 0.02 mm		asw = 0.00 cm ² /m
LB1 17	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 233 kgf. m/N As = 0.29 cm ² / N A's = 0.00 cm ² / N	Fd = 0.03 tf/N Situação : GE As = 0.29 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situaçã o: GE As = 0.29 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 155.32 kgf.m/ N F = 0.03 tf/N fiss = 0.02 mm		vsd = 0.39 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 18	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 221 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.02 tf/N Situação : GE As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.08 tf/N Situaçã o: GE As = 0.28 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 146.97 kgf.m/ N F = 0.05 tf/N fiss = 0.02 mm		vsd = 0.37 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB1 19	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 234 kgf. m/N As = 0.29 cm²/ N A's = 0.00 cm²/ N	Fd = 0.02 tf/N Situação : GE As = 0.29 cm²/N A's = 0.00 cm²/N	Fd = 0.08 tf/N Situação : GE As = 0.30 cm²/N A's = 0.00 cm²/N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm²/N (TR 12645 - 0.39 cm²/N) 1ø5.0 c/N (0.20 cm²/N) M = 155.74 kgf.m/ N F = 0.04 tf/N fiss = 0.02 mm		vsd = 0.39 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
LB1 20	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 257 kgf. m/N As = 0.32 cm²/ N A's = 0.00 cm²/ N	Fd = 0.03 tf/N Situação : GE As = 0.32 cm²/N A's = 0.00 cm²/N	Fd = 0.01 tf/N Situação : GE As = 0.32 cm²/N A's = 0.00 cm²/N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm²/N (TR 12645 - 0.39 cm²/N) 1ø5.0 c/N (0.20 cm²/N) M = 171.53 kgf.m/ N F = 0.01 tf/N fiss = 0.03 mm		vsd = 0.43 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
LB1 21	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 228 kgf. m/N As = 0.28 cm²/ N A's = 0.00	Fd = 0.01 tf/N Situação : GE As = 0.28 cm²/N A's = 0.00 cm²/N	Fd = 0.11 tf/N Situação : GE As = 0.30 cm²/N A's = 0.00 cm²/N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm²/N (TR 12645 - 0.39 cm²/N) 1ø5.0 c/N (0.20 cm²/N)		vsd = 0.38 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N

		40.0 cm hf = 5.0 cm	cm ² /N							M = 152.25 kgf.m/N F = 0.06 tf/N fiss = 0.02 mm	asw = 0.00 cm ² /m
LB1 22	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.08 tf/N Situação : GE As = 0.24 cm ² /N A's = 0.00 cm ² /N	Fd = 0.09 tf/N Situaçã o: GE As = 0.26 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 134.74 kgf.m/N F = 0.05 tf/N fiss = 0.02 mm	vsd = 0.37 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 23	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 234 kgf.m/N As = 0.29 cm ² /N A's = 0.00 cm ² /N	Fd = 0.57 tf/N Situação : GE As = 0.23 cm ² /N A's = 0.00 cm ² /N	Fd = 1.17 tf/N Situaçã o: GE As = 0.41 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 155.89 kgf.m/N F = 0.65 tf/N fiss = 0.05 mm	vsd = 0.39 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB1 24	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 222 kgf. m/N As = 0.28 cm ² / N A's = 0.00 cm ² / N	Fd = 0.80 tf/N Situação : GE As = 0.19 cm ² / N A's = 0.00 cm ² / N	Fd = 0.08 tf/N Situaçã o: GE As = 0.28 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 148.01 kgf.m/ N F = 0.04 tf/N fiss = 0.02 mm		vsd = 0.37 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 25	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 225 kgf. m/N As = 0.28 cm ² / N A's = 0.00 cm ² / N	Fd = 1.16 tf/N Situação : GE As = 0.16 cm ² / N A's = 0.00 cm ² / N	Fd = 0.28 tf/N Situaçã o: GE As = 0.31 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 150.21 kgf.m/ N F = 0.15 tf/N fiss = 0.03 mm		vsd = 0.38 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 26	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00		Fd = 1.23 tf Situaçã o: GE As = 0.73 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 144.22 kgf.m/ m		vsd = 1.62 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m

			cm ² / m							F = 0.69 tf fiss = 0.06 mm		asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.26 tf Situação : GE As = 0.73 cm ² /m A's = 0.00 cm ² /m	Fd = 0.66 tf Situação : GE As = 0.85 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 175.58 kgf.m/ m F = 0.38 tf fiss = 0.09 mm		vsd = 1.68 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 27	X	bw = 100.0 cm h = 10.0 cm	Md = 517 kgf. m/m As = 1.60 cm ² / m A's = 0.00 cm ² / m	Fd = 0.17 tf Situação : GE As = 1.57 cm ² /m A's = 0.00 cm ² /m	Fd = 0.83 tf Situação : GE As = 1.72 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.72 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 319.04 kgf.m/ m F = 0.47 tf fiss = 0.04 mm		vsd = 1.64 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 435 kgf. m/m As = 1.49 cm ² / m A's = 0.00 cm ² / m	Fd = 0.06 tf Situação : GE As = 1.48 cm ² /m A's = 0.00 cm ² /m	Fd = 0.31 tf Situação : GE As = 1.54 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.54 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 187.87 kgf.m/ m F = 0.18 tf fiss = 0.04 mm		vsd = 2.23 tf/m vrd1 = 5.46 tf/m vrd2 = 37.06 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

LB1 28	X	bw = 100.0 cm h = 10.0 cm	Md = 503 kgf. m/m As = 1.54 cm ² / m A's = 0.00 cm ² / m	Fd = 0.28 tf Situação : GE As = 1.49 cm ² / m A's = 0.00 cm ² / m	Fd = 0.10 tf Situação : GE As = 1.55 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.55 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 310.26 kgf.m/ m F = 0.06 tf fiss = 0.08 mm	vsd = 1.66 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 439 kgf. m/m As = 1.46 cm ² / m A's = 0.00 cm ² / m	Fd = 0.07 tf Situação : GE As = 1.45 cm ² / m A's = 0.00 cm ² / m	Fd = 0.19 tf Situação : GE As = 1.49 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.49 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 183.89 kgf.m/ m F = 0.11 tf fiss = 0.03 mm	vsd = 2.22 tf/m vrd1 = 5.58 tf/m vrd2 = 38.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 29	X	bw = 100.0 cm h = 10.0 cm	Md = 502 kgf. m/m As = 1.53 cm ² / m A's = 0.00 cm ² / m	Fd = 0.21 tf Situação : GE As = 1.50 cm ² / m A's = 0.00 cm ² / m	Fd = 0.27 tf Situação : GE As = 1.57 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.57 cm ² / m ø6.3 c/19 (1.64 cm ² / m) M = 301.96 kgf.m/ m F = 0.15 tf fiss = 0.07 mm	vsd = 1.64 tf/m vrd1 = 6.04 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm	Md = 440 kgf. m/m	Fd = 0.08 tf Situação : GE	Fd = 0.16 tf Situação : GE	bw = 100.0 cm				As = 1.49 cm ² / m ø6.3 c/20	vsd = 2.22 tf/m vrd1 = 5.58 tf/m

		h = 10. 0 cm	As = 1.46 cm ² / m A's = 0.00 cm ² / m	As = 1.45 cm ² / m A's = 0.00 cm ² / m	As = 1.49 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm				(1.56 cm ² / m) M = 177.65 kgf.m/ m F = 0.09 tf fiss = 0.03 mm		vr2 = 38.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 30	X	bw = 100. 0 cm h = 10. 0 cm	Md = 500 kgf. m/m As = 1.53 cm ² / m A's = 0.00 cm ² / m	Fd = 0.18 tf Situação : GE As = 1.50 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situaçã o: GE As = 1.54 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.54 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 308.62 kgf.m/ m F = 0.06 tf fiss = 0.07 mm		vsd = 1.63 tf/m vr1 = 6.02 tf/m Modelo I vr2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 397 kgf. m/m As = 1.32 cm ² / m A's = 0.00 cm ² / m	Fd = 0.24 tf Situação : GE As = 1.28 cm ² / m A's = 0.00 cm ² / m	Fd = 0.03 tf Situaçã o: GE As = 1.33 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.33 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 173.46 kgf.m/ m F = 0.02 tf fiss = 0.03 mm		vsd = 2.11 tf/m vr1 = 5.58 tf/m vr2 = 38.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 31	X	bw = 10. 0 cm h = 17. 0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N	Fd = 0.05 tf/N Situação : GE As = 0.22 cm ² / N A's = 0.00 cm ² / N	Fd = 0.13 tf/N Situaçã o: GE As = 0.24 cm ² / N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N		vsd = 0.35 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N

		bf = 40.0 cm hf = 5.0 cm	A's = 0.00 cm ² /N		A's = 0.00 cm ² /N					(0.20 cm ² /N) M = 121.55 kgf.m/N F = 0.07 tf/N fiss = 0.02 mm		asw = 0.00 cm ² /m
LB1 32	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.21 tf/N Situação : GE As = 0.19 cm ² /N A's = 0.00 cm ² /N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 115.82 kgf.m/N F = 0.00 tf/N fiss = 0.01 mm		vsd = 0.33 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 33	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.22 tf/N Situação : GE As = 0.20 cm ² /N A's = 0.00 cm ² /N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 122.14 kgf.m/N F = 0.00 tf/N		vsd = 0.35 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

										fiss = 0.01 mm		
LB1 34	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm²/ N A's = 0.00 cm²/ N	Fd = 0.17 tf/N Situação : GE As = 0.23 cm²/N A's = 0.00 cm²/N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm²/N (TR 12645 - 0.39 cm²/N) 1ø5.0 c/N (0.20 cm²/N) M = 134.21 kgf.m/ N F = 0.00 tf/N fiss = 0.02 mm		vsd = 0.38 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
LB1 35	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm²/ N A's = 0.00 cm²/ N	Fd = 0.24 tf/N Situação : GE As = 0.20 cm²/N A's = 0.00 cm²/N	Fd = 0.02 tf/N Situaçã o: GE As = 0.22 cm²/N A's = 0.00 cm²/N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm²/N (TR 12645 - 0.39 cm²/N) 1ø5.0 c/N (0.20 cm²/N) M = 119.32 kgf.m/ N F = 0.01 tf/N fiss = 0.01 mm		vsd = 0.34 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
LB1 36	X	bw = 10.0 cm h = 17.0 cm	Md = 215 kgf. m/N As = 0.27 cm²/ N	Fd = 0.15 tf/N Situação : GE As = 0.24 cm²/N	Fd = 0.02 tf/N Situaçã o: GE As = 0.26 cm²/N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm²/N (TR 12645 - 0.39 cm²/N)		vsd = 0.39 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N

		0 cm bf = 40. 0 cm hf = 5.0 cm	cm ² / N A's = 0.00 cm ² / N	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N	0 cm				1ø5.0 c/N (0.20 cm ² /N) M = 136.89 kgf.m/ N F = 0.01 tf/N fiss = 0.02 mm		vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 37	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.05 tf/N Situação : GE As = 0.20 cm ² /N A's = 0.00 cm ² /N	Fd = 0.03 tf/N Situaçã o: GE As = 0.21 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 109.77 kgf.m/ N F = 0.01 tf/N fiss = 0.01 mm		vsd = 0.34 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 38	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.11 tf/N Situação : GE As = 0.16 cm ² /N A's = 0.00 cm ² /N	Fd = 0.39 tf/N Situaçã o: GE As = 0.21 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 89.83 kgf.m/ N F = 0.22 tf/N		vsd = 0.31 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

										fiss = 0.01 mm		
LB1 39	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N		Fd = 0.57 tf/N Situaçã o: PE As = 0.06 cm ² / N A's = 0.05 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 3.98 kgf.m/ N F = 0.32 tf/N fiss = 0.00 mm		vsd = 0.06 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 40	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.11 tf/N Situação : GE As = 0.06 cm ² / N A's = 0.00 cm ² / N	Fd = 0.23 tf/N Situaçã o: GE As = 0.10 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 38.91 kgf.m/ N F = 0.13 tf/N fiss = 0.00 mm		vsd = 0.19 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 41	X	bw = 10.0 cm h = 17.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N	Fd = 0.08 tf/N Situação : GE As = 0.02 cm ² / N	Fd = 0.37 tf/N Situaçã o: PE As = 0.07 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N)		vsd = 0.12 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N

		0 cm bf = 40. 0 cm hf = 5.0 cm	cm ² / N A's = 0.00 cm ² / N	A's = 0.00 cm ² /N	A's = 0.01 cm ² /N	0 cm				1ø5.0 c/N (0.20 cm ² /N) M = 14.22 kgf.m/ N F = 0.21 tf/N fiss = 0.00 mm		vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 42	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.75 tf/N Situação : GE As = 0.14 cm ² /N A's = 0.00 cm ² /N	Fd = 0.10 tf/N Situaçã o: GE As = 0.23 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 115.30 kgf.m/ N F = 0.06 tf/N fiss = 0.01 mm		vsd = 0.33 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 43	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.93 tf/N Situação : GE As = 0.12 cm ² /N A's = 0.00 cm ² /N	Fd = 0.28 tf/N Situaçã o: GE As = 0.25 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 117.66 kgf.m/ N F = 0.15 tf/N		vsd = 0.33 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

										fiss = 0.02 mm		
LB1 44	X	bw = 100.0 cm h = 10.0 cm	Md = 649 kgf. m/m As = 2.02 cm ² / m A's = 0.00 cm ² / m	Fd = 0.75 tf Situação : GE As = 1.91 cm ² / m A's = 0.00 cm ² / m	Fd = 0.16 tf Situaçã o: GE As = 2.04 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 2.04 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 400.36 kgf.m/ m F = 0.06 tf fiss = 0.06 mm		vsd = 1.80 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 486 kgf. m/m As = 1.69 cm ² / m A's = 0.00 cm ² / m		Fd = 0.97 tf Situaçã o: GE As = 1.85 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.85 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 184.53 kgf.m/ m F = 0.54 tf fiss = 0.02 mm		vsd = 2.24 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 45	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.95 tf Situação : GE As = 0.56 cm ² / m A's = 0.00 cm ² / m	Fd = 0.01 tf Situaçã o: GE As = 0.68 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 167.79 kgf.m/ m F = 0.00 tf fiss = 0.06 mm		vsd = 1.29 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m	Fd = 0.13 tf Situação : GE As = 0.38 cm ² /m A's = 0.00 cm ² /m	Fd = 0.32 tf Situação o: GE As = 0.44 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 93.08 kgf.m/m F = 0.18 tf fiss = 0.02 mm		vsd = 1.13 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 46	X	bw = 100.0 cm h = 10.0 cm	Md = 726 kgf. m/m As = 2.27 cm ² /m A's = 0.00 cm ² /m	Fd = 0.74 tf Situação : GE As = 2.16 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situação o: GE As = 2.27 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 2.27 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 448.26 kgf.m/m F = 0.02 tf fiss = 0.08 mm		vsd = 1.93 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 642 kgf. m/m As = 2.25 cm ² /m A's = 0.00 cm ² /m	Fd = 0.41 tf Situação : GE As = 2.18 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situação o: GE As = 2.26 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 2.26 cm ² /m ø8.0 c/20 (2.51 cm ² /m) M = 206.14 kgf.m/m F = 0.03 tf fiss = 0.02 mm		vsd = 2.38 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 47	X	bw = 100.0 cm	Md = 1521 kgf. m/m	Fd = 0.35 tf Situação : GE	Fd = 0.13 tf Situação o: GE	bw = 100.0 cm	Md = 1300 kgf. m/m	Fd = 0.35 tf Situação : GE	Fd = 0.13 tf Situação o: GE	As = 5.12 cm ² /m ø12.5 c/20	A's = 4.25 cm ² /m ø10.0 c/18	vsd = 2.64 tf/m vrd1 = 6.92 tf/m Modelo I

		h = 10. 0 cm	As = 5.11 cm ² / m A's = 0.00 cm ² / m	As = 5.05 cm ² / m A's = 0.00 cm ² / m	As = 5.12 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm	As = 4.23 cm ² / m A's = 0.00 cm ² / m	As = 4.18 cm ² / m A's = 0.00 cm ² / m	As = 4.25 cm ² / m A's = 0.00 cm ² / m	(6.14 cm ² / m) M = 548.66 kgf.m/ m F = 0.07 tf fiss = 0.04 mm	(4.36 cm ² / m) M = 0.00 kgf.m/ m F = 0.07 tf fiss = 0.00 mm	vr2 = 39.91 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 1511 kgf. m/m As = 6.34 cm ² / m A's = 0.00 cm ² / m	Fd = 0.76 tf Situação : GE As = 6.21 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situaçã o: GE As = 6.35 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm	Md = 950 kgf. m/m As = 3.56 cm ² / m A's = 0.00 cm ² / m		Fd = 0.05 tf Situaçã o: GE As = 3.57 cm ² / m A's = 0.00 cm ² / m	As = 6.35 cm ² / m ø12.5 c/19 (6.46 cm ² / m) M = 406.93 kgf.m/ m F = 0.02 tf fiss = 0.03 mm	A's = 3.58 cm ² / m ø10.0 c/20 (3.93 cm ² / m) M = 0.00 kgf.m/ m F = 0.02 tf fiss = 0.00 mm	vsd = 2.91 tf/m vr1 = 6.13 tf/m vr2 = 32.65 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 48	X	bw = 100. 0 cm h = 10. 0 cm	Md = 1608 kgf. m/m As = 5.42 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 5.41 cm ² / m A's = 0.00 cm ² / m	Fd = 0.41 tf Situaçã o: GE As = 5.48 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm	Md = 1449 kgf. m/m As = 4.75 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 4.74 cm ² / m A's = 0.00 cm ² / m	Fd = 0.41 tf Situaçã o: GE As = 4.81 cm ² / m A's = 0.00 cm ² / m	As = 5.48 cm ² / m ø12.5 c/20 (6.14 cm ² / m) M = 566.43 kgf.m/ m F = 0.24 tf fiss = 0.04 mm	A's = 4.75 cm ² / m ø10.0 c/16 (4.91 cm ² / m) M = 0.00 kgf.m/ m F = 0.24 tf fiss = 0.00 mm	vsd = 2.93 tf/m vr1 = 6.92 tf/m Modelo I vr2 = 39.91 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 1548 kgf. m/m As = 6.43 cm ² / m A's = 0.00 cm ² / m	Fd = 0.53 tf Situação : GE As = 6.52 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situaçã o: GE As = 6.53 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm	Md = 1015 kgf. m/m As = 3.82 cm ² / m A's = 0.00 cm ² / m	Fd = 0.53 tf Situação : GE As = 3.73 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situaçã o: GE As = 3.83 cm ² / m A's = 0.00 cm ² / m	As = 6.53 cm ² / m ø12.5 c/18 (6.82 cm ² / m) M = 386.77 kgf.m/ m	A's = 3.26 cm ² / m ø10.0 c/20 (3.93 cm ² / m) M = 7.60 kgf.m/ m	vsd = 2.90 tf/m vr1 = 6.22 tf/m vr2 = 32.65 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m				A's = 0.00 cm ² / m			kgf.m/ m F = 0.02 tf fiss = 0.02 mm	kgf.m/ m F = 0.02 tf fiss = 0.00 mm	asw = 0.00 cm ² /m
LB1 49	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.11 tf Situação : GE As = 0.56 cm ² /m A's = 0.00 cm ² /m	Fd = 0.10 tf Situaçã o: GE As = 0.59 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 142.12 kgf.m/ m F = 0.05 tf fiss = 0.04 mm		vsd = 1.35 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 0.51 cm ² /m A's = 0.00 cm ² /m	Fd = 0.02 tf Situaçã o: GE As = 0.52 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 120.73 kgf.m/ m F = 0.01 tf fiss = 0.04 mm		vsd = 1.29 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 50	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.11 tf Situação : GE As = 0.58 cm ² /m A's = 0.00 cm ² /m	Fd = 0.05 tf Situaçã o: GE As = 0.60 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 147.59 kgf.m/ m F = 0.02 tf		vsd = 1.34 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.05 mm		
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situação : GE As = 0.49 cm ² / m A's = 0.00 cm ² / m	Fd = 0.64 tf Situaçã o: GE As = 0.58 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 114.64 kgf.m/ m F = 0.34 tf fiss = 0.04 mm		vsd = 1.26 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 51	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.06 tf/N Situação : GE As = 0.03 cm ² / N A's = 0.00 cm ² / N	Fd = 0.40 tf/N Situaçã o: GE As = 0.08 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 22.21 kgf.m/ N F = 0.22 tf/N fiss = 0.00 mm		vsd = 0.15 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² / m
LB1 52	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N			bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 21.04		vsd = 0.15 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² / m

		0 cm hf = 5.0 cm								kgf.m/ N F = 0.00 tf/N fiss = 0.00 mm		
LB1 53	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.13 tf Situação : GE As = 0.56 cm ² /m A's = 0.00 cm ² /m	Fd = 0.34 tf Situaã o: GE As = 0.62 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 142.84 kgf.m/ m F = 0.19 tf fiss = 0.05 mm		vsd = 0.97 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.07 tf Situação : GE As = 0.22 cm ² /m A's = 0.00 cm ² /m	Fd = 0.13 tf Situaã o: GE As = 0.25 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 52.67 kgf.m/ m F = 0.07 tf fiss = 0.01 mm		vsd = 0.73 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 54	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.35 tf Situação : GE As = 0.55 cm ² /m A's = 0.00 cm ² /m	Fd = 0.03 tf Situaã o: GE As = 0.60 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 148.52 kgf.m/ m F = 0.01 tf		vsd = 1.14 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.05 mm		
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m	Fd = 0.07 tf Situação : GE As = 0.15 cm ² /m A's = 0.00 cm ² /m	Fd = 0.56 tf Situação : GE As = 0.23 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 34.74 kgf.m/m F = 0.31 tf fiss = 0.01 mm		vsd = 0.61 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 55	X	bw = 100.0 cm h = 10.0 cm	Md = 922 kgf. m/m As = 2.90 cm ² /m A's = 0.00 cm ² /m	Fd = 0.43 tf Situação : GE As = 2.84 cm ² /m A's = 0.00 cm ² /m	Fd = 0.04 tf Situação : GE As = 2.91 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 434 kgf. m/m As = 1.32 cm ² /m A's = 0.00 cm ² /m	Fd = 0.43 tf Situação : GE As = 1.26 cm ² /m A's = 0.00 cm ² /m	Fd = 0.04 tf Situação : GE As = 1.33 cm ² /m A's = 0.00 cm ² /m	As = 2.91 cm ² /m ø8.0 c/17 (2.96 cm ² /m) M = 509.73 kgf.m/m F = 0.02 tf fiss = 0.08 mm	A's = 1.32 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 0.00 kgf.m/m F = 0.02 tf fiss = 0.00 mm	vsd = 2.02 tf/m vrd1 = 6.30 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 808 kgf. m/m As = 2.85 cm ² /m A's = 0.00 cm ² /m	Fd = 0.85 tf Situação : GE As = 2.72 cm ² /m A's = 0.00 cm ² /m	Fd = 0.62 tf Situação : GE As = 2.96 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm	Md = 325 kgf. m/m As = 1.08 cm ² /m A's = 0.00 cm ² /m	Fd = 0.85 tf Situação : GE As = 0.94 cm ² /m A's = 0.00 cm ² /m	Fd = 0.62 tf Situação : GE As = 1.18 cm ² /m A's = 0.00 cm ² /m	As = 2.96 cm ² /m ø8.0 c/17 (2.96 cm ² /m) M = 226.17 kgf.m/m F = 0.35 tf fiss = 0.02 mm	A's = 1.13 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 18.30 kgf.m/m F = 0.35 tf fiss = 0.00 mm	vsd = 2.53 tf/m vrd1 = 5.74 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

LB1 56	X	bw = 100.0 cm h = 10.0 cm	Md = 712 kgf. m/m As = 2.22 cm ² / m A's = 0.00 cm ² / m	Fd = 0.35 tf Situação : GE As = 2.17 cm ² / m A's = 0.00 cm ² / m	Fd = 0.50 tf Situação o: GE As = 2.30 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 2.30 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 389.78 kgf.m/ m F = 0.29 tf fiss = 0.06 mm		vsd = 1.97 tf/m vrd1 = 6.19 tf/m Modelo I vrd2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 616 kgf. m/m As = 2.15 cm ² / m A's = 0.00 cm ² / m	Fd = 0.63 tf Situação : GE As = 2.05 cm ² / m A's = 0.00 cm ² / m	Fd = 0.66 tf Situação o: GE As = 2.26 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm	Md = 303 kgf. m/m As = 0.76 cm ² / m A's = 0.00 cm ² / m	Fd = 0.63 tf Situação : GE As = 0.68 cm ² / m A's = 0.00 cm ² / m	Fd = 0.66 tf Situação o: GE As = 0.84 cm ² / m A's = 0.00 cm ² / m	As = 2.26 cm ² / m ø8.0 c/20 (2.51 cm ² / m) M = 209.73 kgf.m/ m F = 0.37 tf fiss = 0.02 mm	A's = 0.01 cm ² / m ø5.0 c/20 (0.98 cm ² / m) M = 31.07 kgf.m/ m F = 0.37 tf fiss = 0.00 mm	vsd = 2.26 tf/m vrd1 = 5.63 tf/m vrd2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 57	X	bw = 100.0 cm h = 10.0 cm	Md = 959 kgf. m/m As = 3.07 cm ² / m A's = 0.00 cm ² / m	Fd = 1.02 tf Situação : GE As = 2.92 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situação o: GE As = 3.08 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm	Md = 474 kgf. m/m As = 1.45 cm ² / m A's = 0.00 cm ² / m	Fd = 1.02 tf Situação : GE As = 1.30 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situação o: GE As = 1.45 cm ² / m A's = 0.00 cm ² / m	As = 3.08 cm ² / m ø10.0 c/20 (3.93 cm ² / m) M = 564.55 kgf.m/ m F = 0.03 tf fiss = 0.07 mm	A's = 1.35 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 0.00 kgf.m/ m F = 0.03 tf fiss = 0.00 mm	vsd = 2.06 tf/m vrd1 = 6.47 tf/m Modelo I vrd2 = 40.64 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm	Md = 826 kgf. m/m		Fd = 0.84 tf Situação o: GE	bw = 100.0 cm	Md = 380 kgf. m/m	Fd = 1.14 tf Situação : GE	Fd = 0.84 tf Situação o: GE	As = 3.22 cm ² / m ø10.0 c/20	A's = 1.26 cm ² / m ø6.3 c/20	vsd = 2.59 tf/m vrd1 = 5.77 tf/m

		h = 10. 0 cm	As = 3.07 cm ² / m A's = 0.00 cm ² / m		As = 3.22 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm	As = 1.26 cm ² / m A's = 0.00 cm ² / m	As = 1.08 cm ² / m A's = 0.00 cm ² / m	As = 1.40 cm ² / m A's = 0.00 cm ² / m	(3.93 cm ² / m) M = 215.92 kgf.m/ m F = 0.47 tf fiss = 0.02 mm	(1.56 cm ² / m) M = 20.99 kgf.m/ m F = 0.47 tf fiss = 0.00 mm	vr2 = 34.83 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 58	X	bw = 100. 0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.84 tf Situação : GE As = 0.79 cm ² / m A's = 0.00 cm ² / m	Fd = 0.65 tf Situaã o: GE As = 0.97 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 219.44 kgf.m/ m F = 0.36 tf fiss = 0.12 mm		vsd = 1.60 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.55 tf Situação : GE As = 0.80 cm ² / m A's = 0.00 cm ² / m	Fd = 0.07 tf Situaã o: GE As = 0.88 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 204.09 kgf.m/ m F = 0.04 tf fiss = 0.10 mm		vsd = 1.84 tf/m vr1 = 5.59 tf/m vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 59	X	bw = 100. 0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m	Fd = 0.32 tf Situação : GE As = 0.88 cm ² / m A's = 0.00 cm ² / m	Fd = 0.31 tf Situaã o: GE As = 0.95 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 226.12		vsd = 1.78 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.17 tf fiss = 0.12 mm	asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.44 tf Situação : GE As = 0.55 cm ² /m A's = 0.00 cm ² /m	Fd = 0.04 tf Situaçã o: GE As = 0.61 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 141.48 kgf.m/ m F = 0.02 tf fiss = 0.05 mm	vsd = 1.60 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 60	X	bw = 100 .0 cm h = 10. 0 cm	Md = 398 kgf. m/m As = 1.21 cm ² / m A's = 0.00 cm ² / m	Fd = 0.33 tf Situação : GE As = 1.16 cm ² /m A's = 0.00 cm ² /m	Fd = 0.95 tf Situaçã o: GE As = 1.35 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.35 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 245.72 kgf.m/ m F = 0.53 tf fiss = 0.05 mm	vsd = 1.21 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.02 cm ² / m A's = 0.00 cm ² / m	Fd = 0.38 tf Situação : GE As = 0.56 cm ² /m A's = 0.00 cm ² /m	Fd = 0.21 tf Situaçã o: GE As = 0.64 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.02 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 141.47 kgf.m/ m F = 0.12 tf	vsd = 1.70 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.05 mm		
LB1 61	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.13 cm ² / m A's = 0.00 cm ² / m	Fd = 1.67 tf Situação : GE As = 0.79 cm ² / m A's = 0.00 cm ² / m	Fd = 1.72 tf Situaçã o: GE As = 1.29 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.29 cm ² / m ø6.3 c/20 (1.56 cm ² / m) M = 210.76 kgf.m/ m F = 0.96 tf fiss = 0.05 mm		vsd = 1.44 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.02 cm ² / m A's = 0.00 cm ² / m	Fd = 1.35 tf Situação : GE As = 0.57 cm ² / m A's = 0.00 cm ² / m	Fd = 1.03 tf Situaçã o: GE As = 0.89 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.02 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 171.90 kgf.m/ m F = 0.58 tf fiss = 0.09 mm		vsd = 1.71 tf/m vrd1 = 5.49 tf/m vrd2 = 38.43 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 62	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 1.96 tf Situação : GE As = 0.34 cm ² / m A's = 0.00 cm ² / m	Fd = 1.76 tf Situaçã o: GE As = 0.79 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 143.09 kgf.m/ m F = 0.99 tf fiss = 0.07 mm		vsd = 1.26 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² /m A's = 0.00 cm ² /m	Fd = 2.97 tf Situação : GE As = 0.13 cm ² /m A's = 0.00 cm ² /m	Fd = 1.88 tf Situação o: GE As = 0.77 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 123.07 kgf.m/m F = 1.06 tf fiss = 0.06 mm		vsd = 1.26 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 63	X	bw = 100.0 cm h = 10.0 cm	Md = 400 kgf. m/m As = 1.22 cm ² /m A's = 0.00 cm ² /m	Fd = 2.00 tf Situação : GE As = 0.92 cm ² /m A's = 0.00 cm ² /m	Fd = 1.07 tf Situação o: GE As = 1.38 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.38 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 221.55 kgf.m/m F = 0.61 tf fiss = 0.05 mm		vsd = 1.84 tf/m vrd1 = 6.02 tf/m Modelo I vrd2 = 41.71 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 378 kgf. m/m As = 1.26 cm ² /m A's = 0.00 cm ² /m	Fd = 1.37 tf Situação : GE As = 1.04 cm ² /m A's = 0.00 cm ² /m	Fd = 0.51 tf Situação o: GE As = 1.34 cm ² /m A's = 0.00 cm ² /m	bw = 100.0 cm h = 10.0 cm				As = 1.34 cm ² /m ø6.3 c/20 (1.56 cm ² /m) M = 230.40 kgf.m/m F = 0.28 tf fiss = 0.05 mm		vsd = 1.89 tf/m vrd1 = 5.58 tf/m vrd2 = 38.05 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 64	X	bw = 100.0 cm	Md = 717 kgf. m/m	Fd = 2.84 tf Situação : GE	Fd = 1.88 tf Situação o: GE	bw = 100.0 cm	Md = 451 kgf. m/m	Fd = 2.84 tf Situação : GE	Fd = 1.88 tf Situação o: GE	As = 2.51 cm ² /m ø8.0 c/20	A's = 1.39 cm ² /m ø6.3 c/20	vsd = 3.06 tf/m vrd1 = 6.19 tf/m Modelo I

		h = 10. 0 cm	As = 2.24 cm ² / m A's = 0.00 cm ² / m	As = 1.82 cm ² / m A's = 0.00 cm ² / m	As = 2.51 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm	As = 1.39 cm ² / m A's = 0.00 cm ² / m	As = 0.97 cm ² / m A's = 0.00 cm ² / m	As = 1.67 cm ² / m A's = 0.00 cm ² / m	(2.51 cm ² / m) M = 286.90 kgf.m/ m F = 1.05 tf fiss = 0.04 mm	(1.56 cm ² / m) M = 36.74 kgf.m/ m F = 1.05 tf fiss = 0.00 mm	vr2 = 41.22 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 705 kgf. m/m As = 2.48 cm ² / m A's = 0.00 cm ² / m	Fd = 2.15 tf Situação : GE As = 2.12 cm ² / m A's = 0.00 cm ² / m	Fd = 1.41 tf Situaçã o: GE As = 2.71 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm	Md = 451 kgf. m/m As = 1.56 cm ² / m A's = 0.00 cm ² / m		Fd = 1.41 tf Situaçã o: GE As = 1.80 cm ² / m A's = 0.00 cm ² / m	As = 2.71 cm ² / m ø8.0 c/18 (2.79 cm ² / m) M = 209.57 kgf.m/ m F = 0.80 tf fiss = 0.02 mm	A's = 1.56 cm ² / m ø6.3 c/19 (1.64 cm ² / m) M = 39.49 kgf.m/ m F = 0.80 tf fiss = 0.00 mm	vsd = 2.94 tf/m vr1 = 5.70 tf/m vr2 = 36.57 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 65	X	bw = 100. 0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.05 tf Situação : GE As = 0.67 cm ² / m A's = 0.00 cm ² / m	Fd = 0.15 tf Situaçã o: GE As = 0.69 cm ² / m A's = 0.00 cm ² / m	bw = 100. 0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 167.11 kgf.m/ m F = 0.08 tf fiss = 0.06 mm		vsd = 1.16 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100. 0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m	Fd = 0.17 tf Situação : GE As = 0.44 cm ² / m A's = 0.00 cm ² / m		bw = 100. 0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 108.35		vsd = 1.29 tf/m vr1 = 5.59 tf/m vr2 = 39.18 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.00 tf fiss = 0.03 mm		asw = 0.00 cm ² /m
LB1 66	X	bw = 100 .0 cm h = 10. 0 cm	Md = 386 kgf. m/m As = 0.97 cm ² / m A's = 0.00 cm ² / m	Fd = 0.15 tf Situação : GE As = 0.95 cm ² /m A's = 0.00 cm ² /m	Fd = 0.18 tf Situaçã o: GE As = 0.99 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 238.13 kgf.m/ m F = 0.11 tf fiss = 0.13 mm		vsd = 1.46 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.08 tf Situação : GE As = 0.65 cm ² /m A's = 0.00 cm ² /m	Fd = 0.59 tf Situaçã o: GE As = 0.74 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 152.97 kgf.m/ m F = 0.31 tf fiss = 0.07 mm		vsd = 1.74 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 67	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.11 tf Situação : GE As = 0.54 cm ² /m A's = 0.00 cm ² /m	Fd = 0.29 tf Situaçã o: GE As = 0.59 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 137.94 kgf.m/ m F = 0.16 tf		vsd = 1.28 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.04 mm		
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.20 tf Situação : GE As = 0.49 cm ² / m A's = 0.00 cm ² / m		bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 121.28 kgf.m/ m F = 0.01 tf fiss = 0.04 mm		vsd = 1.30 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 68	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.30 tf Situação : GE As = 0.64 cm ² / m A's = 0.00 cm ² / m	Fd = 0.23 tf Situaçã o: GE As = 0.70 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 167.20 kgf.m/ m F = 0.12 tf fiss = 0.06 mm		vsd = 1.33 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.22 tf Situação : GE As = 0.40 cm ² / m A's = 0.00 cm ² / m		bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 98.64 kgf.m/ m F = 0.00 tf fiss = 0.02 mm		vsd = 1.24 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

LB1 69	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.48 tf Situação : GE As = 0.80 cm ² / m A's = 0.00 cm ² / m	Fd = 0.07 tf Situação : GE As = 0.87 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 212.47 kgf.m/ m F = 0.04 tf fiss = 0.10 mm	vsd = 1.45 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m	Fd = 0.44 tf Situação : GE As = 0.55 cm ² / m A's = 0.00 cm ² / m		bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 142.85 kgf.m/ m F = 0.00 tf fiss = 0.05 mm	vsd = 1.62 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 70	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.67 tf Situação : GE As = 0.38 cm ² / m A's = 0.00 cm ² / m	Fd = 0.16 tf Situação : GE As = 0.48 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 114.54 kgf.m/ m F = 0.09 tf fiss = 0.03 mm	vsd = 0.97 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm	Md = 373 kgf. m/m	Fd = 0.31 tf Situação : GE	Fd = 0.76 tf Situação : GE	bw = 100.0 cm				As = 1.01 cm ² / m ø5.0 c/19	vsd = 1.32 tf/m vrd1 = 5.59 tf/m

		h = 10. 0 cm	As = 1.00 cm ² / m A's = 0.00 cm ² / m	As = 0.40 cm ² /m A's = 0.00 cm ² /m	As = 0.54 cm ² /m A's = 0.00 cm ² /m	h = 10. 0 cm				(1.03 cm ² /m) M = 106.23 kgf.m/ m F = 0.43 tf fiss = 0.04 mm		vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 71	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.05 tf/N Situação : GE As = 0.25 cm ² /N A's = 0.00 cm ² /N	Fd = 0.03 tf/N Situaçã o: GE As = 0.26 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 137.77 kgf.m/ N F = 0.02 tf/N fiss = 0.02 mm		vsd = 0.38 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 72	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 222 kgf. m/N As = 0.28 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situação : GE As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.07 tf/N Situaçã o: GE As = 0.28 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 148.13 kgf.m/ N F = 0.04 tf/N fiss = 0.02 mm		vsd = 0.40 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB1 73	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.19 tf/N Situação : GE As = 0.23 cm ² / N A's = 0.00 cm ² / N	Fd = 0.02 tf/N Situaçã o: GE As = 0.25 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 133.02 kgf.m/ N F = 0.01 tf/N fiss = 0.02 mm		vsd = 0.36 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 74	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 219 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.02 tf/N Situação : GE As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.27 tf/N Situaçã o: GE As = 0.30 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 146.19 kgf.m/ N F = 0.16 tf/N fiss = 0.02 mm		vsd = 0.40 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 75	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.13 tf/N Situação : GE As = 0.24 cm ² / N A's = 0.00 cm ² / N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N)		vsd = 0.37 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N

		40.0 cm hf = 5.0 cm	cm ² /N							M = 134.53 kgf.m/N F = 0.00 tf/N fiss = 0.02 mm	asw = 0.00 cm ² /m
LB1 76	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.12 tf/N Situação : GE As = 0.24 cm ² /N A's = 0.00 cm ² /N	Fd = 0.01 tf/N Situação: GE As = 0.25 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 134.92 kgf.m/N F = 0.01 tf/N fiss = 0.02 mm	vsd = 0.37 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 77	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.17 tf/N Situação : GE As = 0.17 cm ² /N A's = 0.00 cm ² /N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 102.83 kgf.m/N F = 0.00 tf/N fiss = 0.01 mm	vsd = 0.32 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB1 78	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 223 kgf. m/N As = 0.28 cm ² / N A's = 0.00 cm ² / N	Fd = 0.35 tf/N Situação : GE As = 0.24 cm ² / N A's = 0.00 cm ² / N	Fd = 0.11 tf/N Situaã o: GE As = 0.29 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 148.90 kgf.m/ N F = 0.06 tf/N fiss = 0.02 mm		vsd = 0.40 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 79	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.18 tf/N Situação : GE As = 0.10 cm ² / N A's = 0.00 cm ² / N	Fd = 0.60 tf/N Situaã o: GE As = 0.18 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 63.08 kgf.m/ N F = 0.34 tf/N fiss = 0.01 mm		vsd = 0.25 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 80	X	bw = 10.0 cm h = 21.0 cm bf = =	Md = 856 kgf. m/N As = 1.02 cm ² / N A's = 0.00	Fd = 0.64 tf/N Situação : GE As = 0.94 cm ² / N A's = 0.00 cm ² / N	Fd = 0.34 tf/N Situaã o: GE As = 1.06 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 21.0 cm				As = 1.06 cm ² / N (TR 16745 - 0.39 cm ² / N) 1ø10.0 c/N (0.79 cm ² / N)		vsd = 1.20 tf/N vrd1 = 1.50 tf/N Modelo I vrd2 = 11.03 tf/N vsw = 0.00 tf/N

		50. 0 cm hf = 5.0 cm	cm ² / N							M = 575.24 kgf.m/ N F = 0.20 tf/N fiss = 0.09 mm		asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 21. 0 cm bf = 49. 0 cm hf = 5.0 cm	Md = 405 kgf. m/N As = 0.53 cm ² / N A's = 0.00 cm ² / N	Fd = 0.23 tf/N Situação : GE As = 0.50 cm ² /N A's = 0.00 cm ² /N	Fd = 0.78 tf/N Situaçã o: GE As = 0.64 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 21. 0 cm	Md = 123 kgf. m/N As = 0.13 cm ² / N A's = 0.00 cm ² / N	Fd = 0.23 tf/N Situação : GE As = 0.10 cm ² /N A's = 0.00 cm ² /N	Fd = 0.78 tf/N Situaçã o: GE As = 0.21 cm ² /N A's = 0.00 cm ² /N	As = 0.64 cm ² /N 2ø6.3 c/N (0.62 cm ² /N) M = 270.48 kgf.m/ N F = 0.44 tf/N fiss = 0.05 mm	A's = 0.26 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 9.43 kgf.m/ N F = 0.44 tf/N fiss = 0.00 mm	vsd = 0.76 tf/N vrd1 = 1.23 tf/N vrd2 = 8.98 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 81	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.04 tf/N Situação : GE As = 0.12 cm ² /N A's = 0.00 cm ² /N		bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 64.81 kgf.m/ N F = 0.01 tf/N fiss = 0.00 mm		vsd = 0.27 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 82	X	bw = 10. 0 cm	Md = 246 kgf. m/N	Fd = 0.03 tf/N Situação : GE	Fd = 0.02 tf/N Situaçã o: GE	bw = 10. 0 cm				As = 0.48 cm ² /N (TR 12645		vsd = 0.43 tf/N vrd1 = 1.12 tf/N Modelo I

		h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	As = 0.31 cm ² / N A's = 0.00 cm ² / N	As = 0.30 cm ² /N A's = 0.00 cm ² /N	As = 0.31 cm ² /N A's = 0.00 cm ² /N	h = 17. 0 cm				- 0.39 cm ² /N 1ø5.0 c/N (0.20 cm ² /N) M = 163.68 kgf.m/ N F = 0.01 tf/N fiss = 0.03 mm		vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 83	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N	Fd = 0.11 tf/N Situação : GE As = 0.22 cm ² /N A's = 0.00 cm ² /N	Fd = 0.04 tf/N Situaçã o: GE As = 0.24 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 125.15 kgf.m/ N F = 0.02 tf/N fiss = 0.02 mm		vsd = 0.36 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 84	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 467 kgf. m/N As = 0.58 cm ² / N A's = 0.00 cm ² / N	Fd = 0.10 tf/N Situação : GE As = 0.57 cm ² /N A's = 0.00 cm ² /N	Fd = 0.20 tf/N Situaçã o: GE As = 0.60 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.60 cm ² /N (TR 12645 - 0.39 cm ² /N) 2ø5.0 c/N (0.39 cm ² /N) M = 311.41 kgf.m/ N		vsd = 0.53 tf/N vr1 = 1.17 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		5.0 cm								F = 0.11 tf/N fiss = 0.06 mm		
	Y	bw = 9.0 cm h = 17.0 cm bf = 113.8 cm hf = 5.0 cm	Md = 653 kgf. m/N As = 1.13 cm ² /N A's = 0.00 cm ² /N	Fd = 0.19 tf/N Situação : GE As = 1.10 cm ² /N A's = 0.00 cm ² /N	Fd = 0.01 tf/N Situação : GE As = 1.13 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17.0 cm	Md = 725 kgf. m/N As = 1.04 cm ² /N A's = 0.00 cm ² /N	Fd = 0.19 tf/N Situação : GE As = 1.03 cm ² /N A's = 0.00 cm ² /N	Fd = 0.01 tf/N Situação : GE As = 1.04 cm ² /N A's = 0.00 cm ² /N	As = 1.13 cm ² /N 1ø12.5 c/N (1.23 cm ² /N) M = 201.99 kgf.m/N F = 0.01 tf/N fiss = 0.01 mm	A's = 0.78 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 36.97 kgf.m/N F = 0.01 tf/N fiss = 0.00 mm	vsd = 1.47 tf/N vrd1 = 1.14 tf/N vrd2 = 6.73 tf/N vsw = 0.11 tf/N asw = 0.31 cm ² /m
LB1 85	X	bw = 10.0 cm h = 21.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 874 kgf. m/N As = 1.04 cm ² /N A's = 0.00 cm ² /N	Fd = 0.40 tf/N Situação : GE As = 0.99 cm ² /N A's = 0.00 cm ² /N	Fd = 0.06 tf/N Situação : GE As = 1.05 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 21.0 cm	Md = 316 kgf. m/N As = 0.33 cm ² /N A's = 0.00 cm ² /N	Fd = 0.40 tf/N Situação : GE As = 0.29 cm ² /N A's = 0.00 cm ² /N	Fd = 0.06 tf/N Situação : GE As = 0.34 cm ² /N A's = 0.00 cm ² /N	As = 1.05 cm ² /N (TR 16745 - 0.39 cm ² /N) 2ø6.3 c/N (0.62 cm ² /N) M = 585.61 kgf.m/N F = 0.03 tf/N fiss = 0.10 mm	A's = 0.21 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 14.88 kgf.m/N F = 0.03 tf/N fiss = 0.00 mm	vsd = 1.01 tf/N vrd1 = 1.46 tf/N Modelo I vrd2 = 11.03 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 21.0 cm	Md = 624 kgf. m/N As = 0.82 cm ² /N	Fd = 0.36 tf/N Situação : GE As = 0.77 cm ² /N	Fd = 0.30 tf/N Situação : GE As = 0.86 cm ² /N	bw = 9.0 cm h = 21.0 cm	Md = 268 kgf. m/N As = 0.29 cm ² /N	Fd = 0.36 tf/N Situação : GE As = 0.25 cm ² /N	Fd = 0.30 tf/N Situação : GE As = 0.32 cm ² /N	As = 0.86 cm ² /N 2ø8.0 c/N (1.01 cm ² /N) M = 418.94	A's = 0.61 cm ² /m ø5.0 c/20 (0.98 cm ² /m) M = 25.36	vsd = 0.80 tf/N vrd1 = 1.32 tf/N vrd2 = 8.93 tf/N vsw = 0.00 tf/N

		bf = 49.0 cm hf = 5.0 cm	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N		A's = 0.00 cm ² /N	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N	kgf.m/N F = 0.17 tf/N fiss = 0.06 mm	kgf.m/N F = 0.17 tf/N fiss = 0.00 mm	asw = 0.00 cm ² /m
LB1 86	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 342 kgf.m/N As = 0.43 cm ² /N A's = 0.00 cm ² /N	Fd = 0.04 tf/N Situação : GE As = 0.42 cm ² /N A's = 0.00 cm ² /N	Fd = 0.13 tf/N Situação : GE As = 0.44 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 227.77 kgf.m/N F = 0.07 tf/N fiss = 0.05 mm		vsd = 0.48 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 87	X	bw = 10.0 cm h = 21.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 613 kgf.m/N As = 0.73 cm ² /N A's = 0.00 cm ² /N	Fd = 0.24 tf/N Situação : GE As = 0.70 cm ² /N A's = 0.00 cm ² /N	Fd = 0.38 tf/N Situação : GE As = 0.78 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 21.0 cm				As = 0.78 cm ² /N (TR 16745 - 0.39 cm ² /N) 1ø8.0 c/N (0.50 cm ² /N) M = 411.15 kgf.m/N F = 0.21 tf/N fiss = 0.06 mm		vsd = 0.88 tf/N vrd1 = 1.43 tf/N Modelo I vrd2 = 11.03 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

	Y	bw = 9.0 cm h = 21.0 cm bf = 49.0 cm hf = 5.0 cm	Md = 421 kgf.m/N As = 0.48 cm ² /N A's = 0.00 cm ² /N	Fd = 0.46 tf/N Situação : GE As = 0.43 cm ² /N A's = 0.00 cm ² /N	Fd = 0.03 tf/N Situação: GE As = 0.48 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 21.0 cm				As = 0.48 cm ² /N 3ø5.0 c/N (0.59 cm ² /N) M = 282.78 kgf.m/N F = 0.02 tf/N fiss = 0.06 mm		vsd = 0.67 tf/N vrd1 = 1.18 tf/N vrd2 = 8.58 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB188	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.13 tf/N Situação : GE As = 0.10 cm ² /N A's = 0.00 cm ² /N	Fd = 0.09 tf/N Situação: GE As = 0.13 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 63.20 kgf.m/N F = 0.05 tf/N fiss = 0.00 mm		vsd = 0.26 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB189	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.11 tf/N Situação : GE As = 0.08 cm ² /N A's = 0.00 cm ² /N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 50.86 kgf.m/N		vsd = 0.23 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		hf = 5.0 cm								F = 0.00 tf/N fiss = 0.00 mm		
LB1 90	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.11 tf/N Situação : GE As = 0.18 cm ² /N A's = 0.00 cm ² /N	Fd = 0.03 tf/N Situação: GE As = 0.20 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 103.60 kgf.m/N F = 0.02 tf/N fiss = 0.01 mm		vsd = 0.33 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 91	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf.m/N As = 0.27 cm ² /N A's = 0.00 cm ² /N	Fd = 0.09 tf/N Situação : GE As = 0.18 cm ² /N A's = 0.00 cm ² /N		bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 104.08 kgf.m/N F = 0.00 tf/N fiss = 0.01 mm		vsd = 0.33 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 92	X	bw = 10.0 cm	Md = 215 kgf.m/N	Fd = 0.06 tf/N Situação : GE	Fd = 0.09 tf/N Situação: GE	bw = 10.0 cm				As = 0.48 cm ² /N (TR 12645		vsd = 0.32 tf/N vrd1 = 1.12 tf/N Modelo I

		h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	As = 0.27 cm ² / N A's = 0.00 cm ² / N	As = 0.17 cm ² /N A's = 0.00 cm ² /N	As = 0.19 cm ² /N A's = 0.00 cm ² /N	h = 17. 0 cm				- 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 96.78 kgf.m/ N F = 0.05 tf/N fiss = 0.01 mm		vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 93	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 375 kgf. m/N As = 0.47 cm ² / N A's = 0.00 cm ² / N	Fd = 0.06 tf/N Situação : GE As = 0.46 cm ² /N A's = 0.00 cm ² /N	Fd = 0.02 tf/N Situaçã o: GE As = 0.47 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 249.87 kgf.m/ N F = 0.01 tf/N fiss = 0.06 mm		vsd = 0.50 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 94	X	bw = 10. 0 cm h = 17. 0 cm bf = 40. 0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N		Fd = 0.08 tf/N Situaçã o: GE As = 0.12 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 60.08 kgf.m/ N		vsd = 0.25 tf/N vr1 = 1.12 tf/N Modelo I vr2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		5.0 cm								F = 0.05 tf/N fiss = 0.00 mm		
LB1 95	X	bw = 10.0 cm h = 17.0 cm bf = 40.0 cm hf = 5.0 cm	Md = 215 kgf. m/N As = 0.27 cm ² / N A's = 0.00 cm ² / N		Fd = 0.08 tf/N Situaçã o: GE As = 0.10 cm ² / N A's = 0.00 cm ² / N	bw = 10.0 cm h = 17.0 cm				As = 0.48 cm ² / N (TR 12645 - 0.39 cm ² / N) 1ø5.0 c/N (0.20 cm ² / N) M = 48.19 kgf.m/ N F = 0.04 tf/N fiss = 0.00 mm		vsd = 0.22 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LB1 96	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situaçã o: GE As = 0.12 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 27.44 kgf.m/ m F = 0.07 tf fiss = 0.00 mm		vsd = 0.54 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m		Fd = 0.78 tf Situaçã o: GE As = 0.28 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 43.81		vsd = 1.11 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.44 tf fiss = 0.01 mm		asw = 0.00 cm ² /m
LB1 97	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² /m A's = 0.00 cm ² /m	Fd = 0.12 tf Situaçã o: GE As = 0.12 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 27.45 kgf.m/ m F = 0.07 tf fiss = 0.00 mm		vsd = 0.54 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m		Fd = 0.78 tf Situaçã o: GE As = 0.28 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 43.81 kgf.m/ m F = 0.44 tf fiss = 0.01 mm		vsd = 1.11 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m
LB1 98	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² /m A's = 0.00 cm ² /m	Fd = 0.12 tf Situaçã o: GE As = 0.12 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 27.44 kgf.m/ m F = 0.07 tf		vsd = 0.54 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

										fiss = 0.00 mm		
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m		Fd = 0.78 tf Situaçã o: GE As = 0.28 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 43.81 kgf.m/ m F = 0.44 tf fiss = 0.01 mm		vsd = 1.11 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB1 99	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situaçã o: GE As = 0.12 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 27.44 kgf.m/ m F = 0.07 tf fiss = 0.00 mm		vsd = 0.54 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m		Fd = 0.78 tf Situaçã o: GE As = 0.28 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 43.81 kgf.m/ m F = 0.44 tf fiss = 0.01 mm		vsd = 1.11 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m

LB2 00	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situação : GE As = 0.12 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 27.43 kgf.m/ m F = 0.07 tf fiss = 0.00 mm	vsd = 0.54 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m		Fd = 0.78 tf Situação : GE As = 0.28 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 43.78 kgf.m/ m F = 0.44 tf fiss = 0.01 mm	vsd = 1.11 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB2 01	X	bw = 100.0 cm h = 10.0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situação : GE As = 0.12 cm ² / m A's = 0.00 cm ² / m	bw = 100.0 cm h = 10.0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 27.43 kgf.m/ m F = 0.07 tf fiss = 0.00 mm	vsd = 0.54 tf/m vrd1 = 5.93 tf/m Modelo I vrd2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100.0 cm	Md = 373 kgf. m/m		Fd = 0.78 tf Situação : GE	bw = 100.0 cm				As = 1.01 cm ² / m ø5.0 c/19	vsd = 1.11 tf/m vrd1 = 5.59 tf/m

		h = 10. 0 cm	As = 1.00 cm ² / m A's = 0.00 cm ² / m		As = 0.28 cm ² / m A's = 0.00 cm ² / m	h = 10. 0 cm				(1.03 cm ² / m) M = 43.78 kgf.m/ m F = 0.44 tf fiss = 0.01 mm		vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB2 02	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m A's = 0.00 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situaçã o: GE As = 0.12 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 27.43 kgf.m/ m F = 0.07 tf fiss = 0.00 mm		vsd = 0.54 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m		Fd = 0.78 tf Situaçã o: GE As = 0.28 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 43.78 kgf.m/ m F = 0.44 tf fiss = 0.01 mm		vsd = 1.11 tf/m vr1 = 5.59 tf/m vr2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² / m
LB2 03	X	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 0.94 cm ² / m	Fd = 0.09 tf Situação : GE As = 0.09 cm ² / m A's = 0.00 cm ² / m	Fd = 0.12 tf Situaçã o: GE As = 0.12 cm ² / m A's = 0.00 cm ² / m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² / m ø5.0 c/19 (1.03 cm ² / m) M = 27.43		vsd = 0.54 tf/m vr1 = 5.93 tf/m Modelo I vr2 = 42.09 tf/m vsw = 0.00 tf/m

			A's = 0.00 cm ² / m							kgf.m/ m F = 0.07 tf fiss = 0.00 mm		asw = 0.00 cm ² /m
	Y	bw = 100 .0 cm h = 10. 0 cm	Md = 373 kgf. m/m As = 1.00 cm ² / m A's = 0.00 cm ² / m		Fd = 0.78 tf Situaçã o: GE As = 0.28 cm ² /m A's = 0.00 cm ² /m	bw = 100 .0 cm h = 10. 0 cm				As = 1.01 cm ² /m ø5.0 c/19 (1.03 cm ² /m) M = 43.78 kgf.m/ m F = 0.44 tf fiss = 0.01 mm		vsd = 1.11 tf/m vrd1 = 5.59 tf/m vrd2 = 39.18 tf/m vsw = 0.00 tf/m asw = 0.00 cm ² /m

Cálculos das Lajes

CLARABOIA	fck = 350.00 kgf/cm ²	E = 294029 kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 3		cobr = 2.00 cm	

ARMADURAS POSITIVAS (LAJE)												
Laje	Direção	Momento positivo				Momento negativo				Armadura inferior	Armadura superior	Cisalhamento
		Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)	Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)			
LC 1	X	bw = 10. 0 cm h = 17. 0 cm	Md = 250 kgf. m/N As = 0.31 cm ² / N	Fd = 0.24 tf/N Situação: GE As = 0.29 cm ² /N	Fd = 0.14 tf/N Situação: GE As = 0.33 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.39 cm ² /N (TR 12645 - 0.39 cm ² /N)		vsd = 0.60 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N

		bf = 50.0 cm hf = 5.0 cm	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N					M = 165.99 kgf.m/N F = 0.08 tf/N fiss = 0.04 mm	asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 17.0 cm bf = 49.0 cm hf = 5.0 cm	Md = 230 kgf.m/N As = 0.32 cm ² /N A's = 0.00 cm ² /N	Fd = 0.38 tf/N Situação: GE As = 0.28 cm ² /N A's = 0.00 cm ² /N	Fd = 0.22 tf/N Situação: GE As = 0.35 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17.0 cm				As = 0.35 cm ² /N 2ø5.0 c/N (0.39 cm ² /N) M = 152.97 kgf.m/N F = 0.12 tf/N fiss = 0.03 mm	vsd = 0.51 tf/N vrd1 = 0.96 tf/N vrd2 = 6.92 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LC 2	X	bw = 10.0 cm h = 17.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 278 kgf.m/N As = 0.35 cm ² /N A's = 0.00 cm ² /N	Fd = 0.30 tf/N Situação: GE As = 0.31 cm ² /N A's = 0.00 cm ² /N	Fd = 0.11 tf/N Situação: GE As = 0.36 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.39 cm ² /N (TR 12645 - 0.39 cm ² /N) M = 184.47 kgf.m/N F = 0.06 tf/N fiss = 0.05 mm	vsd = 0.56 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 17.0 cm	Md = 191 kgf.m/N As = 0.27 cm ² /N	Fd = 0.29 tf/N Situação: GE As = 0.23 cm ² /N	Fd = 0.05 tf/N Situação: GE As = 0.27 cm ² /N	bw = 9.0 cm h = 17.0 cm				As = 0.35 cm ² /N 2ø5.0 c/N (0.39 cm ² /N)	vsd = 0.49 tf/N vrd1 = 0.96 tf/N vrd2 = 6.92 tf/N vsw = 0.00 tf/N

		bf = 49.0 cm hf = 5.0 cm	cm ² /N A's = 0.00 cm ² /N	A's = 0.00 cm ² /N					M = 127.17 kgf.m/N F = 0.03 tf/N fiss = 0.02 mm		asw = 0.00 cm ² /m
LC 3	X	bw = 10.0 cm h = 17.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 277 kgf.m/N As = 0.34 cm ² /N A's = 0.00 cm ² /N	Fd = 0.33 tf/N Situação: GE As = 0.31 cm ² /N A's = 0.00 cm ² /N	Fd = 0.05 tf/N Situação: o: GE As = 0.35 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm			As = 0.39 cm ² /N (TR 12645 - 0.39 cm ² /N) M = 183.74 kgf.m/N F = 0.03 tf/N fiss = 0.04 mm		vsd = 0.59 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 17.0 cm bf = 49.0 cm hf = 5.0 cm	Md = 257 kgf.m/N As = 0.36 cm ² /N A's = 0.00 cm ² /N	Fd = 0.30 tf/N Situação: GE As = 0.32 cm ² /N A's = 0.00 cm ² /N	Fd = 0.05 tf/N Situação: o: GE As = 0.37 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17.0 cm			As = 0.37 cm ² /N 2ø5.0 c/N (0.39 cm ² /N) M = 170.46 kgf.m/N F = 0.03 tf/N fiss = 0.04 mm		vsd = 0.58 tf/N vrd1 = 0.96 tf/N vrd2 = 6.92 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LC 4	X	bw = 10.0 cm h = 17.0 cm	Md = 410 kgf.m/N As = 0.51 cm ² /N	Fd = 0.31 tf/N Situação: GE As = 0.48 cm ² /N	Fd = 0.08 tf/N Situação: o: GE As = 0.52 cm ² /N	bw = 10.0 cm h = 17.0 cm			As = 0.52 cm ² /N (TR 12645 - 0.39 cm ² /N)		vsd = 0.67 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N

		0 cm bf = 50. 0 cm hf = 5.0 cm	cm ² / N A's = 0.00 cm ² / N	A's = 0.00 cm ² /N	A's = 0.00 cm ² /N	0 cm				1ø5.0 c/N (0.20 cm ² /N) M = 272.18 kgf.m/ N F = 0.05 tf/N fiss = 0.06 mm		vsw = 0.00 tf/N asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 17. 0 cm bf = 49. 0 cm hf = 5.0 cm	Md = 201 kgf. m/N As = 0.28 cm ² / N A's = 0.00 cm ² / N	Fd = 0.79 tf/N Situação: GE As = 0.19 cm ² /N A's = 0.00 cm ² /N	Fd = 0.04 tf/N Situaçã o: GE As = 0.29 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17. 0 cm				As = 0.35 cm ² /N 2ø5.0 c/N (0.39 cm ² /N) M = 125.91 kgf.m/ N F = 0.02 tf/N fiss = 0.02 mm		vsd = 0.55 tf/N vrd1 = 0.96 tf/N vrd2 = 6.92 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LC 5	X	bw = 10. 0 cm h = 17. 0 cm bf = 50. 0 cm hf = 5.0 cm	Md = 380 kgf. m/N As = 0.47 cm ² / N A's = 0.00 cm ² / N	Fd = 0.41 tf/N Situação: GE As = 0.43 cm ² /N A's = 0.00 cm ² /N	Fd = 0.05 tf/N Situaçã o: GE As = 0.48 cm ² /N A's = 0.00 cm ² /N	bw = 10. 0 cm h = 17. 0 cm				As = 0.48 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 251.93 kgf.m/ N F = 0.03 tf/N fiss = 0.05 mm		vsd = 0.59 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

	Y	bw = 9.0 cm h = 17.0 cm bf = 49.0 cm hf = 5.0 cm	Md = 160 kgf.m/N As = 0.22 cm ² /N A's = 0.00 cm ² /N	Fd = 0.39 tf/N Situação: GE As = 0.18 cm ² /N A's = 0.00 cm ² /N	Fd = 0.06 tf/N Situação: GE As = 0.23 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17.0 cm				As = 0.35 cm ² /N 2ø5.0 c/N (0.39 cm ² /N) M = 106.74 kgf.m/N F = 0.04 tf/N fiss = 0.02 mm		vsd = 0.52 tf/N vrd1 = 0.96 tf/N vrd2 = 6.92 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
LC 6	X	bw = 10.0 cm h = 17.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 454 kgf.m/N As = 0.57 cm ² /N A's = 0.00 cm ² /N	Fd = 0.42 tf/N Situação: GE As = 0.52 cm ² /N A's = 0.00 cm ² /N	Fd = 0.08 tf/N Situação: GE As = 0.58 cm ² /N A's = 0.00 cm ² /N	bw = 10.0 cm h = 17.0 cm				As = 0.58 cm ² /N (TR 12645 - 0.39 cm ² /N) 1ø5.0 c/N (0.20 cm ² /N) M = 301.19 kgf.m/N F = 0.05 tf/N fiss = 0.07 mm		vsd = 0.66 tf/N vrd1 = 1.12 tf/N Modelo I vrd2 = 8.71 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m
	Y	bw = 9.0 cm h = 17.0 cm bf = 49.0 cm hf = 5.0 cm	Md = 214 kgf.m/N As = 0.30 cm ² /N A's = 0.00 cm ² /N	Fd = 0.64 tf/N Situação: GE As = 0.23 cm ² /N A's = 0.00 cm ² /N	Fd = 0.07 tf/N Situação: GE As = 0.31 cm ² /N A's = 0.00 cm ² /N	bw = 9.0 cm h = 17.0 cm				As = 0.35 cm ² /N 2ø5.0 c/N (0.39 cm ² /N) M = 133.88 kgf.m/N F = 0.04 tf/N		vsd = 0.61 tf/N vrd1 = 0.96 tf/N vrd2 = 6.92 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

		5.0 cm								fiss = 0.02 mm		
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6. MEMÓRIA DE CÁLCULO (EDICULA DE RESÍDUOS)

Resultados dos Pilares

COBERTURA	fck = 350.00 kgf/cm ²	E = 294029 kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 2		cobr = 2.50 cm	

Dados				Resultados					
Pilar	Seção (cm)	Nível Altura (cm)	leb vínc leh vínc (cm)	Nd máx Nd mín (tf)	MBd topo MBd base (kgf.m)	MHd topo MHd base (kgf.m)	As b Armaduras As h % armad total	Estribo Topo Base cota	Esb b Esb h
P1 1:20	15.00 X 25.00	305.00 280.00	280.00 RR 280.00 RR	1.47 0.54	108 139	120 110	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 60	64.59 38.75
P2 1:20	15.00 X 25.00	305.00 280.00	280.00 RR 280.00 RR	1.45 0.52	88 95	126 118	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 60	64.59 38.75
P3 1:20	14.00 X 30.00	305.00 280.00	280.00 RR 280.00 RR	3.20 1.68	71 79	224 178	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 60	69.20 32.29
P4 1:20	14.00 X 30.00	305.00 280.00	280.00 RR 280.00 RR	3.15 1.64	66 68	236 186	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 60	69.20 32.29

P5 1:20	15.00 X 25.00	305.00 280.00	280.00 RR 280.00 RR	1.69 0.70	145 212	123 110	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 60	64.59 38.75
P6 1:20	15.00 X 25.00	305.00 280.00	280.00 RR 280.00 RR	1.66 0.68	111 128	123 117	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 60	64.59 38.75

Vigas do pavimento TÉRREO

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VA1	99.97	2 ø 10.0		-224.58 -216.92	2 ø 16.0 2 ø 16.0		
VA2	169.04	2 ø 10.0		-6.23 -55.91	2 ø 16.0 2 ø 16.0		
VA3	101.82	2 ø 10.0		-266.47 -237.85	2 ø 16.0 2 ø 16.0		
VA4	175.55	2 ø 10.0		-49.71	2 ø 16.0		
VA5	107.00	2 ø 10.0		-242.56 -206.51	2 ø 16.0 2 ø 16.0		
VA6	393.98 613.43	2 ø 10.0 2 ø 10.0		-335.46 -886.33 -522.13	2 ø 16.0 2 ø 16.0 2 ø 16.0		
VA7	477.67 511.07 503.80	2 ø 10.0 2 ø 10.0 2 ø 10.0		-200.20 -1086.41 -0.04 -273.01	2 ø 16.0 2 ø 16.0 2 ø 16.0 2 ø 16.0		26

Vigas do pavimento COBERTURA

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	80.18	2 ø 12.5		-155.36 -160.99	2 ø 16.0 2 ø 16.0		
VB2	20.21	2 ø 10.0		-16.32 -14.22	2 ø 16.0 2 ø 16.0		

VB3	66.90	2 ø 10.0		-183.65 -173.36	2 ø 16.0 2 ø 16.0		
VB4	22.07	2 ø 10.0		-14.82 -10.13	2 ø 16.0 2 ø 16.0		
VB5	74.41	2 ø 12.5		-167.68 -168.99	2 ø 16.0 2 ø 16.0		
VB6	306.82 589.65	2 ø 12.5 2 ø 12.5		-107.58 -705.97 -142.87	2 ø 16.0 2 ø 16.0 2 ø 16.0		98
VB7	305.79 585.84	2 ø 12.5 2 ø 12.5		-89.19 -700.77 -113.22	2 ø 16.0 2 ø 16.0 2 ø 16.0		

Cálculos das Lajes

COBERTURA	fck = 350.00 kgf/cm ²	E = 294029 kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 2		cobr = 2.50 cm	

ARMADURAS POSITIVAS (LAJE)												
Laje	Direção	Momento positivo				Momento negativo				Armadura inferior	Armadura superior	Cisalhamento
		Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)	Seção	Flexão	Verificação axial (compressão)	Verificação axial (tração)			
LB 1	X	bw = 10.0 cm h = 13.0 cm bf = 50.0 cm hf = 5.0 cm	Md = 131 kgf.m/N As = 0.26 cm ² /N A's = 0.00 cm ² /N			bw = 10.0 cm h = 13.0 cm				As = 0.50 cm ² /N (TR 08844 - 0.28 cm ² /N) 1ø6.3 c/N (0.31 cm ² /N) M = 43.54 kgf.m/N F = 0.00 tf/N fiss = 0.00 mm		vsd = 0.19 tf/N vrd1 = 0.90 tf/N Modelo I vrd2 = 6.39 tf/N vsw = 0.00 tf/N asw = 0.00 cm ² /m

LB 2	X	bw = 10. 0 cm h = 13. 0 cm bf = 50. 0 cm hf = 5.0 cm	Md = 131 kgf. m/N As = 0.26 cm²/ N A's = 0.00 cm²/ N			bw = 10. 0 cm h = 13. 0 cm				As = 0.50 cm²/N (TR 08844 - 0.28 cm²/N) 1ø6.3 c/N (0.31 cm²/N) M = 42.71 kgf.m/ N F = 0.00 tf/N fiss = 0.00 mm		vsd = 0.18 tf/N vrd1 = 0.90 tf/N Modelo I vrd2 = 6.39 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
LB 3	X	bw = 10. 0 cm h = 13. 0 cm bf = 50. 0 cm hf = 5.0 cm	Md = 131 kgf. m/N As = 0.26 cm²/ N A's = 0.00 cm²/ N			bw = 10. 0 cm h = 13. 0 cm				As = 0.50 cm²/N (TR 08844 - 0.28 cm²/N) 1ø6.3 c/N (0.31 cm²/N) M = 61.99 kgf.m/ N F = 0.00 tf/N fiss = 0.00 mm		vsd = 0.27 tf/N vrd1 = 0.90 tf/N Modelo I vrd2 = 6.39 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m
LB 4	X	bw = 10. 0 cm h = 13. 0 cm bf = 50. 0 cm hf = 5.0 cm	Md = 131 kgf. m/N As = 0.26 cm²/ N A's = 0.00 cm²/ N			bw = 10. 0 cm h = 13. 0 cm				As = 0.50 cm²/N (TR 08844 - 0.28 cm²/N) 1ø6.3 c/N (0.31 cm²/N) M = 42.71 kgf.m/ N F = 0.00 tf/N fiss = 0.00 mm		vsd = 0.19 tf/N vrd1 = 0.90 tf/N Modelo I vrd2 = 6.39 tf/N vsw = 0.00 tf/N asw = 0.00 cm²/m

		50.0 cm hf = 5.0 cm	cm ² / N							M = 44.59 kgf.m/ N F = 0.00 tf/N fiss = 0.00 mm		asw = 0.00 cm ² /m
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7. MEMÓRIA DE CÁLCULO (CASA DE GASES)

Resultados dos Pilares

COBERTURA	fck = 350.00 kgf/cm ²	E = 294029 kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 2		cobr = 2.50 cm	

Dados				Resultados					
Pilar	Seção (cm)	Nível Altura (cm)	leb vínc leh vínc (cm)	Nd máx Nd mín (tf)	MBd topo MBd base (kgf.m)	MHd topo MHd base (kgf.m)	As b Armaduras As h % armad total	Estribo Topo Base cota	Esb b Esb h
P1 1:20	14.00 X 25.00	239.00 214.00	214.00 RR 214.00 RR	0.88 0.31	60 48	39 39	1.57 2 ø 10.0 1.57 2 ø 10.0 0.9 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 20	52.89 29.62
P2 1:20	14.00 X 25.00	239.00 214.00	214.00 RR 214.00 RR	1.00 0.40	65 50	37 41	1.57 2 ø 10.0 1.57 2 ø 10.0 0.9 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 20	52.89 29.62
P3 1:20	14.00 X 25.00	239.00 214.00	214.00 RR 214.00 RR	0.88 0.31	60 48	39 39	1.57 2 ø 10.0 1.57 2 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 20	52.89 29.62

							0.9 4 ø 10.0		
P4 1:20	14.00 X 25.00	239.00 214.00	214.00 RR 214.00 RR	1.00 0.40	65 50	37 41	1.57 2 ø 10.0 1.57 2 ø 10.0 0.9 4 ø 10.0	ø 5.0 c/12 ø 5.0 c/12 20	52.89 29.62

Vigas do pavimento TÉRREO

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VA1	52.58	2 ø 10.0		-62.47 -62.78	2 ø 10.0 2 ø 10.0		123
VA2	52.58	2 ø 10.0		-62.47 -62.78	2 ø 10.0 2 ø 10.0		123
VA3	42.46	2 ø 10.0		-74.19 -74.19	2 ø 10.0 2 ø 10.0		123
VA4	41.76	2 ø 10.0		-75.28 -75.28	2 ø 10.0 2 ø 10.0		123

Vigas do pavimento COBERTURA

Viga	Vãos			Nós			Avisos
	Md (kgf.m)	As	Als	Md (kgf.m)	As	Als	
VB1	18.40	2 ø 10.0		-41.55 -43.49	2 ø 10.0 2 ø 10.0		123
VB2	18.40	2 ø 10.0		-41.55 -43.49	2 ø 10.0 2 ø 10.0		123
VB3	49.28	2 ø 10.0		-55.71 -55.71	2 ø 10.0 2 ø 10.0		123
VB4	56.10	2 ø 10.0		-61.42 -61.42	2 ø 10.0 2 ø 10.0		123

Resultados da Laje

COBERTURA	$f_{ck} = 350.00$ kgf/cm ²	$E = 294029$ kgf/cm ²	Peso Espec = 2500.00 kgf/m ³
Lance 2		cobr = 2.50 cm	

Nome	Espessura (cm)	Carga (kgf/m ²)	Mdx (kgf.m/m)	Mdy (kgf.m/m)	Asx	Asy
LB1	10	531.50	12	61	As = 1.01 cm ² /m (ø5.0 c/19 - 1.03 cm ² /m)	As = 1.08 cm ² /m (ø5.0 c/18 - 1.09 cm ² /m)
LB2	10	531.50	1	65	As = 1.23 cm ² /m (ø8.0 c/10 - 5.03 cm ² /m)	As = 1.39 cm ² /m (ø8.0 c/10 - 5.03 cm ² /m)

ARMADURA NEGATIVA							
Dados				Resultados			
Viga	Trecho	Laje 1	Laje 2	Reação 1 (kgf/m)	Reação 2 (kgf/m)	Md (kgf.m/m)	As (cm ²)
VB4	1	LB1	LB2	85	337	-144	As = 1.83 cm ² /m (ø6.3 c/17 - 1.83 cm ² /m)
VB1	1	LB1	LB2	166	40	-28	As = 1.85 cm ² /m (ø8.0 c/20 - 2.51 cm ² /m)
VB3	1	LB1	LB2	69	246	-9	As = 1.83 cm ² /m (ø6.3 c/17 - 1.83 cm ² /m)
VB2	1	LB1	LB2	166	40	-28	As = 1.85 cm ² /m (ø8.0 c/20 - 2.51 cm ² /m)