BATALHÃO PMMG

Estrutural-Fundação – Memória de Cálculo Rev. 00

PREFEITURA MUNICIPAL DE ITATIAIUÇU

SECRETARIA MUNICIPAL DE INFRAESTRUTURA E URBANISMO

RUA SANTA LÚCIA/RUA SÃO JOÃO - CENTRO, ITATIAIUÇU - MG

SOLAR CONSTRUÇÕES, PROJETOS E CONSULTORIA LTDA.

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CNPJ: 13.411.864/0001-48

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1. INTRODUÇÃO

A memória de cálculo fixa as diretrizes para execução de todos os serviços da estrutura metálica.

2. OBJETIVO

Dimensionamento de elementos estruturais através da análise de esforços.

3. REFERÊNCIAS

Os dimensionamentos dos elementos citados foram executados tomando como base as normas e documentos técnicos e livros como:

- NBR 6120 – Cargas para cálculo de estruturas em edificações;
- NBR 6123 – Forças devidas ao vento em edificação;
- NBR 8800 – Projeto em estruturas de aço e de estruturas mistas de aço e concreto de edifícios;
- NBR 14762 – Dimensionamento de perfis de aço constituídas de perfis formado a frio.
- NBR 6118 – Projeto de estruturas de concreto – Procedimentos
- NBR 6120 – Cargas para o cálculo de estruturas de edificações
- NBR 6122 – Projeto e execução de fundações
- NBR 8681:2003 - Ações e segurança nas estruturas – Procedimentos.

Documentos técnicos e livros como:

- Resistência do Materias, V. Feodosiev
- Curso de Concreto Armado, José Milton de Araújo
- Exercícios de fundação – Uarbano Rodriguez Alonso
- Fundações – de Rezende Lopes, Francisco; Velloso, Dirceu A.
- Resistência dos materiais, Beer Russell;
- Edifícios Industriais em Aço, Ildony H. Bellei;

Além dos softwares de dimensionamento e análise: Metálicas 3D

4. CARGAS

A estrutura metálica está sujeita a um conjunto de cargas que atuam ora isoladamente ora em combinações umas com as outras.

Para cálculo da Estrutura Metálica fora adotados as seguintes cargas:

- Cargas Permanentes:

  Peso Próprio da Estrutura

  Revestimento: 50kgf/m²

- Cargas Acidentais:

  Sobrecarga Cobertura: 50kgf/m²

- Cargas de Vento:

  Sobrecarga Cobertura: 30m/s.

5. MODELO DE CÁLCULO

Para a estrutura metálica interna, foram utilizados o software de cálculo Metálicas 3D, utilizando perfis laminados com Aço- A572-345Mpa e perfis soldados com Aço CF-26.

6. MATERIAIS UTILIZADOS

Para a escada interna metálica como modelo de cálculo fora utilizado o software de análise e dimensionamento Metálicas 3D.

Materiais utilizados

Material		E	ν	G	f_y	α_t	γ
Tipo	Designação	(kgf/cm²)		(kgf/cm²)	(kgf/cm²)	(m/m°C)	(t/m³)
Aço laminado	A-572 345MPa	2038736.0	0.300	784913.4	3516.8	0.000012	7.850
Aço dobrado	CF-26	2038736.0	0.300	784129.2	2650.4	0.000012	7.850

Notação:
E: Módulo de elasticidade
ν: Módulo de poisson
G: Módulo de corte
f_y: Limite elástico
α_t: Coeficiente de dilatação
γ: Peso específico

7. RESULTADOS

Abaixo segue relatório de dimensionamento dos elementos estruturais:

Resistência

Referências:

N: Esforço axial (t)
Vy: Esforço cortante segundo o eixo local Y da barra. (t)
Vz: Esforço cortante segundo o eixo local Z da barra. (t)
Mt: Momento torsor (t·m)
My: Momento fletor no plano 'XZ' (rotação da seção em relação ao eixo local 'Y' da barra). (t·m)
Mz: Momento fletor no plano 'XY' (rotação da seção em relação ao eixo local 'Z' da barra). (t·m)

Os esforços indicados são os correspondentes à combinação desfavorável, ou seja, aquela que solicita a máxima resistência da seção.

Origem dos esforços desfavoráveis:

- G: Verticais
- GV: Verticais + vento
- GSis: Verticais + sismo
- GVSis: Verticais + vento + sismo

η: Aproveitamento da resistência. A barra cumpre as condições de resistência da Norma se cumprir que $\eta \leq 100$ %.

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N3/N14	98.98	0.000	-4.424	0.042	-1.066	-0.009	-1.131	0.038	G	Passa
N14/N13	19.11	0.000	0.672	-0.008	0.018	0.006	0.222	-0.020	G	Passa
N13/N12	16.84	0.000	2.029	-0.008	0.006	0.005	0.146	-0.008	G	Passa
N12/N11	14.34	0.000	1.724	-0.001	0.128	0.002	0.128	0.003	G	Passa
N11/N18	13.95	1.440	1.713	0.002	-0.125	-0.001	0.126	-0.001	G	Passa
N18/N19	16.80	1.440	2.017	-0.006	-0.008	0.003	0.146	0.007	G	Passa
N19/N20	18.86	1.433	0.664	-0.007	-0.017	0.004	0.222	0.018	G	Passa
N20/N7	99.34	1.433	-4.428	0.043	1.065	-0.011	-1.130	-0.042	G	Passa
N3/N8	64.95	0.500	-1.683	0.261	-1.242	-0.005	0.647	-0.159	G	Passa
N7/N9	65.08	0.500	-1.682	-0.258	1.243	-0.001	-0.646	0.161	G	Passa
N9/N23	44.49	0.000	-1.322	-0.004	-0.426	-0.001	-0.566	-0.001	G	Passa
N23/N22	57.47	0.000	-7.749	0.006	0.270	0.003	0.381	0.006	G	Passa
N22/N21	69.78	0.000	-12.554	0.001	0.149	0.002	0.290	0.000	G	Passa
N21/N111	66.20	0.000	-13.828	0.006	0.177	-0.001	0.167	0.001	G	Passa
N111/N10	67.91	0.094	-13.716	0.051	1.175	0.000	-0.205	-0.013	G	Passa
N8/N17	44.95	0.000	-1.321	-0.006	-0.426	0.002	-0.567	-0.006	G	Passa
N17/N16	57.19	0.000	-7.752	0.003	0.269	0.005	0.381	0.002	G	Passa
N16/N15	69.92	0.000	-12.562	0.004	0.152	0.003	0.291	-0.001	G	Passa

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N15/N112	66.53	0.000	-13.841	-0.018	0.159	0.004	0.163	-0.009	G	Passa
N112/N10	68.21	0.106	-13.714	0.054	1.345	0.003	-0.216	0.008	G	Passa
N11/N10	0.94	1.200	0.315	0.000	0.011	0.003	-0.010	0.002	G	Passa
N12/N15	13.53	1.025	-0.336	0.001	0.023	0.000	-0.011	0.000	G	Passa
N13/N16	39.05	0.849	0.950	0.018	-0.068	0.000	0.033	-0.008	G	Passa
N12/N10	6.64	0.000	-0.182	0.000	-0.004	0.000	-0.003	0.000	GV	Passa
N13/N15	52.97	0.000	-1.578	-0.001	0.002	0.000	0.009	-0.001	G	Passa
N18/N21	14.07	0.000	-0.332	-0.001	-0.024	0.000	-0.012	-0.001	G	Passa
N19/N22	39.21	0.849	0.945	-0.019	0.068	0.000	-0.033	0.008	G	Passa
N18/N10	6.57	0.000	-0.180	0.000	-0.004	0.000	-0.004	0.000	GV	Passa
N19/N21	52.80	0.000	-1.573	-0.001	0.002	0.000	0.009	-0.001	G	Passa
N24/N25	20.38	0.000	0.746	-0.006	0.019	0.011	0.234	-0.023	G	Passa
N25/N29	18.27	0.000	2.149	-0.009	0.009	0.009	0.155	-0.013	G	Passa
N29/N30	14.74	0.000	1.805	-0.002	0.135	0.004	0.135	0.000	G	Passa
N30/N31	14.84	1.440	1.799	-0.002	-0.131	-0.003	0.133	-0.003	G	Passa
N31/N32	17.59	1.440	2.096	-0.009	-0.007	0.000	0.152	0.009	G	Passa
N32/N33	19.62	1.433	0.655	-0.007	-0.017	0.001	0.230	0.021	G	Passa
N2/N26	65.58	0.500	-1.726	0.020	-1.399	-0.001	0.695	-0.126	G	Passa
N26/N28	47.27	0.000	-1.406	-0.003	-0.448	0.030	-0.596	-0.006	G	Passa
N28/N27	60.24	0.000	-8.164	-0.002	0.283	0.012	0.400	-0.003	G	Passa
N27/N40	73.49	0.000	-13.211	0.006	0.160	-0.002	0.306	0.000	G	Passa
N40/N108	70.25	0.000	-14.532	-0.028	0.177	-0.002	0.174	-0.011	G	Passa
N108/N36	70.85	0.100	-14.407	0.338	1.333	-0.054	-0.221	-0.004	G	Passa
N25/N27	38.73	0.849	0.978	0.017	-0.074	0.000	0.037	-0.006	G	Passa
N34/N35	68.46	0.500	-1.703	-0.424	1.239	0.000	-0.669	0.181	G	Passa
N35/N39	46.44	0.000	-1.367	-0.003	-0.444	-0.009	-0.592	0.001	G	Passa
N39/N38	59.84	0.000	-8.078	0.007	0.280	-0.002	0.395	0.006	G	Passa
N38/N37	72.90	0.000	-13.121	0.007	0.157	-0.003	0.303	0.000	G	Passa
N37/N107	69.97	0.000	-14.480	-0.028	0.177	0.001	0.173	-0.011	G	Passa
N107/N36	70.32	0.100	-14.357	0.338	1.320	-0.046	-0.221	0.000	G	Passa
N30/N36	0.98	1.200	0.329	-0.002	0.006	0.009	-0.001	0.008	G	Passa
N29/N40	15.73	0.000	-0.375	0.000	0.024	0.000	0.013	0.001	G	Passa
N29/N36	7.56	0.000	-0.207	0.000	-0.004	0.000	-0.004	0.000	GV	Passa
N25/N40	54.64	0.000	-1.628	-0.001	0.002	0.000	0.009	-0.001	G	Passa
N31/N37	13.20	0.000	-0.336	0.000	-0.023	0.000	-0.012	0.000	G	Passa
N32/N38	41.06	0.849	1.005	-0.019	0.073	0.000	-0.035	0.008	G	Passa
N31/N36	6.45	0.000	-0.177	0.000	-0.004	0.000	-0.004	0.000	GV	Passa
N32/N37	56.23	0.000	-1.675	-0.001	0.002	0.000	0.009	-0.001	G	Passa
N1/N41	76.36	0.000	-3.643	-0.075	-0.677	-0.038	-0.737	-0.127	G	Passa
N41/N42	11.09	1.433	0.073	-0.030	0.001	-0.037	0.128	0.023	G	Passa
N42/N46	14.04	1.440	1.343	-0.014	0.011	-0.032	0.095	0.040	G	Passa
N46/N47	13.54	0.000	1.302	-0.009	0.081	-0.028	0.092	0.038	G	Passa
N47/N48	13.58	0.000	1.332	0.022	-0.126	0.028	-0.065	0.059	G	Passa

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N48/N49	14.30	0.900	1.722	0.014	-0.018	0.037	0.111	0.017	G	Passa
N49/N50	15.89	1.433	0.841	0.016	-0.017	0.043	0.181	-0.010	G	Passa
N50/N51	83.65	1.433	-2.996	0.084	0.837	0.027	-0.879	-0.127	G	Passa
N1/N43	79.96	0.500	-0.976	1.098	-0.747	-0.071	0.342	-0.608	G	Passa
N43/N45	27.86	0.000	-1.057	-0.052	-0.193	-0.134	-0.294	-0.039	G	Passa
N45/N44	38.26	0.000	-5.224	0.019	0.157	-0.026	0.212	0.033	G	Passa
N44/N57	50.57	0.000	-8.782	-0.008	0.129	0.018	0.227	0.001	G	Passa
N57/N110	49.12	0.000	-10.014	-0.023	0.133	0.035	0.135	0.004	G	Passa
N110/N53	55.14	0.113	-9.929	-0.294	0.930	0.093	-0.164	0.066	G	Passa
N42/N44	46.90	0.849	0.878	0.031	-0.048	0.000	0.014	-0.022	G	Passa
N51/N52	48.30	0.500	-1.387	0.050	1.003	0.025	-0.558	-0.050	G	Passa
N52/N56	37.18	0.000	-0.996	0.027	-0.347	0.067	-0.448	0.026	G	Passa
N56/N55	45.05	0.000	-5.957	0.014	0.213	0.050	0.304	0.005	G	Passa
N55/N54	53.77	0.000	-9.562	0.009	0.117	0.031	0.229	0.001	G	Passa
N54/N109	52.13	1.362	-10.383	0.061	0.146	0.004	-0.061	-0.081	G	Passa
N109/N53	55.10	0.088	-10.299	-0.299	0.925	-0.014	-0.149	-0.061	G	Passa
N47/N53	9.71	1.200	0.247	0.038	-0.020	-0.008	-0.014	-0.092	G	Passa
N46/N57	16.14	1.025	-0.095	0.003	0.011	0.000	-0.010	-0.007	G	Passa
N46/N53	2.12	0.000	-0.058	0.000	-0.003	0.000	-0.001	-0.001	GV	Passa
N42/N57	50.04	0.000	-1.491	0.000	0.002	0.000	0.007	0.003	G	Passa
N48/N54	20.40	0.000	-0.378	-0.001	-0.023	0.000	-0.015	-0.003	G	Passa
N49/N55	25.36	0.000	0.619	-0.011	0.051	0.000	0.014	-0.008	G	Passa
N50/N56	84.83	0.000	1.232	-0.024	0.331	0.000	0.105	-0.012	G	Passa
N48/N53	8.21	0.000	-0.225	0.000	-0.003	0.000	-0.002	0.001	GV	Passa
N49/N54	34.14	0.000	-1.017	-0.002	0.000	0.000	0.006	-0.004	G	Passa
N58/N59	20.42	0.000	0.674	-0.011	0.018	-0.002	0.234	-0.026	G	Passa
N59/N63	17.87	0.000	2.143	-0.013	0.006	-0.002	0.154	-0.009	G	Passa
N63/N64	15.64	0.000	1.833	-0.007	0.136	-0.004	0.136	0.009	G	Passa
N64/N65	15.52	1.440	1.828	0.005	-0.136	0.005	0.136	0.007	G	Passa
N65/N66	18.63	1.440	2.176	-0.004	-0.011	0.011	0.158	0.014	G	Passa
N66/N67	20.20	1.433	0.753	-0.001	-0.019	0.014	0.238	0.017	G	Passa
N4/N60	71.08	0.500	-1.724	0.496	-1.240	-0.007	0.673	-0.207	G	Passa
N60/N62	47.54	0.000	-1.388	-0.008	-0.449	-0.019	-0.601	-0.006	G	Passa
N62/N61	60.78	0.000	-8.216	0.005	0.287	-0.007	0.403	0.005	G	Passa
N61/N74	74.33	0.000	-13.349	0.008	0.163	-0.006	0.309	-0.001	G	Passa
N74/N114	71.53	0.000	-14.737	-0.036	0.175	0.001	0.175	-0.016	G	Passa
N114/N70	74.71	0.113	-14.612	-0.003	1.326	0.010	-0.229	0.033	G	Passa
N59/N61	42.43	0.849	1.025	0.019	-0.074	0.000	0.035	-0.009	G	Passa
N68/N69	65.09	0.500	-1.750	0.056	1.445	0.006	-0.713	0.105	G	Passa
N69/N73	47.80	0.000	-1.433	0.003	-0.457	0.041	-0.607	0.002	G	Passa
N73/N72	60.91	0.000	-8.301	0.003	0.286	0.017	0.405	0.000	G	Passa
N72/N71	74.80	0.000	-13.429	-0.006	0.160	0.001	0.310	-0.002	G	Passa
N71/N113	71.33	0.000	-14.765	0.033	0.187	-0.013	0.177	0.010	G	Passa

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N113/N70	74.43	0.087	-14.638	-0.014	1.372	-0.021	-0.220	-0.036	G	Passa
N64/N70	3.60	1.200	0.335	0.010	0.008	0.004	-0.013	-0.020	G	Passa
N63/N74	14.32	0.000	-0.351	0.000	0.022	0.000	0.011	-0.001	G	Passa
N63/N70	6.78	0.000	-0.186	0.000	-0.004	0.000	-0.004	0.000	GV	Passa
N59/N74	57.33	0.000	-1.708	-0.001	0.002	0.000	0.010	0.000	G	Passa
N65/N71	17.88	0.000	-0.376	-0.001	-0.026	0.000	-0.015	-0.002	G	Passa
N66/N72	38.90	0.849	0.989	-0.017	0.075	0.000	-0.038	0.006	G	Passa
N65/N70	7.62	0.000	-0.209	0.000	-0.004	0.000	-0.004	0.000	GV	Passa
N66/N71	55.42	0.000	-1.651	-0.002	0.002	0.000	0.010	-0.002	G	Passa
N5/N75	80.95	0.000	-2.702	0.096	-0.793	0.038	-0.831	0.148	G	Passa
N75/N76	15.80	0.000	0.911	0.019	0.016	0.055	0.172	0.014	G	Passa
N76/N91	14.18	0.720	1.718	0.017	0.019	0.048	0.103	-0.022	G	Passa
N91/N85	14.47	1.440	1.298	0.027	0.125	0.036	-0.066	-0.070	G	Passa
N85/N86	13.53	1.440	1.248	-0.013	-0.069	-0.036	0.085	-0.046	G	Passa
N86/N87	14.02	0.000	1.187	-0.017	-0.004	-0.043	0.091	-0.048	G	Passa
N87/N80	10.83	0.000	-0.126	-0.035	0.009	-0.050	0.114	-0.028	G	Passa
N80/N81	71.99	1.433	-3.560	-0.093	0.584	-0.049	-0.643	0.155	G	Passa
N5/N77	55.68	0.500	-1.313	-0.267	-1.013	0.030	0.557	0.140	G	Passa
N77/N79	35.80	0.000	-0.946	0.033	-0.336	0.092	-0.429	0.028	G	Passa
N79/N78	42.34	0.000	-5.627	0.006	0.195	0.062	0.285	-0.004	G	Passa
N78/N89	50.40	0.000	-9.015	0.007	0.105	0.037	0.212	0.000	G	Passa
N89/N116	48.21	1.332	-9.773	0.064	0.129	0.010	-0.043	-0.078	G	Passa
N116/N88	53.46	0.119	-9.706	-0.015	0.799	-0.039	-0.140	-0.076	G	Passa
N76/N78	24.23	0.000	0.569	0.009	-0.048	0.000	-0.012	0.009	G	Passa
N75/N79	78.37	0.000	1.153	0.012	-0.322	0.000	-0.100	0.010	G	Passa
N81/N82	78.52	0.500	-0.924	-1.193	0.594	-0.080	-0.258	0.661	G	Passa
N82/N84	23.86	0.000	-1.033	-0.051	-0.147	-0.159	-0.244	-0.033	G	Passa
N84/N83	33.45	0.000	-4.681	0.017	0.128	-0.049	0.174	0.034	G	Passa
N83/N90	46.15	0.000	-7.958	0.002	0.113	0.015	0.201	0.009	G	Passa
N90/N115	47.52	1.369	-9.257	-0.063	0.158	0.044	-0.067	0.074	G	Passa
N115/N88	52.09	0.081	-9.170	0.023	0.997	0.099	-0.154	0.073	G	Passa
N85/N88	11.92	1.200	0.234	-0.052	0.036	-0.005	0.010	0.122	G	Passa
N91/N89	23.71	0.000	-0.403	0.002	0.024	0.000	0.017	0.005	G	Passa
N91/N88	8.70	0.000	-0.239	0.001	-0.003	0.000	-0.002	0.002	GV	Passa
N76/N89	31.24	0.000	-0.931	-0.002	0.000	0.000	0.006	-0.005	G	Passa
N86/N90	0.94	1.025	0.078	0.000	0.003	0.000	-0.002	-0.001	GV	Passa
N87/N83	48.96	0.849	0.908	-0.033	0.045	0.000	-0.010	0.025	G	Passa
N86/N88	3.24	0.000	-0.089	0.001	0.000	0.000	0.002	0.002	GV	Passa
N87/N90	51.92	0.000	-1.547	0.001	0.002	0.000	0.007	0.004	G	Passa
N6/N92	13.15	0.500	-0.336	0.084	-0.203	0.012	0.134	0.030	G	Passa
N6/N97	21.60	0.000	-0.670	0.023	-0.193	0.034	-0.199	0.060	G	Passa
N97/N96	5.52	0.000	0.096	0.015	0.000	0.036	0.044	0.026	G	Passa
N96/N95	3.25	1.440	0.191	0.018	0.019	0.032	0.013	-0.021	G	Passa

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N95/N93	6.08	1.440	0.073	0.022	0.037	0.027	-0.021	-0.051	G	Passa
N93/N98	5.21	0.000	0.080	-0.002	-0.034	-0.028	-0.021	-0.041	G	Passa
N98/N99	5.26	1.080	0.252	-0.005	-0.005	-0.034	0.022	-0.034	G	Passa
N99/N100	7.83	1.495	0.346	-0.026	-0.037	-0.038	0.094	0.003	G	Passa
N100/N81	33.31	1.495	-0.347	-0.096	0.283	-0.030	-0.279	0.146	G	Passa
N93/N94	8.50	1.200	0.090	-0.024	-0.008	-0.010	0.015	0.083	G	Passa
N92/N103	9.47	0.000	-0.242	0.007	-0.149	0.030	-0.110	0.010	G	Passa
N103/N102	9.23	0.376	-1.331	0.002	0.006	0.051	0.054	-0.002	G	Passa
N102/N101	11.34	0.544	-2.033	0.006	0.005	0.046	0.041	-0.005	G	Passa
N101/N136	14.78	1.350	-2.091	0.036	0.101	0.030	-0.034	-0.048	G	Passa
N136/N94	14.05	0.100	-2.076	0.003	0.101	-0.005	-0.039	-0.039	G	Passa
N82/N106	10.05	0.000	0.106	-0.034	-0.152	-0.133	-0.093	-0.022	G	Passa
N106/N105	15.91	0.000	-1.628	0.028	-0.016	-0.035	0.084	0.042	G	Passa
N105/N104	12.25	0.544	-2.280	0.001	-0.009	0.033	0.036	0.008	G	Passa
N104/N135	14.47	1.350	-2.126	-0.040	0.085	0.059	-0.027	0.049	G	Passa
N135/N94	14.61	0.100	-2.136	0.025	0.086	0.089	-0.042	0.040	G	Passa
N95/N101	2.02	0.000	-0.093	0.001	0.007	0.000	0.004	0.001	G	Passa
N96/N102	1.15	0.857	0.095	0.003	-0.007	0.000	0.004	0.000	G	Passa
N97/N103	17.46	0.678	0.229	-0.002	-0.073	0.000	0.025	0.001	G	Passa
N98/N104	2.63	0.000	-0.122	-0.004	-0.012	0.000	-0.004	0.004	G	Passa
N99/N105	30.47	0.857	0.006	-0.022	-0.010	0.000	0.008	0.020	G	Passa
N100/N106	60.60	0.678	0.060	-0.074	0.064	0.000	-0.017	0.039	G	Passa
N95/N94	5.63	0.000	-0.154	0.000	-0.002	0.000	-0.001	0.000	GV	Passa
N96/N101	3.69	0.000	-0.110	-0.001	-0.002	0.000	0.000	-0.002	G	Passa
N97/N102	25.95	0.000	-0.799	0.000	0.001	0.000	0.004	-0.001	G	Passa
N6/N103	34.77	0.000	-1.139	0.001	-0.009	0.000	-0.009	0.001	G	Passa
N98/N94	4.92	0.000	-0.135	-0.001	-0.002	0.000	-0.001	-0.002	GV	Passa
N99/N104	2.37	0.000	-0.071	-0.001	-0.002	0.000	-0.001	-0.002	GV	Passa
N100/N105	23.29	0.000	-0.717	-0.002	0.002	0.000	0.006	0.002	G	Passa
N81/N106	64.02	0.000	-1.661	-0.007	-0.013	0.000	-0.013	-0.004	G	Passa
N37/N142	73.62	0.000	0.073	-0.004	-0.577	0.000	-0.488	-0.005	G	Passa
N142/N54	44.53	0.209	0.073	0.002	0.006	0.000	0.290	0.004	G	Passa
N21/N152	70.23	0.000	0.045	-0.004	-0.542	0.000	-0.458	-0.005	G	Passa
N152/N37	74.21	2.557	0.045	0.004	0.553	0.000	-0.485	-0.005	G	Passa
N71/N160	78.89	0.000	0.059	-0.004	-0.559	0.000	-0.512	-0.006	G	Passa
N160/N21	69.22	2.559	0.059	0.003	0.537	0.000	-0.455	-0.004	G	Passa
N90/N172	53.91	2.347	0.107	-0.002	0.014	0.000	0.345	0.005	G	Passa
N172/N71	79.12	2.557	0.107	0.004	0.608	0.000	-0.518	-0.005	G	Passa
N107/N143	84.37	0.000	-0.516	-0.010	-0.578	0.000	-0.489	-0.012	G	Passa
N143/N109	54.67	0.000	-0.516	0.010	-0.042	0.000	0.287	0.012	G	Passa
N141/N108	77.91	2.510	0.357	-0.008	-0.585	0.000	0.490	0.010	G	Passa
N153/N107	77.01	2.559	-0.150	0.006	0.549	0.000	-0.481	-0.008	G	Passa
N112/N151	71.26	0.000	-0.009	-0.007	0.539	0.000	0.452	-0.009	G	Passa

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N151/N108	77.37	2.554	-0.009	0.007	-0.555	0.000	0.493	-0.010	G	Passa
N113/N161	78.78	0.000	-0.105	-0.007	-0.554	0.000	-0.496	-0.008	G	Passa
N161/N111	73.82	2.559	-0.105	0.007	0.540	0.000	-0.462	-0.009	G	Passa
N114/N166	79.14	0.000	-0.081	-0.007	0.553	0.000	0.496	-0.010	G	Passa
N166/N112	73.18	2.554	-0.081	0.007	-0.540	0.000	0.462	-0.008	G	Passa
N115/N173	54.97	2.346	-0.151	-0.009	0.006	0.000	0.326	0.010	G	Passa
N173/N113	83.44	2.559	-0.151	0.010	0.598	0.000	-0.510	-0.013	G	Passa
N116/N171	54.17	2.351	-0.114	-0.009	-0.007	0.000	-0.325	0.010	G	Passa
N171/N114	81.90	2.554	-0.114	0.009	-0.597	0.000	0.510	-0.011	G	Passa
N89/N170	50.14	2.351	0.100	-0.002	-0.002	0.000	-0.322	0.005	G	Passa
N170/N74	76.64	2.554	0.100	0.003	-0.595	0.000	0.506	-0.003	G	Passa
N74/N165	77.42	0.000	0.062	-0.004	0.556	0.000	0.500	-0.007	G	Passa
N165/N15	69.31	2.554	0.062	0.003	-0.540	0.000	0.458	-0.003	G	Passa
N15/N150	70.04	0.000	0.048	-0.004	0.540	0.000	0.456	-0.005	G	Passa
N150/N40	74.89	2.554	0.048	0.003	-0.556	0.000	0.495	-0.003	G	Passa
N40/N140	76.04	0.000	0.022	-0.006	0.588	0.000	0.497	-0.008	G	Passa
N140/N57	47.81	0.209	0.022	0.003	0.006	0.000	-0.310	0.006	G	Passa
N27/N139	74.85	0.000	0.014	0.000	0.597	0.000	0.513	0.000	G	Passa
N139/N44	46.70	0.418	0.014	-0.003	-0.031	0.000	-0.317	0.001	G	Passa
N16/N149	68.84	0.000	0.009	0.002	0.541	0.000	0.459	0.002	G	Passa
N149/N27	74.46	2.556	0.009	-0.002	-0.556	0.000	0.497	0.003	G	Passa
N61/N164	74.40	0.000	0.006	0.002	0.557	0.000	0.498	0.001	G	Passa
N164/N16	68.70	2.556	0.006	-0.002	-0.540	0.000	0.456	0.003	G	Passa
N78/N169	46.75	0.000	0.002	0.003	0.509	0.000	0.299	0.006	G	Passa
N169/N61	74.58	2.556	0.002	-0.001	-0.588	0.000	0.500	0.002	G	Passa
N79/N167	58.85	0.000	-0.123	0.007	0.522	0.000	0.353	0.011	G	Passa
N167/N62	77.82	2.557	-0.123	-0.005	-0.576	0.000	0.492	0.007	G	Passa
N62/N162	78.79	0.000	-0.156	0.005	0.558	0.000	0.498	0.006	G	Passa
N162/N17	72.61	2.557	-0.156	-0.006	-0.540	0.000	0.451	0.008	G	Passa
N17/N147	75.53	0.000	-0.199	0.006	0.546	0.000	0.470	0.007	G	Passa
N147/N28	77.64	2.557	-0.199	-0.006	-0.551	0.000	0.482	0.008	G	Passa
N28/N137	83.61	0.000	-0.266	0.004	0.599	0.000	0.531	0.005	G	Passa
N137/N45	50.51	0.209	-0.266	-0.008	0.014	0.000	-0.307	-0.004	G	Passa
N26/N138	87.58	0.000	-0.775	0.003	0.571	0.000	0.514	0.003	G	Passa
N138/N43	66.47	2.510	-0.775	-0.006	-0.505	0.000	0.349	0.010	G	Passa
N8/N148	79.52	0.000	-0.405	0.003	0.556	0.000	0.486	0.003	G	Passa
N148/N26	73.71	2.559	-0.405	-0.003	-0.540	0.000	0.445	0.004	G	Passa
N60/N163	76.70	0.000	-0.305	0.003	0.552	0.000	0.478	0.003	G	Passa
N163/N8	73.82	2.559	-0.305	-0.003	-0.544	0.000	0.455	0.004	G	Passa
N77/N168	73.07	0.000	-0.431	0.004	0.539	0.000	0.433	0.006	G	Passa
N168/N60	79.48	2.559	-0.431	-0.003	-0.558	0.000	0.481	0.004	G	Passa
N92/N77	28.80	2.265	0.074	-0.002	0.326	0.000	-0.197	0.003	G	Passa
N82/N176	70.93	0.000	-0.874	0.006	-0.514	0.000	-0.358	0.011	G	Passa

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N176/N69	93.91	2.552	-0.874	-0.003	0.583	0.000	-0.535	0.004	G	Passa
N69/N157	73.72	0.000	-0.424	0.003	-0.540	0.000	-0.446	0.003	G	Passa
N157/N9	80.01	2.559	-0.424	-0.003	0.556	0.000	-0.487	0.004	G	Passa
N9/N156	73.93	0.000	-0.323	0.003	-0.544	0.000	-0.455	0.004	G	Passa
N156/N35	76.74	2.552	-0.323	-0.003	0.552	0.000	-0.476	0.004	G	Passa
N35/N146	74.54	0.000	-0.385	0.003	-0.545	0.000	-0.461	0.004	G	Passa
N146/N52	69.98	2.510	-0.385	-0.004	0.530	0.000	-0.423	0.006	G	Passa
N117/N118	33.06	0.383	-0.620	0.111	0.644	0.030	-0.272	-0.138	G	Passa
N1/N125	32.65	0.000	-0.927	-0.077	-0.263	-0.018	-0.276	-0.114	G	Passa
N125/N124	5.62	0.000	-0.004	-0.016	0.023	-0.026	0.076	0.004	G	Passa
N124/N123	4.21	0.720	0.158	-0.001	0.001	-0.023	0.021	0.026	G	Passa
N123/N119	3.81	0.000	0.131	0.001	0.015	-0.019	0.019	0.025	G	Passa
N119/N121	5.87	0.000	0.166	0.012	-0.056	0.019	-0.036	0.033	G	Passa
N121/N122	4.92	1.080	0.509	0.010	-0.013	0.022	0.042	0.006	G	Passa
N122/N126	8.63	1.552	0.562	0.010	-0.013	0.024	0.085	-0.013	G	Passa
N126/N117	29.70	1.552	-0.525	0.030	0.307	0.021	-0.326	-0.058	G	Passa
N38/N144	70.64	0.000	0.002	0.001	-0.570	0.000	-0.482	0.001	G	Passa
N144/N55	49.35	2.510	0.002	-0.003	0.505	0.000	-0.318	0.007	G	Passa
N22/N154	68.14	0.000	0.002	0.001	-0.543	0.000	-0.456	0.001	G	Passa
N154/N38	72.76	2.556	0.002	-0.002	0.554	0.000	-0.485	0.003	G	Passa
N72/N159	76.08	0.000	-0.002	0.001	-0.559	0.000	-0.512	0.001	G	Passa
N159/N22	69.14	2.559	-0.002	-0.002	0.538	0.000	-0.458	0.003	G	Passa
N83/N174	52.70	2.135	-0.013	0.003	-0.024	0.000	0.352	0.001	G	Passa
N174/N72	79.58	2.556	-0.013	0.000	0.616	0.000	-0.534	0.001	G	Passa
N84/N175	55.19	2.351	-0.295	0.008	0.019	0.000	0.330	-0.004	G	Passa
N175/N73	88.59	2.554	-0.295	-0.005	0.614	0.000	-0.550	0.007	G	Passa
N73/N158	78.81	0.000	-0.221	0.005	-0.553	0.000	-0.492	0.006	G	Passa
N158/N23	76.13	2.559	-0.221	-0.006	0.544	0.000	-0.469	0.008	G	Passa
N23/N155	72.59	0.000	-0.179	0.005	-0.542	0.000	-0.452	0.007	G	Passa
N155/N39	77.94	2.554	-0.179	-0.006	0.556	0.000	-0.487	0.008	G	Passa
N39/N145	73.88	0.000	-0.138	0.005	-0.560	0.000	-0.473	0.007	G	Passa
N145/N56	60.04	2.510	-0.138	-0.007	0.517	0.000	-0.363	0.011	G	Passa
N119/N120	6.40	1.200	0.111	0.011	-0.035	-0.009	0.024	-0.051	G	Passa
N118/N127	18.27	0.000	-0.653	0.028	-0.218	0.027	-0.190	0.029	G	Passa
N127/N128	17.03	0.000	-2.259	-0.001	-0.006	0.023	0.106	-0.009	G	Passa
N128/N129	17.51	0.545	-3.209	0.010	0.014	0.021	0.061	-0.007	G	Passa
N129/N133	18.40	1.353	-3.117	0.022	0.112	0.016	-0.042	-0.038	G	Passa
N133/N120	17.77	0.100	-3.063	-0.127	0.178	0.012	-0.059	-0.023	G	Passa
N43/N132	8.21	0.000	-0.004	-0.019	-0.152	-0.100	-0.101	-0.014	G	Passa
N132/N131	14.46	0.000	-1.795	0.022	-0.033	-0.003	0.063	0.034	G	Passa
N131/N130	13.52	0.544	-2.640	-0.004	-0.005	0.037	0.037	0.006	G	Passa
N130/N134	14.92	1.350	-2.763	-0.012	0.103	0.042	-0.034	0.019	G	Passa
N134/N120	16.76	0.100	-2.721	-0.118	0.159	0.069	-0.060	0.026	G	Passa

Verificação de resistência										
Barra	η (%)	Posição (m)	Esforços desfavoráveis						Origem	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N126/N127	34.83	0.595	0.195	0.019	0.141	0.000	-0.043	-0.008	G	Passa
N122/N128	0.85	0.807	0.070	0.000	0.000	0.000	0.001	0.001	GV	Passa
N121/N129	5.75	0.000	-0.273	-0.001	-0.017	0.000	-0.008	-0.002	G	Passa
N123/N130	0.67	1.032	0.055	0.000	-0.002	0.000	0.001	0.000	GV	Passa
N124/N131	23.75	0.863	0.174	0.016	-0.007	0.000	0.003	-0.015	G	Passa
N125/N132	61.22	0.682	0.200	0.060	-0.092	0.000	0.031	-0.033	G	Passa
N121/N120	11.89	0.000	-0.326	0.000	-0.002	0.000	-0.001	0.001	GV	Passa
N122/N129	2.78	0.000	-0.084	0.000	-0.002	0.000	-0.001	0.001	GV	Passa
N126/N128	35.25	0.000	-1.064	0.000	0.002	0.000	0.006	-0.001	G	Passa
N117/N127	61.01	0.000	-1.608	0.002	-0.014	0.000	-0.016	0.001	G	Passa
N123/N120	0.99	0.000	-0.027	0.000	-0.003	0.000	-0.001	0.000	GV	Passa
N124/N130	6.50	0.000	-0.193	0.001	-0.002	0.000	0.000	0.003	G	Passa
N125/N131	32.10	0.000	-0.950	-0.001	0.002	0.000	0.006	0.001	G	Passa
N1/N132	66.06	0.000	-1.693	-0.005	-0.013	0.000	-0.013	-0.003	G	Passa
N133/N109	26.78	1.683	-0.155	0.000	-0.288	0.000	0.209	0.000	G	Passa
N110/N134	29.26	0.000	0.111	-0.004	0.303	0.000	0.223	-0.004	G	Passa
N129/N54	40.10	2.055	0.016	0.009	-0.348	0.000	0.269	-0.011	G	Passa
N128/N55	45.11	2.455	0.016	0.006	-0.378	0.000	0.288	-0.008	G	Passa
N127/N56	54.64	2.884	-0.042	0.005	-0.407	0.000	0.306	-0.007	G	Passa
N118/N52	57.06	3.313	-0.073	0.002	-0.396	0.000	0.263	-0.003	G	Passa
N57/N130	29.71	0.000	0.009	-0.013	0.298	0.000	0.217	-0.010	G	Passa
N44/N131	18.80	0.000	0.003	0.008	0.205	0.000	0.156	0.002	G	Passa
N45/N132	29.94	0.433	-0.157	0.100	-0.229	0.000	0.153	-0.024	G	Passa
N79/N103	37.28	0.000	-0.015	-0.003	-0.359	0.000	-0.275	-0.004	G	Passa
N78/N102	34.37	0.000	0.004	-0.005	-0.332	0.000	-0.261	-0.006	G	Passa
N89/N101	35.18	0.000	0.031	-0.018	-0.316	0.000	-0.246	-0.014	G	Passa
N135/N115	22.68	1.113	-0.065	0.003	0.245	0.000	-0.181	-0.002	G	Passa
N116/N136	24.55	0.000	-0.036	-0.009	-0.252	0.000	-0.189	-0.005	G	Passa
N90/N104	28.52	0.000	0.046	0.034	-0.262	0.000	-0.179	0.017	G	Passa
N83/N105	15.83	0.581	-0.007	-0.033	0.050	0.000	-0.092	0.012	G	Passa
N84/N106	38.42	0.290	-0.174	-0.111	0.402	0.000	-0.148	0.018	G	Passa
N141/N110	47.19	0.209	0.357	-0.007	-0.005	0.000	0.284	-0.008	G	Passa
N153/N111	73.40	2.559	-0.150	-0.006	0.545	0.000	-0.459	0.007	G	Passa

Flechas

Referências:

Pos.: Valor da coordenada sobre o eixo 'X' local do grupo de flecha no ponto onde se produz o valor péssimo da flecha.
L.: Distância entre dois pontos de corte consecutivos da deformada com a reta que une os nós extremos do grupo de flecha.

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N3/N8	0.250 0.250	0.03 L/(>1000)	0.250 0.250	0.07 L/(>1000)	0.250 0.250	0.04 L/(>1000)	0.250 0.250	0.10 L/(>1000)
N7/N9	0.250 0.250	0.03 L/(>1000)	0.250 0.250	0.07 L/(>1000)	0.250 0.250	0.04 L/(>1000)	0.250 0.250	0.10 L/(>1000)
N9/N10	1.444 1.444	0.04 L/(>1000)	3.069 3.069	3.45 L/(>1000)	1.444 1.444	0.05 L/(>1000)	3.069 3.069	4.73 L/(>1000)
N8/N10	3.795 3.795	0.07 L/(>1000)	3.069 3.069	3.46 L/(>1000)	3.795 3.795	0.10 L/(>1000)	3.069 3.069	4.75 L/(>1000)
N11/N10	0.600 0.600	0.00 L/(>1000)	0.800 0.800	0.00 L/(>1000)	0.600 0.600	0.01 L/(>1000)	0.800 0.800	0.01 L/(>1000)
N12/N15	0.683 0.683	0.01 L/(>1000)	0.171 0.171	0.02 L/(>1000)	0.683 0.683	0.01 L/(>1000)	0.171 0.171	0.03 L/(>1000)
N13/N16	0.637 0.637	0.05 L/(>1000)	0.637 0.637	0.07 L/(>1000)	0.637 0.637	0.06 L/(>1000)	0.637 0.637	0.10 L/(>1000)
N14/N17	0.169 0.169	0.07 L/(>1000)	0.506 0.506	0.13 L/(>1000)	0.169 0.169	0.09 L/(>1000)	0.506 0.506	0.18 L/(>1000)
N12/N10	1.312 1.312	0.02 L/(>1000)	0.750 0.750	0.10 L/(>1000)	1.312 1.312	0.02 L/(>1000)	0.750 0.750	0.12 L/(>1000)
N13/N15	0.442 0.442	0.03 L/(>1000)	0.884 0.884	0.29 L/(>1000)	0.442 0.442	0.04 L/(>1000)	0.884 0.884	0.39 L/(>1000)
N14/N16	0.417 0.417	0.08 L/(>1000)	0.625 0.625	0.37 L/(>1000)	0.417 0.417	0.10 L/(>1000)	0.625 0.625	0.50 L/(>1000)
N3/N17	1.188 1.188	0.00 L/(>1000)	0.594 0.594	0.77 L/(>1000)	1.188 1.188	0.01 L/(>1000)	0.594 0.594	1.07 L/(>1000)
N18/N21	0.683 0.683	0.01 L/(>1000)	0.171 0.171	0.02 L/(>1000)	0.683 0.683	0.01 L/(>1000)	0.171 0.171	0.03 L/(>1000)
N19/N22	0.637 0.637	0.05 L/(>1000)	0.637 0.637	0.07 L/(>1000)	0.637 0.637	0.07 L/(>1000)	0.637 0.637	0.10 L/(>1000)
N20/N23	0.506 0.506	0.07 L/(>1000)	0.506 0.506	0.13 L/(>1000)	0.506 0.506	0.09 L/(>1000)	0.506 0.506	0.18 L/(>1000)
N18/N10	1.125 1.125	0.02 L/(>1000)	0.562 0.562	0.09 L/(>1000)	1.125 1.125	0.02 L/(>1000)	0.562 0.562	0.11 L/(>1000)
N19/N21	1.325 1.325	0.03 L/(>1000)	0.884 0.884	0.30 L/(>1000)	1.325 1.325	0.04 L/(>1000)	0.884 0.884	0.39 L/(>1000)
N20/N22	0.417 0.417	0.07 L/(>1000)	0.625 0.625	0.37 L/(>1000)	0.417 0.417	0.09 L/(>1000)	0.625 0.625	0.50 L/(>1000)
N7/N23	0.792 0.792	0.02 L/(>1000)	0.594 0.594	0.77 L/(>1000)	0.792 0.990	0.03 L/(>1000)	0.594 0.594	1.07 L/(>1000)
N2/N26	0.250 0.250	0.04 L/(>1000)	0.250 0.250	0.07 L/(>1000)	0.250 0.250	0.06 L/(>1000)	0.250 0.250	0.10 L/(>1000)

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N26/N36	3.251 5.464	0.08 L/(>1000)	3.069 3.069	3.65 L/(>1000)	3.251 5.464	0.11 L/(>1000)	3.069 3.069	5.01 L/(>1000)
N25/N27	0.212 0.212	0.07 L/(>1000)	0.637 0.637	0.09 L/(>1000)	0.212 0.212	0.10 L/(>1000)	0.637 0.637	0.12 L/(>1000)
N24/N28	0.169 0.169	0.09 L/(>1000)	0.506 0.506	0.15 L/(>1000)	0.169 0.169	0.12 L/(>1000)	0.506 0.506	0.20 L/(>1000)
N24/N27	0.625 0.625	0.14 L/(>1000)	0.625 0.625	0.39 L/(>1000)	0.625 0.625	0.19 L/(>1000)	0.625 0.625	0.52 L/(>1000)
N2/N28	1.188 1.188	0.04 L/(>1000)	0.594 0.594	0.81 L/(>1000)	1.188 0.990	0.05 L/(>1000)	0.594 0.594	1.12 L/(>1000)
N34/N35	0.250 0.250	0.03 L/(>1000)	0.250 0.250	0.08 L/(>1000)	0.250 0.250	0.03 L/(>1000)	0.250 0.250	0.10 L/(>1000)
N35/N36	3.795 5.464	0.06 L/(>1000)	3.069 3.069	3.59 L/(>1000)	3.795 5.464	0.08 L/(>1000)	3.069 3.069	4.93 L/(>1000)
N30/N36	0.600 0.600	0.01 L/(>1000)	0.400 0.400	0.00 L/(>1000)	0.600 0.600	0.02 L/(>1000)	0.400 0.400	0.00 L/(>1000)
N29/N40	0.512 0.512	0.04 L/(>1000)	0.342 0.342	0.03 L/(>1000)	0.512 0.512	0.05 L/(>1000)	0.342 0.342	0.04 L/(>1000)
N29/N36	1.500 1.500	0.02 L/(>1000)	0.750 0.750	0.10 L/(>1000)	1.500 1.312	0.03 L/(>1000)	0.562 0.562	0.12 L/(>1000)
N25/N40	0.663 0.663	0.08 L/(>1000)	0.884 0.884	0.31 L/(>1000)	0.663 0.663	0.11 L/(>1000)	0.884 0.884	0.41 L/(>1000)
N31/N37	0.512 0.512	0.01 L/(>1000)	0.171 0.171	0.02 L/(>1000)	0.512 0.512	0.01 L/(>1000)	0.171 0.171	0.03 L/(>1000)
N32/N38	0.637 0.637	0.05 L/(>1000)	0.637 0.637	0.08 L/(>1000)	0.637 0.637	0.07 L/(>1000)	0.637 0.637	0.10 L/(>1000)
N33/N39	0.169 0.169	0.07 L/(>1000)	0.506 0.506	0.13 L/(>1000)	0.169 0.169	0.10 L/(>1000)	0.506 0.506	0.18 L/(>1000)
N31/N36	1.125 1.125	0.07 L/(>1000)	0.750 0.750	0.09 L/(>1000)	1.125 1.125	0.09 L/(>1000)	0.562 0.562	0.12 L/(>1000)
N32/N37	1.325 1.325	0.03 L/(>1000)	0.884 0.884	0.31 L/(>1000)	1.325 1.325	0.04 L/(>1000)	0.884 0.884	0.41 L/(>1000)
N33/N38	0.417 0.417	0.05 L/(>1000)	0.625 0.625	0.38 L/(>1000)	0.417 0.417	0.07 L/(>1000)	0.625 0.625	0.52 L/(>1000)
N34/N39	0.990 0.990	0.03 L/(>1000)	0.594 0.594	0.80 L/(>1000)	0.990 0.990	0.04 L/(>1000)	0.594 0.594	1.11 L/(>1000)
N1/N51	5.567 5.567	4.39 L/(>1000)	7.007 7.007	7.15 L/(>1000)	5.567 5.747	6.14 L/(>1000)	7.007 7.007	9.75 L/(>1000)
N1/N43	0.250 0.250	0.11 L/(>1000)	0.250 0.250	0.03 L/(>1000)	0.250 0.250	0.16 L/(>1000)	0.250 0.250	0.05 L/(>1000)
N43/N53	2.347 2.347	0.57 L/(>1000)	3.251 3.251	2.27 L/(>1000)	2.347 2.347	0.80 L/(>1000)	3.251 3.251	3.10 L/(>1000)
N42/N44	0.425 0.425	0.36 L/(>1000)	0.212 0.212	0.07 L/(>1000)	0.425 0.425	0.50 L/(>1000)	0.212 0.212	0.10 L/(>1000)
N41/N45	0.506 0.506	0.34 L/(>1000)	0.169 0.169	0.12 L/(>1000)	0.506 0.506	0.47 L/(>1000)	0.169 0.169	0.16 L/(>1000)

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N41/N44	1.041 1.041	0.53 L/(>1000)	0.625 0.625	0.22 L/(>1000)	1.041 1.041	0.74 L/(>1000)	0.625 0.625	0.29 L/(>1000)
N1/N45	0.990 0.990	0.26 L/(>1000)	0.594 0.594	0.52 L/(>1000)	0.990 0.990	0.37 L/(>1000)	0.594 0.594	0.72 L/(>1000)
N51/N52	0.250 0.250	0.01 L/(>1000)	0.250 0.250	0.06 L/(>1000)	0.250 0.250	0.02 L/(>1000)	0.250 0.250	0.09 L/(>1000)
N52/N53	3.976 3.976	0.36 L/(>1000)	3.069 3.069	2.77 L/(>1000)	3.976 3.976	0.50 L/(>1000)	3.069 3.069	3.77 L/(>1000)
N47/N53	0.600 0.600	0.13 L/(>1000)	0.600 0.600	0.03 L/(>1000)	0.600 0.600	0.19 L/(>1000)	0.600 0.600	0.04 L/(>1000)
N46/N57	0.512 0.512	0.29 L/(>1000)	0.683 0.683	0.08 L/(>1000)	0.512 0.512	0.40 L/(>1000)	0.683 0.683	0.11 L/(>1000)
N46/N53	0.750 0.750	0.33 L/(>1000)	0.562 0.562	0.08 L/(>1000)	0.750 0.750	0.46 L/(>1000)	0.562 0.562	0.09 L/(>1000)
N42/N57	0.884 0.884	0.49 L/(>1000)	0.884 0.884	0.21 L/(>1000)	0.884 0.884	0.68 L/(>1000)	0.663 0.663	0.27 L/(>1000)
N48/N54	0.512 0.512	0.17 L/(>1000)	0.342 0.342	0.06 L/(>1000)	0.512 0.512	0.24 L/(>1000)	0.342 0.342	0.09 L/(>1000)
N49/N55	0.425 0.425	0.14 L/(>1000)	0.637 0.637	0.09 L/(>1000)	0.425 0.425	0.20 L/(>1000)	0.637 0.637	0.12 L/(>1000)
N50/N56	0.169 0.169	0.11 L/(>1000)	0.506 0.506	0.13 L/(>1000)	0.337 0.169	0.15 L/(>1000)	0.506 0.506	0.18 L/(>1000)
N48/N53	0.937 0.937	0.37 L/(>1000)	0.750 0.750	0.07 L/(>1000)	0.937 0.937	0.52 L/(>1000)	0.750 0.750	0.08 L/(>1000)
N49/N54	0.884 0.884	0.37 L/(>1000)	0.884 0.884	0.24 L/(>1000)	0.884 0.884	0.51 L/(>1000)	0.884 0.884	0.31 L/(>1000)
N50/N55	0.833 0.833	0.35 L/(>1000)	0.625 0.625	0.30 L/(>1000)	0.833 0.833	0.49 L/(>1000)	0.625 0.625	0.39 L/(>1000)
N51/N56	1.188 1.188	0.10 L/(>1000)	0.594 0.594	0.59 L/(>1000)	1.188 1.188	0.15 L/(>1000)	0.594 0.594	0.82 L/(>1000)
N4/N60	0.250 0.250	0.03 L/(>1000)	0.250 0.250	0.08 L/(>1000)	0.250 0.250	0.04 L/(>1000)	0.250 0.250	0.10 L/(>1000)
N60/N70	3.795 5.454	0.09 L/(>1000)	3.069 3.069	3.66 L/(>1000)	3.795 5.454	0.13 L/(>1000)	3.069 3.069	5.03 L/(>1000)
N59/N61	0.637 0.637	0.07 L/(>1000)	0.637 0.637	0.07 L/(>1000)	0.637 0.637	0.10 L/(>1000)	0.637 0.637	0.10 L/(>1000)
N58/N62	0.506 0.506	0.09 L/(>1000)	0.506 0.506	0.13 L/(>1000)	0.506 0.506	0.12 L/(>1000)	0.506 0.506	0.18 L/(>1000)
N58/N61	1.250 1.250	0.06 L/(>1000)	0.625 0.625	0.39 L/(>1000)	1.250 1.250	0.09 L/(>1000)	0.625 0.625	0.53 L/(>1000)
N4/N62	1.188 1.188	0.03 L/(>1000)	0.594 0.594	0.82 L/(>1000)	1.188 1.188	0.05 L/(>1000)	0.594 0.594	1.13 L/(>1000)
N68/N69	0.250 0.250	0.04 L/(>1000)	0.250 0.250	0.07 L/(>1000)	0.250 0.250	0.05 L/(>1000)	0.250 0.250	0.10 L/(>1000)
N69/N70	5.020 5.020	0.06 L/(>1000)	3.069 3.069	3.71 L/(>1000)	5.020 5.247	0.08 L/(>1000)	3.069 3.069	5.09 L/(>1000)

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N64/N70	0.600 0.600	0.03 L/(>1000)	0.600 0.600	0.01 L/(>1000)	0.600 0.600	0.04 L/(>1000)	0.600 0.600	0.01 L/(>1000)
N63/N74	0.512 0.512	0.04 L/(>1000)	0.854 0.854	0.03 L/(>1000)	0.512 0.512	0.05 L/(>1000)	0.854 0.854	0.03 L/(>1000)
N63/N70	0.937 0.937	0.09 L/(>1000)	0.750 0.750	0.10 L/(>1000)	0.937 0.937	0.13 L/(>1000)	0.562 0.562	0.12 L/(>1000)
N59/N74	1.105 1.105	0.07 L/(>1000)	0.884 0.884	0.31 L/(>1000)	1.105 1.105	0.09 L/(>1000)	0.884 0.884	0.41 L/(>1000)
N65/N71	0.512 0.512	0.07 L/(>1000)	0.342 0.342	0.04 L/(>1000)	0.512 0.512	0.10 L/(>1000)	0.342 0.342	0.06 L/(>1000)
N66/N72	0.212 0.212	0.09 L/(>1000)	0.637 0.637	0.09 L/(>1000)	0.212 0.212	0.12 L/(>1000)	0.637 0.637	0.13 L/(>1000)
N67/N73	0.169 0.169	0.10 L/(>1000)	0.506 0.506	0.15 L/(>1000)	0.169 0.169	0.13 L/(>1000)	0.506 0.506	0.21 L/(>1000)
N65/N70	0.750 0.750	0.06 L/(>1000)	0.750 0.750	0.09 L/(>1000)	0.750 0.750	0.09 L/(>1000)	0.562 0.562	0.12 L/(>1000)
N66/N71	0.663 0.663	0.12 L/(>1000)	0.884 0.884	0.32 L/(>1000)	0.663 0.663	0.17 L/(>1000)	0.884 0.884	0.42 L/(>1000)
N67/N72	0.625 0.625	0.18 L/(>1000)	0.625 0.625	0.40 L/(>1000)	0.625 0.625	0.25 L/(>1000)	0.625 0.625	0.53 L/(>1000)
N68/N73	1.188 1.188	0.04 L/(>1000)	0.594 0.594	0.82 L/(>1000)	1.188 1.188	0.06 L/(>1000)	0.594 0.594	1.14 L/(>1000)
N5/N81	5.927 5.927	5.27 L/(>1000)	4.487 4.487	6.70 L/(>1000)	5.927 5.927	7.37 L/(>1000)	4.487 4.487	9.17 L/(>1000)
N5/N77	0.250 0.250	0.02 L/(>1000)	0.250 0.250	0.06 L/(>1000)	0.250 0.250	0.04 L/(>1000)	0.250 0.250	0.09 L/(>1000)
N77/N88	3.432 3.432	0.38 L/(>1000)	3.069 3.069	2.65 L/(>1000)	3.251 3.432	0.53 L/(>1000)	3.069 3.069	3.60 L/(>1000)
N76/N78	0.425 0.425	0.19 L/(>1000)	0.637 0.637	0.09 L/(>1000)	0.425 0.425	0.27 L/(>1000)	0.637 0.637	0.13 L/(>1000)
N75/N79	0.337 0.337	0.14 L/(>1000)	0.506 0.506	0.13 L/(>1000)	0.337 0.337	0.20 L/(>1000)	0.506 0.506	0.18 L/(>1000)
N75/N78	0.833 0.833	0.46 L/(>1000)	0.625 0.625	0.28 L/(>1000)	0.833 0.833	0.64 L/(>1000)	0.625 0.625	0.38 L/(>1000)
N5/N79	0.990 0.990	0.16 L/(>1000)	0.594 0.594	0.56 L/(>1000)	0.990 0.990	0.22 L/(>1000)	0.594 0.594	0.77 L/(>1000)
N81/N82	0.250 0.250	0.12 L/(>1000)	0.250 0.250	0.02 L/(>1000)	0.250 0.250	0.17 L/(>1000)	0.250 0.250	0.03 L/(>1000)
N82/N88	2.347 2.347	0.67 L/(>1000)	3.251 3.251	1.97 L/(>1000)	2.347 2.347	0.93 L/(>1000)	3.251 3.251	2.72 L/(>1000)
N80/N84	0.506 0.506	0.37 L/(>1000)	0.169 0.169	0.12 L/(>1000)	0.506 0.506	0.52 L/(>1000)	0.169 0.169	0.17 L/(>1000)
N80/N83	0.833 0.833	0.66 L/(>1000)	0.625 0.625	0.18 L/(>1000)	0.833 1.041	0.92 L/(>1000)	0.625 0.625	0.24 L/(>1000)
N81/N84	0.990 0.990	0.32 L/(>1000)	0.594 0.594	0.46 L/(>1000)	0.990 0.990	0.45 L/(>1000)	0.594 0.594	0.64 L/(>1000)

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N85/N88	0.600 0.600	0.17 L/(>1000)	0.600 0.600	0.04 L/(>1000)	0.600 0.600	0.24 L/(>1000)	0.600 0.600	0.05 L/(>1000)
N91/N89	0.512 0.512	0.22 L/(>1000)	0.342 0.342	0.08 L/(>1000)	0.512 0.512	0.30 L/(>1000)	0.342 0.342	0.11 L/(>1000)
N91/N88	0.937 0.937	0.45 L/(>1000)	0.750 0.750	0.07 L/(>1000)	0.937 0.937	0.63 L/(>1000)	0.750 0.750	0.09 L/(>1000)
N76/N89	0.884 0.884	0.47 L/(>1000)	0.884 0.884	0.23 L/(>1000)	0.884 0.884	0.66 L/(>1000)	0.884 0.884	0.29 L/(>1000)
N86/N90	0.512 0.512	0.36 L/(>1000)	0.512 0.512	0.10 L/(>1000)	0.512 0.512	0.50 L/(>1000)	0.512 0.512	0.13 L/(>1000)
N87/N83	0.425 0.425	0.44 L/(>1000)	0.212 0.212	0.09 L/(>1000)	0.425 0.425	0.61 L/(>1000)	0.212 0.212	0.13 L/(>1000)
N86/N88	0.750 0.750	0.43 L/(>1000)	0.562 0.562	0.07 L/(>1000)	0.750 0.750	0.61 L/(>1000)	0.562 0.562	0.09 L/(>1000)
N87/N90	0.884 0.884	0.62 L/(>1000)	0.663 0.663	0.19 L/(>1000)	0.884 0.884	0.86 L/(>1000)	0.663 0.663	0.24 L/(>1000)
N6/N92	0.250 0.250	0.02 L/(>1000)	0.250 0.250	0.02 L/(>1000)	0.250 0.250	0.02 L/(>1000)	0.250 0.250	0.03 L/(>1000)
N6/N81	6.409 6.409	3.90 L/(>1000)	7.669 7.669	1.81 L/(>1000)	6.409 6.589	5.34 L/(>1000)	7.849 8.029	2.45 L/(>1000)
N93/N94	0.600 0.600	0.13 L/(>1000)	0.600 0.600	0.01 L/(>1000)	0.600 0.600	0.18 L/(>1000)	0.600 0.600	0.02 L/(>1000)
N92/N94	3.917 3.917	0.26 L/(>1000)	3.192 3.192	0.67 L/(>1000)	3.917 4.098	0.35 L/(>1000)	3.192 3.192	0.94 L/(>1000)
N82/N94	2.258 2.258	0.66 L/(>1000)	2.446 2.446	0.92 L/(>1000)	2.258 2.258	0.91 L/(>1000)	2.446 2.446	1.30 L/(>1000)
N95/N101	0.514 0.514	0.11 L/(>1000)	0.343 0.343	0.01 L/(>1000)	0.514 0.514	0.14 L/(>1000)	0.343 0.343	0.02 L/(>1000)
N96/N102	0.428 0.428	0.05 L/(>1000)	0.642 0.642	0.01 L/(>1000)	0.428 0.428	0.07 L/(>1000)	0.642 0.642	0.02 L/(>1000)
N97/N103	0.339 0.339	0.01 L/(>1000)	0.509 0.509	0.03 L/(>1000)	0.339 0.339	0.02 L/(>1000)	0.509 0.509	0.03 L/(>1000)
N98/N104	0.514 0.514	0.36 L/(>1000)	0.686 0.686	0.04 L/(>1000)	0.514 0.514	0.49 L/(>1000)	0.686 0.686	0.06 L/(>1000)
N99/N105	0.428 0.428	0.45 L/(>1000)	0.428 0.428	0.03 L/(>1000)	0.428 0.428	0.62 L/(>1000)	0.428 0.428	0.05 L/(>1000)
N100/N106	0.339 0.339	0.36 L/(>1000)	0.170 0.170	0.04 L/(>1000)	0.339 0.339	0.50 L/(>1000)	0.170 0.170	0.06 L/(>1000)
N95/N94	0.937 0.937	0.35 L/(>1000)	0.750 0.750	0.02 L/(>1000)	0.937 0.937	0.48 L/(>1000)	1.500 1.687	0.01 L/(>1000)
N96/N101	0.885 0.885	0.29 L/(>1000)	0.885 0.885	0.06 L/(>1000)	0.885 0.885	0.39 L/(>1000)	0.885 0.885	0.07 L/(>1000)
N97/N102	0.861 0.861	0.20 L/(>1000)	0.646 0.646	0.09 L/(>1000)	0.861 0.861	0.27 L/(>1000)	0.646 0.646	0.11 L/(>1000)
N6/N103	1.026 1.026	0.04 L/(>1000)	0.615 0.615	0.14 L/(>1000)	1.026 1.026	0.05 L/(>1000)	0.615 0.615	0.21 L/(>1000)

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N98/N94	0.750 0.750	0.31 L/(>1000)	0.937 0.937	0.02 L/(>1000)	0.750 0.750	0.42 L/(>1000)	1.312 1.312	0.01 L/(>1000)
N99/N104	0.885 0.885	0.53 L/(>1000)	0.885 0.885	0.06 L/(>1000)	0.885 0.885	0.74 L/(>1000)	0.885 0.885	0.07 L/(>1000)
N100/N105	0.861 0.861	0.64 L/(>1000)	0.646 0.646	0.14 L/(>1000)	0.861 0.861	0.88 L/(>1000)	0.646 0.646	0.18 L/(>1000)
N81/N106	1.026 1.026	0.30 L/(>1000)	0.615 0.615	0.17 L/(>1000)	1.026 1.026	0.42 L/(>1000)	0.615 0.615	0.24 L/(>1000)
N21/N37	2.561 2.561	0.46 L/(>1000)	2.561 2.561	5.11 L/(>1000)	2.561 2.561	0.65 L/(>1000)	2.561 2.561	7.35 L/(>1000)
N71/N21	2.772 2.772	0.38 L/(>1000)	2.559 2.559	4.57 L/(>1000)	2.772 2.772	0.51 L/(>1000)	2.559 2.559	6.59 L/(>1000)
N141/N108	1.882 1.882	0.10 L/(>1000)	0.627 0.627	0.87 L/(>1000)	1.882 1.882	0.15 L/(>1000)	0.627 0.627	1.25 L/(>1000)
N153/N107	0.640 0.640	0.08 L/(>1000)	0.640 2.133	0.59 L/(>1000)	1.919 1.919	0.11 L/(>1000)	0.640 2.133	0.86 L/(>1000)
N112/N108	2.564 2.564	0.92 L/(>1000)	2.564 2.564	5.00 L/(>1000)	2.564 2.564	1.26 L/(>1000)	2.564 2.564	7.21 L/(>1000)
N113/N111	2.559 2.559	0.90 L/(>1000)	2.559 2.559	4.70 L/(>1000)	2.559 2.559	1.23 L/(>1000)	2.559 2.559	6.79 L/(>1000)
N114/N112	2.564 2.564	0.89 L/(>1000)	2.564 2.564	4.71 L/(>1000)	2.564 2.564	1.22 L/(>1000)	2.564 2.564	6.80 L/(>1000)
N74/N15	2.777 2.777	0.39 L/(>1000)	2.564 2.564	4.77 L/(>1000)	2.777 2.777	0.54 L/(>1000)	2.564 2.564	6.86 L/(>1000)
N15/N40	2.564 2.564	0.40 L/(>1000)	2.564 2.564	4.94 L/(>1000)	2.564 2.564	0.55 L/(>1000)	2.564 2.564	7.11 L/(>1000)
N16/N27	2.563 2.563	0.29 L/(>1000)	2.563 2.563	4.89 L/(>1000)	2.563 2.563	0.40 L/(>1000)	2.563 2.563	7.04 L/(>1000)
N61/N16	2.349 2.349	0.29 L/(>1000)	2.563 2.563	4.89 L/(>1000)	2.349 2.349	0.40 L/(>1000)	2.563 2.563	7.04 L/(>1000)
N62/N17	2.561 2.561	0.80 L/(>1000)	2.561 2.561	5.06 L/(>1000)	2.561 2.561	1.10 L/(>1000)	2.561 2.561	7.27 L/(>1000)
N17/N28	2.561 2.561	0.81 L/(>1000)	2.561 2.561	5.00 L/(>1000)	2.561 2.561	1.11 L/(>1000)	2.561 2.561	7.20 L/(>1000)
N26/N43	2.091 4.392	0.22 L/(>1000)	2.719 2.719	5.71 L/878.5	2.091 4.392	0.29 L/(>1000)	2.719 2.719	8.20 L/924.4
N8/N26	2.559 2.559	0.41 L/(>1000)	2.559 2.559	5.37 L/952.8	2.559 2.559	0.56 L/(>1000)	2.559 2.559	7.73 L/993.2
N60/N8	2.559 2.559	0.41 L/(>1000)	2.559 2.559	5.34 L/958.7	2.559 2.559	0.56 L/(>1000)	2.559 2.559	7.68 L/999.5
N77/N60	2.559 2.559	0.28 L/(>1000)	2.559 2.559	5.77 L/887.8	2.559 2.559	0.38 L/(>1000)	2.559 2.559	8.29 L/926.8
N92/N77	1.510 1.510	0.05 L/(>1000)	0.755 0.755	0.18 L/(>1000)	1.510 1.510	0.07 L/(>1000)	0.755 0.755	0.26 L/(>1000)
N82/N69	2.991 0.855	0.22 L/(>1000)	2.352 2.352	6.26 L/817.4	2.991 0.641	0.29 L/(>1000)	2.352 2.352	8.99 L/858.8

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N69/N9	2.559 2.559	0.41 L/(>1000)	2.559 2.559	5.35 L/956.9	2.559 2.559	0.56 L/(>1000)	2.559 2.559	7.70 L/997.5
N9/N35	2.566 2.566	0.37 L/(>1000)	2.566 2.566	5.37 L/952.7	2.566 2.566	0.49 L/(>1000)	2.566 2.566	7.73 L/993.2
N35/N52	2.300 2.300	0.34 L/(>1000)	2.510 2.510	5.23 L/959.4	2.300 2.510	0.46 L/(>1000)	2.510 2.510	7.53 L/(>1000)
N117/N118	0.191 0.191	0.02 L/(>1000)	0.191 0.191	0.02 L/(>1000)	0.191 0.191	0.03 L/(>1000)	0.191 0.191	0.03 L/(>1000)
N22/N38	2.349 2.349	0.22 L/(>1000)	2.562 2.562	5.20 L/985.1	2.349 2.349	0.28 L/(>1000)	2.562 2.562	7.47 L/(>1000)
N72/N22	2.346 2.346	0.33 L/(>1000)	2.559 2.559	4.56 L/(>1000)	2.346 2.346	0.45 L/(>1000)	2.559 2.559	6.58 L/(>1000)
	0.855	L/(>1000)	2.351	L/559.8	0.855	L/(>1000)	2.351	L/605.6
N73/N23	2.559 2.559	0.83 L/(>1000)	2.559 2.559	4.79 L/(>1000)	2.559 2.559	1.14 L/(>1000)	2.559 2.559	6.89 L/(>1000)
N23/N39	2.564 2.564	0.73 L/(>1000)	2.564 2.564	5.27 L/970.2	2.564 2.564	0.99 L/(>1000)	2.564 2.564	7.58 L/(>1000)
N39/N56	2.300 2.300	0.53 L/(>1000)	2.510 2.510	6.29 L/798.3	2.300 2.300	0.72 L/(>1000)	2.510 2.510	8.99 L/846.4
N1/N117	5.444 5.444	2.92 L/(>1000)	7.784 7.784	2.60 L/(>1000)	5.444 5.264	3.95 L/(>1000)	7.964 7.784	3.61 L/(>1000)
N119/N120	0.600 0.600	0.08 L/(>1000)	0.800 0.800	0.01 L/(>1000)	0.600 0.600	0.11 L/(>1000)	0.800 0.800	0.01 L/(>1000)
N118/N120	3.678 3.678	0.39 L/(>1000)	2.741 2.741	1.25 L/(>1000)	3.678 3.678	0.53 L/(>1000)	2.741 2.741	1.79 L/(>1000)
N43/N120	2.344 2.344	0.50 L/(>1000)	2.539 2.539	0.85 L/(>1000)	2.344 2.344	0.70 L/(>1000)	2.539 2.539	1.14 L/(>1000)
N126/N127	0.297 0.297	0.04 L/(>1000)	0.297 0.297	0.01 L/(>1000)	0.297 0.297	0.06 L/(>1000)	0.297 0.297	0.01 L/(>1000)
N122/N128	0.403 0.403	0.06 L/(>1000)	0.403 0.403	0.01 L/(>1000)	0.403 0.403	0.08 L/(>1000)	0.403 0.403	0.01 L/(>1000)
N121/N129	0.502 0.502	0.07 L/(>1000)	0.836 0.836	0.02 L/(>1000)	0.502 0.502	0.10 L/(>1000)	0.836 0.836	0.03 L/(>1000)
N123/N130	0.516 0.516	0.24 L/(>1000)	0.860 0.860	0.01 L/(>1000)	0.516 0.516	0.33 L/(>1000)	0.860 0.860	0.01 L/(>1000)
N124/N131	0.432 0.432	0.34 L/(>1000)	0.647 0.647	0.01 L/(>1000)	0.432 0.432	0.47 L/(>1000)	0.647 0.647	0.02 L/(>1000)
N125/N132	0.341 0.341	0.32 L/(>1000)	0.170 0.170	0.03 L/(>1000)	0.341 0.341	0.44 L/(>1000)	0.170 0.170	0.04 L/(>1000)
N121/N120	0.937 0.937	0.24 L/(>1000)	0.937 0.937	0.01 L/(>1000)	0.937 0.937	0.33 L/(>1000)	0.562 0.562	0.00 L/(>1000)
N122/N129	0.878 0.878	0.20 L/(>1000)	0.878 0.878	0.10 L/(>1000)	0.878 0.878	0.27 L/(>1000)	0.878 0.878	0.12 L/(>1000)
N126/N128	0.875 0.875	0.16 L/(>1000)	0.656 0.656	0.16 L/(>1000)	0.875 0.875	0.22 L/(>1000)	0.656 0.656	0.21 L/(>1000)
	1.247	0.03	0.623	0.24	1.247	0.04	0.623	0.35

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N117/N127	1.247	L/(>1000)	0.623	L/(>1000)	0.416	L/(>1000)	0.623	L/(>1000)
N123/N120	0.750 0.750	0.19 L/(>1000)	0.562 0.562	0.02 L/(>1000)	0.750 0.750	0.25 L/(>1000)	1.500 0.375	0.01 L/(>1000)
N124/N130	0.886 0.886	0.36 L/(>1000)	0.886 0.886	0.06 L/(>1000)	0.886 0.886	0.49 L/(>1000)	0.886 0.886	0.07 L/(>1000)
N125/N131	0.888 0.888	0.48 L/(>1000)	0.666 0.666	0.13 L/(>1000)	0.888 0.888	0.66 L/(>1000)	0.666 0.666	0.16 L/(>1000)
N1/N132	1.060 1.060	0.24 L/(>1000)	0.636 0.636	0.19 L/(>1000)	1.060 1.060	0.33 L/(>1000)	0.636 0.636	0.27 L/(>1000)
N133/N109	0.421 0.421	0.00 L/(>1000)	1.052 1.052	0.27 L/(>1000)	0.421 0.631	0.00 L/(>1000)	1.052 1.052	0.40 L/(>1000)
N110/N134	0.407 0.407	0.03 L/(>1000)	0.611 0.611	0.27 L/(>1000)	0.407 0.407	0.04 L/(>1000)	0.611 0.611	0.40 L/(>1000)
N129/N54	1.438 1.438	0.11 L/(>1000)	1.438 1.438	0.36 L/(>1000)	1.438 1.438	0.16 L/(>1000)	1.438 1.438	0.53 L/(>1000)
N128/N55	1.841 1.841	0.11 L/(>1000)	1.841 1.841	0.30 L/(>1000)	1.841 1.637	0.16 L/(>1000)	1.841 2.046	0.44 L/(>1000)
N127/N56	2.266 2.266	0.12 L/(>1000)	1.030 1.030	0.47 L/(>1000)	2.060 2.060	0.17 L/(>1000)	1.030 1.030	0.67 L/(>1000)
N118/N52	2.485 2.485	0.06 L/(>1000)	1.450 1.450	1.02 L/(>1000)	2.485 2.485	0.09 L/(>1000)	1.450 1.450	1.47 L/(>1000)
N57/N130	0.420 0.420	0.04 L/(>1000)	0.420 0.420	0.21 L/(>1000)	0.420 0.420	0.06 L/(>1000)	0.420 0.420	0.31 L/(>1000)
N44/N131	0.433 0.433	0.02 L/(>1000)	0.433 0.433	0.11 L/(>1000)	0.433 0.433	0.03 L/(>1000)	0.433 0.433	0.16 L/(>1000)
N45/N132	0.217 0.217	0.01 L/(>1000)	0.217 0.217	0.03 L/(>1000)	0.217 0.217	0.01 L/(>1000)	0.217 0.217	0.05 L/(>1000)
N79/N103	0.791 0.791	0.07 L/(>1000)	0.593 0.593	0.34 L/(>1000)	0.791 0.791	0.11 L/(>1000)	0.593 0.593	0.49 L/(>1000)
N78/N102	0.633 0.633	0.05 L/(>1000)	0.633 0.633	0.35 L/(>1000)	0.633 0.633	0.08 L/(>1000)	0.633 0.633	0.52 L/(>1000)
N89/N101	0.353 0.353	0.07 L/(>1000)	0.529 0.529	0.29 L/(>1000)	0.353 0.353	0.09 L/(>1000)	0.529 0.529	0.43 L/(>1000)
N135/N115	0.742 0.742	0.01 L/(>1000)	0.557 0.557	0.17 L/(>1000)	0.742 0.742	0.02 L/(>1000)	0.557 0.557	0.25 L/(>1000)
N116/N136	0.192 0.192	0.01 L/(>1000)	0.576 0.576	0.18 L/(>1000)	0.192 0.192	0.01 L/(>1000)	0.576 0.576	0.27 L/(>1000)
N90/N104	0.214 0.214	0.03 L/(>1000)	0.428 0.428	0.11 L/(>1000)	0.214 0.214	0.04 L/(>1000)	0.428 0.428	0.16 L/(>1000)
N83/N105	0.290 0.290	0.01 L/(>1000)	0.290 0.290	0.05 L/(>1000)	0.290 0.290	0.01 L/(>1000)	0.290 0.290	0.07 L/(>1000)
N84/N106	0.145 0.145	0.00 L/(>1000)	0.145 0.145	0.02 L/(>1000)	0.145 0.145	0.00 L/(>1000)	0.145 0.145	0.02 L/(>1000)
N138/N137	0.361 0.361	0.03 L/(>1000)	0.722 0.722	1.08 L/(>1000)	0.361 0.361	0.04 L/(>1000)	1.083 1.083	0.13 L/(>1000)

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N137/N139	0.361 0.361	0.02 L/(>1000)	0.722 0.722	0.65 L/(>1000)	0.361 0.361	0.02 L/(>1000)	0.722 0.542	0.40 L/(>1000)
N139/N140	1.088 1.088	0.02 L/(>1000)	0.725 0.725	1.08 L/(>1000)	1.088 1.088	0.03 L/(>1000)	0.725 0.907	0.83 L/(>1000)
N140/N141	1.120 1.120	0.03 L/(>1000)	0.672 0.672	1.05 L/(>1000)	1.120 1.120	0.05 L/(>1000)	0.896 0.896	1.59 L/(>1000)
N141/N110	0.627 0.627	0.15 L/(>1000)	1.045 1.045	1.65 L/(>1000)	0.627 0.627	0.21 L/(>1000)	1.045 1.045	2.33 L/(>1000)
N142/N143	0.904 0.904	0.01 L/(>1000)	0.678 0.678	0.89 L/(>1000)	0.904 0.678	0.02 L/(>1000)	0.678 0.678	0.17 L/(>1000)
N144/N142	1.088 1.088	0.02 L/(>1000)	0.725 0.725	0.74 L/(>1000)	1.088 1.088	0.03 L/(>1000)	0.725 0.725	0.40 L/(>1000)
N145/N144	1.083 1.083	0.02 L/(>1000)	0.722 0.722	0.62 L/(>1000)	1.083 1.083	0.03 L/(>1000)	0.722 0.722	0.35 L/(>1000)
N146/N145	1.083 1.083	0.01 L/(>1000)	0.722 0.722	1.05 L/(>1000)	1.083 1.083	0.02 L/(>1000)	0.542 0.542	0.10 L/(>1000)
N148/N147	1.083 1.083	0.01 L/(>1000)	0.722 0.722	1.07 L/(>1000)	1.083 1.083	0.02 L/(>1000)	0.722 0.722	0.14 L/(>1000)
N147/N149	0.361 0.361	0.01 L/(>1000)	0.722 0.722	0.57 L/(>1000)	0.361 0.361	0.02 L/(>1000)	0.722 0.722	0.28 L/(>1000)
N149/N150	1.088 1.088	0.02 L/(>1000)	0.725 0.725	0.74 L/(>1000)	1.088 1.088	0.02 L/(>1000)	0.725 0.725	0.39 L/(>1000)
N150/N151	0.225 0.225	0.02 L/(>1000)	0.674 0.674	0.82 L/(>1000)	0.225 0.225	0.03 L/(>1000)	0.449 0.449	0.11 L/(>1000)
N152/N153	0.902 0.902	0.01 L/(>1000)	0.677 0.677	1.02 L/(>1000)	0.902 0.902	0.02 L/(>1000)	0.902 0.902	1.37 L/(>1000)
N153/N111	0.640 0.640	0.09 L/(>1000)	0.640 0.640	0.72 L/(>1000)	0.640 0.640	0.12 L/(>1000)	0.640 0.640	1.04 L/(>1000)
N154/N152	0.363 0.363	0.01 L/(>1000)	0.725 0.725	1.02 L/(>1000)	0.363 0.363	0.02 L/(>1000)	0.725 0.907	0.75 L/(>1000)
N155/N154	1.083 1.083	0.01 L/(>1000)	0.722 0.722	0.53 L/(>1000)	1.083 1.083	0.02 L/(>1000)	0.722 0.722	0.23 L/(>1000)
N156/N155	1.083 1.083	0.01 L/(>1000)	0.722 0.722	1.06 L/(>1000)	1.083 1.083	0.02 L/(>1000)	0.542 0.542	0.10 L/(>1000)
N157/N158	1.083 1.083	0.00 L/(>1000)	0.722 0.722	1.07 L/(>1000)	1.083 0.361	0.00 L/(>1000)	0.722 0.722	0.14 L/(>1000)
N158/N159	1.083 1.083	0.01 L/(>1000)	0.722 0.722	0.56 L/(>1000)	1.083 1.083	0.01 L/(>1000)	0.722 0.722	0.27 L/(>1000)
N159/N160	1.088 1.088	0.01 L/(>1000)	0.725 0.725	0.72 L/(>1000)	1.088 1.088	0.02 L/(>1000)	0.725 0.725	0.37 L/(>1000)
N160/N161	0.453 0.453	0.01 L/(>1000)	0.680 0.680	0.86 L/(>1000)	0.453 0.453	0.02 L/(>1000)	0.680 0.680	0.11 L/(>1000)
N163/N162	0.361 0.361	0.01 L/(>1000)	0.722 0.722	1.07 L/(>1000)	0.361 0.361	0.01 L/(>1000)	0.542 0.542	0.13 L/(>1000)
N162/N164	1.083 1.083	0.01 L/(>1000)	0.722 0.722	0.59 L/(>1000)	1.083 1.083	0.01 L/(>1000)	0.722 0.722	0.31 L/(>1000)

Flechas								
Grupo	Flecha máxima absoluta xy Flecha máxima relativa xy		Flecha máxima absoluta xz Flecha máxima relativa xz		Flecha ativa absoluta xy Flecha ativa relativa xy		Flecha ativa absoluta xz Flecha ativa relativa xz	
	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)	Pos. (m)	Flecha (mm)
N164/N165	1.088 1.088	0.02 L/(>1000)	0.725 0.725	0.74 L/(>1000)	1.088 1.088	0.03 L/(>1000)	0.725 0.725	0.39 L/(>1000)
N165/N166	0.224 0.224	0.02 L/(>1000)	0.671 0.671	0.81 L/(>1000)	0.224 0.224	0.03 L/(>1000)	0.447 0.447	0.11 L/(>1000)
N168/N167	0.542 1.083	0.00 L/(>1000)	0.722 0.722	1.05 L/(>1000)	0.542 1.083	0.01 L/(>1000)	0.361 0.361	0.09 L/(>1000)
N167/N169	0.722 0.722	0.00 L/(>1000)	0.722 0.722	0.64 L/(>1000)	0.542 0.722	0.00 L/(>1000)	0.722 0.722	0.39 L/(>1000)
N169/N170	0.363 0.363	0.01 L/(>1000)	0.725 0.725	0.76 L/(>1000)	0.363 0.544	0.01 L/(>1000)	0.725 0.725	0.41 L/(>1000)
N170/N171	1.113 1.113	0.02 L/(>1000)	0.668 0.668	0.82 L/(>1000)	1.113 1.113	0.03 L/(>1000)	0.668 0.668	0.15 L/(>1000)
N172/N173	1.139 1.139	0.01 L/(>1000)	0.683 0.683	0.88 L/(>1000)	1.139 1.139	0.01 L/(>1000)	0.911 0.911	0.34 L/(>1000)
N174/N172	0.544 0.544	0.01 L/(>1000)	0.725 0.725	0.86 L/(>1000)	0.544 0.544	0.01 L/(>1000)	0.725 0.725	0.57 L/(>1000)
N175/N174	0.361 0.361	0.00 L/(>1000)	0.722 0.722	0.73 L/(>1000)	0.361 0.361	0.00 L/(>1000)	0.722 0.722	0.51 L/(>1000)
N176/N175	0.361 0.361	0.02 L/(>1000)	0.722 0.722	1.06 L/(>1000)	0.361 0.361	0.03 L/(>1000)	1.083 1.083	0.11 L/(>1000)

Verificação do E.L.U.

Barras	VERIFICAÇÕES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N3/N14	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 7.2	η = 17.5	x: 0 m η = 78.2	x: 0 m η = 3.3	η = 0.5	x: 0 m η = 9.9	x: 0 m η = 62.1	x: 0 m η = 0.1	x: 0 m η = 99.0	x: 0 m η = 51.1	η = 0.7	**PASSA** **η = 99.0**
N14/N13	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.0	η = 1.4	x: 0 m η = 15.4	x: 0 m η = 1.7	η = 0.1	x: 1.433 m η = 0.4	x: 0 m η = 2.4	x: 0 m η < 0.1	x: 0 m η = 10.8	x: 0 m η = 19.1	η = 0.5	**PASSA** **η = 19.1**
N13/N12	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 6.1	η = 4.4	x: 0 m η = 10.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.44 m η = 0.3	x: 0 m η = 1.0	N.A.(2)	x: 0 m η = 10.4	x: 0 m η = 16.8	η = 0.4	**PASSA** **η = 16.8**
N12/N11	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 5.1	η = 3.8	x: 0 m η = 8.9	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.44 m η = 1.4	x: 0 m η = 0.8	N.A.(2)	x: 0 m η = 9.0	x: 0 m η = 14.3	η = 0.1	**PASSA** **η = 14.3**
N11/N18	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 5.1	η = 3.8	x: 1.44 m η = 8.7	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 1.4	x: 1.44 m η = 0.8	N.A.(2)	x: 1.44 m η = 8.7	x: 1.44 m η = 13.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 13.9**
N18/N19	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 6.0	η = 4.3	x: 1.44 m η = 10.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 0.3	x: 1.44 m η = 1.0	N.A.(2)	x: 1.44 m η = 10.4	x: 1.44 m η = 16.8	η = 0.2	**PASSA** **η = 16.8**
N19/N20	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.0	η = 1.4	x: 1.433 m η = 15.4	x: 1.433 m η = 1.5	η = 0.1	x: 0 m η = 0.4	x: 1.433 m η = 2.4	x: 1.433 m η < 0.1	x: 1.433 m η = 10.7	x: 1.433 m η = 18.9	η = 0.3	**PASSA** **η = 18.9**
N20/N7	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 7.2	η = 17.5	x: 1.433 m η = 78.2	x: 1.433 m η = 3.7	η = 0.5	x: 1.433 m η = 9.9	x: 1.433 m η = 62.1	x: 1.433 m η = 0.1	x: 1.433 m η = 99.3	x: 1.433 m η = 51.2	η = 0.9	**PASSA** **η = 99.3**
N3/N8	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.5 m η = 2.9	x: 0 m η = 6.5	x: 0.5 m η = 44.7	x: 0.5 m η = 13.7	η = 3.1	η = 11.6	x: 0.5 m η = 21.4	x: 0.5 m η = 2.0	x: 0.5 m η = 65.0	x: 0.5 m η = 34.3	η = 0.3	**PASSA** **η = 65.0**
N7/N9	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.5 m η = 2.9	x: 0 m η = 6.5	x: 0.5 m η = 44.7	x: 0.5 m η = 14.0	η = 3.1	η = 11.6	x: 0.5 m η = 21.3	x: 0.5 m η = 2.0	x: 0.5 m η = 65.1	x: 0.5 m η = 34.4	η = 0.1	**PASSA** **η = 65.1**
N9/N23	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 2.1	x: 0 m η = 5.2	x: 0 m η = 39.2	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 4.0	x: 0 m η = 15.5	N.A.(2)	x: 0 m η = 44.5	x: 0 m η = 23.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 44.5**
N23/N22	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 12.5	x: 0 m η = 30.7	x: 0 m η = 26.3	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.444 m η = 2.7	x: 0 m η = 7.0	N.A.(2)	x: 0 m η = 57.5	x: 0 m η = 27.4	η = 0.2	**PASSA** **η = 57.5**

Barras	VERIFICAÇÕES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N22/N21	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.451 m η = 20.3	x: 0 m η = 49.7	x: 0 m η = 20.1	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.451 m η = 1.6	x: 0 m η = 4.0	N.A.(2)	x: 0 m η = 69.8	x: 0 m η = 31.5	η = 0.2	**PASSA** **η = 69.8**
N21/N111	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.357 m η = 22.5	x: 0 m η = 54.5	x: 0 m η = 11.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.357 m η = 1.8	x: 0 m η = 1.4	N.A.(2)	x: 0 m η = 66.2	x: 0 m η = 29.1	η = 0.1	**PASSA** **η = 66.2**
N111/N10	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.094 m η = 22.3	x: 0 m η = 52.6	x: 0.094 m η = 14.2	x: 0.094 m η = 1.1	η = 0.6	x: 0.094 m η = 11.0	x: 0.094 m η = 3.2	x: 0.094 m η < 0.1	x: 0.094 m η = 67.9	x: 0.094 m η = 30.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 67.9**
N8/N17	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 2.1	x: 0 m η = 5.2	x: 0 m η = 39.2	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 4.0	x: 0 m η = 15.5	N.A.(2)	x: 0 m η = 44.9	x: 0 m η = 23.5	η = 0.2	**PASSA** **η = 44.9**
N17/N16	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 12.5	x: 0 m η = 30.7	x: 0 m η = 26.3	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 1.444 m η = 2.7	x: 0 m η = 7.0	N.A.(2)	x: 0 m η = 57.2	x: 0 m η = 27.2	η = 0.3	**PASSA** **η = 57.2**
N16/N15	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.451 m η = 20.4	x: 0 m η = 49.7	x: 0 m η = 20.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.451 m η = 1.6	x: 0 m η = 4.1	N.A.(2)	x: 0 m η = 69.9	x: 0 m η = 31.5	η = 0.2	**PASSA** **η = 69.9**
N15/N112	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.344 m η = 22.5	x: 0 m η = 54.5	x: 0 m η = 11.3	x: 1.344 m η = 1.3	η = 0.2	x: 1.344 m η = 1.7	x: 0 m η = 1.3	x: 1.344 m η < 0.1	x: 0 m η = 66.5	x: 0 m η = 29.2	η = 0.3	**PASSA** **η = 66.5**
N112/N10	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.106 m η = 22.3	x: 0 m η = 52.6	x: 0.106 m η = 14.9	x: 0 m η = 1.2	η = 0.6	x: 0.106 m η = 12.5	x: 0.106 m η = 3.8	x: 0 m η < 0.1	x: 0.106 m η = 68.2	x: 0.106 m η = 30.9	η = 0.2	**PASSA** **η = 68.2**
N11/N10	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.2 m η = 0.9	x: 0 m η = 0.5	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	η = 0.1	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	η = 0.2	**PASSA** **η = 0.9**
N12/N15	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.025 m η = 2.5	x: 0 m η = 7.3	x: 0 m η = 6.1	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	η = 1.2	x: 0 m η = 0.4	N.A.(2)	x: 1.025 m η = 13.5	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 13.5**
N13/N16	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.849 m η = 11.5	x: 0 m η = 9.1	x: 0.849 m η = 17.0	M_{Sd} = 0.00 N.A.(1)	η = 1.0	η = 3.5	x: 0.849 m η = 3.0	N.A.(2)	x: 0.849 m η = 24.0	x: 0.849 m η = 39.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 39.0**
N12/N10	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 4.5	x: 0 m η = 6.6	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 6.6**
N13/N15	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.767 m η = 10.6	x: 0 m η = 53.0	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.767 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 53.0**
N18/N21	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.025 m η = 2.4	x: 0 m η = 7.1	x: 0 m η = 6.2	M_{Sd} = 0.00 N.A.(1)	η = 0.1	η = 1.2	x: 0 m η = 0.4	N.A.(2)	x: 0 m η = 14.1	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 14.1**
N19/N22	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.849 m η = 11.4	x: 0 m η = 9.0	x: 0.849 m η = 16.8	M_{Sd} = 0.00 N.A.(1)	η = 1.0	η = 3.5	x: 0.849 m η = 3.0	N.A.(2)	x: 0.849 m η = 24.1	x: 0.849 m η = 39.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 39.2**
N18/N10	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 4.5	x: 0 m η = 6.6	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 6.6**
N19/N21	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.767 m η = 10.5	x: 0 m η = 52.8	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.767 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 52.8**
N24/N25	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 2.2	η = 1.6	x: 0 m η = 16.2	x: 0 m η = 1.9	η = 0.1	x: 1.433 m η = 0.4	x: 0 m η = 2.6	x: 0 m η < 0.1	x: 0 m η = 11.5	x: 0 m η = 20.4	η = 0.8	**PASSA** **η = 20.4**
N25/N29	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 6.4	η = 4.6	x: 0 m η = 10.7	x: 0 m η = 1.1	η = 0.1	x: 1.44 m η = 0.3	x: 0 m η = 1.1	x: 0 m η < 0.1	x: 0 m η = 11.2	x: 0 m η = 18.3	η = 0.7	**PASSA** **η = 18.3**
N29/N30	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 5.4	η = 4.0	x: 0 m η = 9.3	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 1.44 m η = 1.5	x: 0 m η = 0.9	N.A.(2)	x: 0 m η = 9.2	x: 0 m η = 14.7	η = 0.3	**PASSA** **η = 14.7**
N30/N31	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 5.4	η = 3.9	x: 1.44 m η = 9.2	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 1.4	x: 1.44 m η = 0.9	N.A.(2)	x: 1.44 m η = 9.3	x: 1.44 m η = 14.8	η = 0.2	**PASSA** **η = 14.8**
N31/N32	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 6.3	η = 4.5	x: 1.44 m η = 10.5	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 0.3	x: 1.44 m η = 1.1	N.A.(2)	x: 1.44 m η = 10.8	x: 1.44 m η = 17.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 17.6**
N32/N33	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 2.0	η = 1.4	x: 1.433 m η = 15.9	x: 1.433 m η = 1.8	η = 0.1	x: 0 m η = 0.4	x: 1.433 m η = 2.5	x: 1.433 m η < 0.1	x: 1.433 m η = 11.1	x: 1.433 m η = 19.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 19.6**
N2/N26	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.5 m η = 2.9	x: 0 m η = 6.7	x: 0.5 m η = 48.1	x: 0.5 m η = 10.9	η = 0.4	η = 13.1	x: 0.5 m η = 24.8	x: 0.5 m η = 1.2	x: 0.5 m η = 65.6	x: 0.5 m η = 34.6	η = 0.1	**PASSA** **η = 65.6**
N26/N28	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 2.3	x: 0 m η = 5.6	x: 0 m η = 41.2	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 4.2	x: 0 m η = 17.2	N.A.(2)	x: 0 m η = 47.3	x: 0 m η = 24.8	η = 2.3	**PASSA** **η = 47.3**
N28/N27	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 13.2	x: 0 m η = 32.3	x: 0 m η = 27.7	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 1.444 m η = 2.8	x: 0 m η = 7.7	N.A.(2)	x: 0 m η = 60.2	x: 0 m η = 28.6	η = 0.9	**PASSA** **η = 60.2**
N27/N40	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.451 m η = 21.4	x: 0 m η = 52.3	x: 0 m η = 21.2	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.451 m η = 1.7	x: 0 m η = 4.5	N.A.(2)	x: 0 m η = 73.5	x: 0 m η = 33.1	η = 0.1	**PASSA** **η = 73.5**
N40/N108	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.351 m η = 23.6	x: 0 m η = 57.3	x: 0 m η = 12.0	x: 1.351 m η = 2.3	η = 0.3	x: 1.351 m η = 1.8	x: 0 m η = 1.5	x: 1.351 m η = 0.1	x: 0 m η = 70.3	x: 0 m η = 30.9	η = 0.2	**PASSA** **η = 70.3**
N108/N36	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.1 m η = 23.4	x: 0 m η = 55.2	x: 0.1 m η = 15.3	x: 0 m η = 2.6	η = 4.0	x: 0.1 m η = 12.4	x: 0.1 m η = 3.9	x: 0 m η = 0.2	x: 0.1 m η = 70.9	x: 0.1 m η = 31.9	η = 4.1	**PASSA** **η = 70.9**
N25/N27	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.849 m η = 11.8	x: 0 m η = 9.3	x: 0.849 m η = 19.1	M_{Sd} = 0.00 N.A.(1)	η = 0.9	η = 3.8	x: 0.849 m η = 3.8	N.A.(2)	x: 0.849 m η = 24.0	x: 0.849 m η = 38.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 38.7**

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	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N34/N35	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.5 m η = 2.9	x: 0 m η = 6.6	x: 0.5 m η = 46.2	x: 0.5 m η = 15.7	η = 5.0	η = 11.6	x: 0.5 m η = 22.7	x: 0.5 m η = 2.7	x: 0.5 m η = 68.5	x: 0.5 m η = 36.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 68.5**
N35/N39	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 2.2	x: 0 m η = 5.4	x: 0 m η = 41.0	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 4.1	x: 0 m η = 16.9	N.A.(2)	x: 0 m η = 46.4	x: 0 m η = 24.3	η = 0.7	**PASSA** **η = 46.4**
N39/N38	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 13.1	x: 0 m η = 32.0	x: 0 m η = 27.3	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.444 m η = 2.8	x: 0 m η = 7.5	N.A.(2)	x: 0 m η = 59.8	x: 0 m η = 28.4	η = 0.2	**PASSA** **η = 59.8**
N38/N37	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.451 m η = 21.2	x: 0 m η = 51.9	x: 0 m η = 20.9	x: 1.451 m η = 0.9	η = 0.1	x: 1.451 m η = 1.7	x: 0 m η = 4.4	x: 1.451 m η < 0.1	x: 0 m η = 72.9	x: 0 m η = 32.9	η = 0.3	**PASSA** **η = 72.9**
N37/N107	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.351 m η = 23.5	x: 0 m η = 57.1	x: 0 m η = 12.0	x: 1.351 m η = 2.3	η = 0.3	x: 1.351 m η = 1.8	x: 0 m η = 1.5	x: 1.351 m η = 0.1	x: 0 m η = 70.0	x: 0 m η = 30.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 70.0**
N107/N36	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.1 m η = 23.3	x: 0 m η = 55.0	x: 0.1 m η = 15.3	x: 0 m η = 2.9	η = 4.0	x: 0.1 m η = 12.3	x: 0.1 m η = 3.8	x: 0 m η = 0.2	x: 0.1 m η = 70.3	x: 0.1 m η = 31.7	η = 3.5	**PASSA** **η = 70.3**
N30/N36	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.2 m η = 1.0	x: 0 m η = 0.5	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η < 0.1	η = 0.1	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	η = 0.7	**PASSA** **η = 1.0**
N29/N40	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.025 m η = 2.7	x: 0 m η = 8.1	x: 0 m η = 6.8	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	η = 1.2	x: 0 m η = 0.5	N.A.(2)	x: 0 m η = 15.7	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 15.7**
N29/N36	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.874 m η = 5.1	x: 0 m η = 7.6	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 7.6**
N25/N40	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.767 m η = 10.9	x: 0 m η = 54.6	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.767 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 54.6**
N31/N37	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.025 m η = 2.5	x: 0 m η = 7.2	x: 0 m η = 6.0	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	η = 1.2	x: 0 m η = 0.4	N.A.(2)	x: 0 m η = 13.2	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 13.2**
N32/N38	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.849 m η = 12.1	x: 0 m η = 9.6	x: 0.849 m η = 18.0	M_{Sd} = 0.00 N.A.(1)	η = 1.0	η = 3.8	x: 0.849 m η = 3.4	N.A.(2)	x: 0.849 m η = 25.3	x: 0.849 m η = 41.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 41.1**
N31/N36	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.874 m η = 4.4	x: 0 m η = 6.4	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 6.4**
N32/N37	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.767 m η = 11.2	x: 0 m η = 56.2	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.767 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 56.2**
N1/N41	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 5.8	η = 14.4	x: 0 m η = 50.9	x: 0 m η = 11.0	η = 0.9	x: 0 m η = 6.3	x: 0 m η = 26.4	x: 0 m η = 1.2	x: 0 m η = 76.4	x: 0 m η = 39.8	η = 2.8	**PASSA** **η = 76.4**
N41/N42	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 0.4	x: 1.254 m η = 8.9	x: 1.433 m η = 2.0	η = 0.4	x: 0 m η = 0.2	x: 1.075 m η = 0.8	x: 1.433 m η < 0.1	x: 1.433 m η = 6.5	x: 1.433 m η = 11.1	η = 2.8	**PASSA** **η = 11.1**
N42/N46	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 4.0	η = 3.0	x: 0.72 m η = 6.8	x: 1.44 m η = 3.5	η = 0.2	x: 1.44 m η = 0.1	x: 0.9 m η = 0.5	x: 1.44 m η = 0.1	x: 1.44 m η = 8.6	x: 1.44 m η = 14.0	η = 2.4	**PASSA** **η = 14.0**
N46/N47	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 3.9	η = 2.8	x: 0 m η = 6.4	x: 1.44 m η = 4.4	η = 0.1	x: 1.44 m η = 1.0	x: 0 m η = 0.4	x: 1.44 m η = 0.2	x: 0 m η = 8.3	x: 0 m η = 13.5	η = 2.1	**PASSA** **η = 13.5**
N47/N48	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 4.0	η = 2.9	x: 1.44 m η = 6.9	x: 0 m η = 5.1	η = 0.3	x: 0 m η = 1.2	x: 1.44 m η = 0.5	x: 0 m η = 0.3	x: 1.44 m η = 8.1	x: 0 m η = 13.6	η = 2.1	**PASSA** **η = 13.6**
N48/N49	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 5.1	η = 3.6	x: 1.44 m η = 8.2	x: 0 m η = 2.5	η = 0.2	x: 0 m η = 0.3	x: 1.44 m η = 0.7	x: 0 m η = 0.1	x: 1.44 m η = 8.6	x: 0.9 m η = 14.3	η = 2.8	**PASSA** **η = 14.3**
N49/N50	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.5	η = 1.6	x: 1.433 m η = 12.5	x: 0 m η = 1.1	η = 0.2	x: 0 m η = 0.4	x: 1.433 m η = 1.6	x: 0 m η < 0.1	x: 1.433 m η = 8.9	x: 1.433 m η = 15.9	η = 3.2	**PASSA** **η = 15.9**
N50/N51	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 5.0	η = 11.9	x: 1.433 m η = 60.8	x: 1.433 m η = 11.0	η = 1.0	x: 1.433 m η = 7.8	x: 1.433 m η = 37.6	x: 1.433 m η = 1.2	x: 1.433 m η = 83.7	x: 1.433 m η = 43.4	η = 2.0	**PASSA** **η = 83.7**
N1/N43	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.5 m η = 1.8	x: 0 m η = 3.8	x: 0.5 m η = 23.7	x: 0.5 m η = 52.5	η = 13.1	η = 7.0	x: 0.5 m η = 6.1	x: 0.5 m η = 29.3	x: 0.5 m η = 80.0	x: 0.5 m η = 45.0	η = 5.3	**PASSA** **η = 80.0**
N43/N45	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 1.7	x: 0 m η = 4.2	x: 0 m η = 20.3	x: 0 m η = 3.3	η = 0.6	x: 0 m η = 1.8	x: 0 m η = 4.2	x: 0 m η = 0.1	x: 0 m η = 27.9	x: 0 m η = 14.3	η = 10.1	**PASSA** **η = 27.9**
N45/N44	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 8.6	x: 0 m η = 20.7	x: 0 m η = 14.7	x: 0 m η = 2.9	η = 0.2	x: 1.444 m η = 1.7	x: 0 m η = 2.2	x: 0 m η = 0.1	x: 0 m η = 38.3	x: 0 m η = 19.0	η = 2.0	**PASSA** **η = 38.3**
N44/N57	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.451 m η = 14.4	x: 0 m η = 34.8	x: 0 m η = 15.7	x: 1.451 m η = 1.1	η = 0.1	x: 1.451 m η = 1.4	x: 0 m η = 2.5	x: 1.451 m η < 0.1	x: 0 m η = 50.6	x: 0 m η = 23.4	η = 1.4	**PASSA** **η = 50.6**
N57/N110	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.338 m η = 16.3	x: 0 m η = 39.4	x: 0 m η = 9.3	x: 1.338 m η = 3.0	η = 0.3	x: 1.338 m η = 1.4	x: 0 m η = 0.9	x: 1.338 m η = 0.1	x: 0 m η = 49.1	x: 0 m η = 21.8	η = 2.7	**PASSA** **η = 49.1**
N110/N53	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.113 m η = 16.2	x: 0 m η = 38.1	x: 0.113 m η = 11.4	x: 0.113 m η = 5.7	η = 3.5	x: 0.113 m η = 8.7	x: 0.113 m η = 2.0	x: 0.113 m η = 0.4	x: 0.113 m η = 55.1	x: 0.113 m η = 25.6	η = 7.0	**PASSA** **η = 55.1**
N42/N44	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.849 m η = 10.6	x: 0 m η = 7.9	x: 0 m η = 13.5	x: 0.849 m η = 29.0	η = 1.7	η = 2.5	x: 0 m η = 1.9	x: 0.849 m η = 8.4	x: 0.849 m η = 27.1	x: 0.849 m η = 46.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 46.9**
N51/N52	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.5 m η = 2.4	x: 0 m η = 5.4	x: 0.5 m η = 38.6	x: 0.5 m η = 4.4	η = 0.6	η = 9.4	x: 0.5 m η = 15.8	x: 0.5 m η = 0.2	x: 0.5 m η = 48.3	x: 0.5 m η = 26.4	η = 1.9	**PASSA** **η = 48.3**

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	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N52/N56	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 1.6	x: 0 m η = 3.9	x: 0 m η = 31.0	x: 0 m η = 2.3	η = 0.3	x: 0 m η = 3.2	x: 0 m η = 9.7	x: 0 m η = 0.1	x: 0 m η = 37.2	x: 0 m η = 19.4	η = 5.1	**PASSA** **η = 37.2**
N56/N55	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 9.6	x: 0 m η = 23.6	x: 0 m η = 21.0	x: 1.444 m η = 1.3	η = 0.2	x: 1.444 m η = 2.2	x: 0 m η = 4.5	x: 1.444 m η < 0.1	x: 0 m η = 45.1	x: 0 m η = 21.4	η = 3.8	**PASSA** **η = 45.1**
N55/N54	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.451 m η = 15.4	x: 0 m η = 37.9	x: 0 m η = 15.8	x: 1.451 m η = 1.0	η = 0.1	x: 1.451 m η = 1.3	x: 0 m η = 2.5	x: 1.451 m η < 0.1	x: 0 m η = 53.8	x: 0 m η = 24.3	η = 2.3	**PASSA** **η = 53.8**
N54/N109	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.362 m η = 16.8	x: 0 m η = 40.9	x: 0 m η = 8.6	x: 1.362 m η = 7.0	η = 0.7	x: 1.362 m η = 1.4	x: 0 m η = 0.8	x: 1.362 m η = 0.5	x: 1.362 m η = 52.1	x: 1.362 m η = 22.7	η = 0.3	**PASSA** **η = 52.1**
N109/N53	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.088 m η = 16.7	x: 0 m η = 39.5	x: 0.088 m η = 10.3	x: 0 m η = 7.6	η = 3.6	x: 0.088 m η = 8.6	x: 0.088 m η = 1.8	x: 0 m η = 0.7	x: 0.088 m η = 55.1	x: 0.088 m η = 25.3	η = 1.1	**PASSA** **η = 55.1**
N47/N53	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.2 m η = 0.7	x: 0 m η = 0.4	x: 0 m η = 2.7	x: 1.2 m η = 8.0	η = 0.5	η = 0.2	x: 0 m η = 0.1	x: 1.2 m η = 0.6	x: 1.2 m η = 5.3	x: 1.2 m η = 9.7	η = 0.6	**PASSA** **η = 9.7**
N46/N57	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.025 m η = 1.2	x: 0 m η = 2.1	x: 1.025 m η = 5.4	M_{Sd} = 0.00 N.A.[1]	η = 0.2	η = 0.6	x: 1.025 m η = 0.3	N.A.[2]	x: 1.025 m η = 16.1	N.A.[6]	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 16.1**
N46/N53	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.874 m η = 0.9	x: 0 m η = 2.1	M_{Sd} = 0.00 N.A.[1]	M_{Sd} = 0.00 N.A.[1]	η = 0.1	x: 1.874 m η = 0.3	N.A.[2]	N.A.[2]	N.A.[5]	N.A.[6]	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 2.1**
N42/N57	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.767 m η = 9.5	x: 0 m η = 50.0	M_{Sd} = 0.00 N.A.[1]	M_{Sd} = 0.00 N.A.[1]	V_{Sd} = 0.00 N.A.[3]	x: 1.767 m η = 0.3	N.A.[2]	N.A.[2]	N.A.[5]	N.A.[6]	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 50.0**
N48/N54	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.025 m η = 2.6	x: 0 m η = 8.1	x: 0 m η = 7.8	M_{Sd} = 0.00 N.A.[1]	η = 0.1	η = 1.2	x: 0 m η = 0.6	N.A.[2]	x: 0 m η = 20.4	N.A.[6]	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 20.4**
N49/N55	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.849 m η = 7.5	x: 0 m η = 5.8	x: 0.849 m η = 14.8	M_{Sd} = 0.00 N.A.[1]	η = 0.6	η = 2.6	x: 0.849 m η = 2.3	N.A.[2]	x: 0.849 m η = 14.6	x: 0 m η = 25.4	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 25.4**
N50/N56	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.675 m η = 14.9	x: 0 m η = 10.4	x: 0.675 m η = 60.8	x: 0 m η = 16.0	η = 1.3	η = 17.1	x: 0.675 m η = 39.9	x: 0 m η = 2.6	x: 0 m η = 48.0	x: 0 m η = 84.8	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 84.8**
N48/N53	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.874 m η = 5.8	x: 0 m η = 8.2	M_{Sd} = 0.00 N.A.[1]	M_{Sd} = 0.00 N.A.[1]	V_{Sd} = 0.00 N.A.[3]	x: 1.874 m η = 0.3	N.A.[2]	N.A.[2]	N.A.[5]	N.A.[6]	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 8.2**
N49/N54	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.767 m η = 7.0	x: 0 m η = 34.1	M_{Sd} = 0.00 N.A.[1]	M_{Sd} = 0.00 N.A.[1]	η = 0.1	x: 1.767 m η = 0.3	N.A.[2]	N.A.[2]	N.A.[5]	N.A.[6]	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 34.1**
N58/N59	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.0	η = 1.4	x: 0 m η = 16.2	x: 0 m η = 2.2	η = 0.1	x: 1.433 m η = 0.4	x: 0 m η = 2.6	x: 0 m η = 0.1	x: 0 m η = 11.6	x: 0 m η = 20.4	η = 0.2	**PASSA** **η = 20.4**
N59/N63	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 6.4	η = 4.6	x: 0 m η = 10.7	M_{Sd} = 0.00 N.A.[1]	η = 0.1	x: 1.44 m η = 0.3	x: 0 m η = 1.1	N.A.[2]	x: 0 m η = 11.0	x: 0 m η = 17.9	η = 0.1	**PASSA** **η = 17.9**
N63/N64	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 5.5	η = 4.0	x: 0 m η = 9.4	x: 1.44 m η = 1.6	η = 0.1	x: 1.44 m η = 1.5	x: 0 m η = 0.9	x: 1.44 m η < 0.1	x: 0 m η = 9.7	x: 0 m η = 15.6	η = 0.3	**PASSA** **η = 15.6**
N64/N65	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 5.5	η = 4.0	x: 1.44 m η = 9.4	x: 0 m η = 1.2	η = 0.1	x: 0 m η = 1.5	x: 1.44 m η = 0.9	x: 0 m η < 0.1	x: 1.44 m η = 9.7	x: 1.44 m η = 15.5	η = 0.4	**PASSA** **η = 15.5**
N65/N66	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 6.5	η = 4.7	x: 1.44 m η = 11.0	x: 1.44 m η = 1.2	η < 0.1	x: 0 m η = 0.3	x: 1.44 m η = 1.2	x: 1.44 m η < 0.1	x: 1.44 m η = 11.5	x: 1.44 m η = 18.6	η = 0.8	**PASSA** **η = 18.6**
N66/N67	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.2	η = 1.6	x: 1.433 m η = 16.4	x: 1.433 m η = 1.5	η < 0.1	x: 0 m η = 0.4	x: 1.433 m η = 2.7	N.A.[2]	x: 1.433 m η = 11.4	x: 1.433 m η = 20.2	η = 1.1	**PASSA** **η = 20.2**
N4/N60	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.5 m η = 2.9	x: 0 m η = 6.7	x: 0.5 m η = 46.6	x: 0.5 m η = 17.9	η = 5.9	η = 11.6	x: 0.5 m η = 23.0	x: 0.5 m η = 3.5	x: 0.5 m η = 71.1	x: 0.5 m η = 37.8	η = 0.5	**PASSA** **η = 71.1**
N60/N62	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 2.2	x: 0 m η = 5.5	x: 0 m η = 41.5	M_{Sd} = 0.00 N.A.[1]	η = 0.1	x: 0 m η = 4.2	x: 0 m η = 17.4	N.A.[2]	x: 0 m η = 47.5	x: 0 m η = 24.9	η = 1.4	**PASSA** **η = 47.5**
N62/N61	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 13.3	x: 0 m η = 32.5	x: 0 m η = 27.9	M_{Sd} = 0.00 N.A.[1]	η = 0.1	x: 1.444 m η = 2.9	x: 0 m η = 7.8	N.A.[2]	x: 0 m η = 60.8	x: 0 m η = 28.9	η = 0.5	**PASSA** **η = 60.8**
N61/N74	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.451 m η = 21.7	x: 0 m η = 52.8	x: 0 m η = 21.4	x: 1.451 m η = 1.1	η = 0.1	x: 1.451 m η = 1.7	x: 0 m η = 4.6	x: 1.451 m η < 0.1	x: 0 m η = 74.3	x: 0 m η = 33.6	η = 0.4	**PASSA** **η = 74.3**
N74/N114	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.338 m η = 23.9	x: 0 m η = 58.0	x: 0 m η = 12.1	x: 1.338 m η = 2.9	η = 0.4	x: 1.338 m η = 1.8	x: 0 m η = 1.5	x: 1.338 m η = 0.1	x: 0 m η = 71.5	x: 0 m η = 31.5	η = 0.1	**PASSA** **η = 71.5**
N114/N70	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.113 m η = 23.7	x: 0 m η = 56.0	x: 0.113 m η = 15.8	x: 0.113 m η = 2.9	η < 0.1	x: 0.113 m η = 12.4	x: 0.113 m η = 4.0	x: 0.113 m η = 0.1	x: 0.113 m η = 74.7	x: 0.113 m η = 34.0	η = 0.8	**PASSA** **η = 74.7**
N59/N61	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.849 m η = 12.4	x: 0 m η = 9.8	x: 0.849 m η = 18.0	M_{Sd} = 0.00 N.A.[1]	η = 1.0	η = 3.8	x: 0.849 m η = 3.4	N.A.[2]	x: 0.849 m η = 26.2	x: 0.849 m η = 42.4	$M_{t,Sd}$ = 0.00 N.A.[4]	**PASSA** **η = 42.4**
N68/N69	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.5 m η = 3.0	x: 0 m η = 6.8	x: 0.5 m η = 49.3	x: 0 m η = 11.5	η = 0.7	η = 13.5	x: 0.5 m η = 26.1	x: 0 m η = 1.3	x: 0.5 m η = 65.1	x: 0.5 m η = 34.3	η = 0.4	**PASSA** **η = 65.1**
N69/N73	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 2.3	x: 0 m η = 5.7	x: 0 m η = 42.0	M_{Sd} = 0.00 N.A.[1]	η < 0.1	x: 0 m η = 4.3	x: 0 m η = 17.8	N.A.[2]	x: 0 m η = 47.8	x: 0 m η = 25.0	η = 3.1	**PASSA** **η = 47.8**
N73/N72	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.444 m η = 13.4	x: 0 m η = 32.8	x: 0 m η = 28.0	M_{Sd} = 0.00 N.A.[1]	η < 0.1	x: 1.444 m η = 2.9	x: 0 m η = 7.9	N.A.[2]	x: 0 m η = 60.9	x: 0 m η = 28.9	η = 1.3	**PASSA** **η = 60.9**

Barras	VERIFICAÇÕES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N72/N71	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.451 m η = 21.8	x: 0 m η = 53.2	x: 0 m η = 21.5	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.451 m η = 1.7	x: 0 m η = 4.6	N.A.(2)	x: 0 m η = 74.8	x: 0 m η = 33.8	η = 0.1	**PASSA** **η = 74.8**
N71/N113	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.363 m η = 24.0	x: 0 m η = 58.2	x: 0 m η = 12.3	x: 1.363 m η = 3.0	η = 0.4	x: 1.363 m η = 1.9	x: 0 m η = 1.5	x: 1.363 m η = 0.1	x: 0 m η = 71.3	x: 0 m η = 31.4	η = 1.0	**PASSA** **η = 71.3**
N113/N70	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.087 m η = 23.8	x: 0 m η = 56.1	x: 0.087 m η = 15.2	x: 0 m η = 3.2	η = 0.2	x: 0.087 m η = 12.8	x: 0.087 m η = 3.9	x: 0 m η = 0.1	x: 0.087 m η = 74.4	x: 0.087 m η = 33.8	η = 1.5	**PASSA** **η = 74.4**
N64/N70	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.2 m η = 1.0	x: 0 m η = 0.5	x: 1.2 m η = 0.9	x: 1.2 m η = 1.7	η = 0.1	η = 0.1	x: 1.2 m η < 0.1	x: 1.2 m η < 0.1	x: 1.2 m η = 2.0	x: 1.2 m η = 3.6	η = 0.3	**PASSA** **η = 3.6**
N63/N74	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.025 m η = 2.6	x: 0 m η = 7.5	x: 1.025 m η = 6.1	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	η = 1.1	x: 1.025 m η = 0.4	N.A.(2)	x: 0 m η = 14.3	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 14.3**
N63/N70	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 4.6	x: 0 m η = 6.8	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 6.8**
N59/N74	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.767 m η = 11.4	x: 0 m η = 57.3	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.767 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 57.3**
N65/N71	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.025 m η = 2.7	x: 0 m η = 8.1	x: 0 m η = 7.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	η = 1.3	x: 0 m η = 0.6	N.A.(2)	x: 0 m η = 17.9	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 17.9**
N66/N72	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.849 m η = 12.0	x: 0 m η = 9.4	x: 0.849 m η = 19.6	M_{Sd} = 0.00 N.A.(1)	η = 0.9	η = 3.8	x: 0.849 m η = 4.0	N.A.(2)	x: 0.849 m η = 24.1	x: 0.849 m η = 38.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 38.9**
N65/N70	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 5.2	x: 0 m η = 7.6	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 7.6**
N66/N71	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.767 m η = 11.1	x: 0 m η = 55.4	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.767 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 55.4**
N5/N75	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 4.6	η = 10.7	x: 0 m η = 57.4	x: 0 m η = 12.8	η = 1.1	x: 0 m η = 7.4	x: 0 m η = 33.6	x: 0 m η = 1.7	x: 0 m η = 80.9	x: 0 m η = 42.5	η = 2.9	**PASSA** **η = 80.9**
N75/N76	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 2.7	η = 1.7	x: 0 m η = 11.9	x: 0 m η = 1.2	η = 0.2	x: 1.433 m η = 0.4	x: 0 m η = 1.4	x: 0 m η < 0.1	x: 0 m η = 8.9	x: 0 m η = 15.8	η = 4.1	**PASSA** **η = 15.8**
N76/N91	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 5.1	η = 3.6	x: 0 m η = 7.8	x: 1.44 m η = 2.9	η = 0.2	x: 1.44 m η = 0.3	x: 0 m η = 0.6	x: 1.44 m η = 0.1	x: 1.44 m η = 8.7	x: 0.72 m η = 14.2	η = 3.6	**PASSA** **η = 14.2**
N91/N85	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 3.9	η = 2.8	x: 0 m η = 6.8	x: 1.44 m η = 6.0	η = 0.3	x: 1.44 m η = 1.2	x: 0 m η = 0.5	x: 1.44 m η = 0.4	x: 1.44 m η = 8.2	x: 1.44 m η = 14.5	η = 2.7	**PASSA** **η = 14.5**
N85/N86	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 3.7	η = 2.7	x: 1.44 m η = 5.9	x: 0 m η = 5.6	η = 0.2	x: 0 m η = 0.9	x: 1.44 m η = 0.3	x: 0 m η = 0.3	x: 1.44 m η = 8.3	x: 1.44 m η = 13.5	η = 2.7	**PASSA** **η = 13.5**
N86/N87	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 3.5	η = 2.7	x: 0.18 m η = 6.3	x: 0 m η = 4.2	η = 0.2	x: 1.44 m η = 0.2	x: 0 m η = 0.4	x: 0 m η = 0.2	x: 0 m η = 8.6	x: 0 m η = 14.0	η = 3.2	**PASSA** **η = 14.0**
N87/N80	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.1	η = 0.6	x: 0 m η = 7.9	x: 0 m η = 2.4	η = 0.4	x: 1.433 m η = 0.3	x: 0 m η = 0.6	x: 0 m η = 0.1	x: 0 m η = 10.8	x: 0 m η = 5.8	η = 3.8	**PASSA** **η = 10.8**
N80/N81	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 5.6	η = 14.1	x: 1.433 m η = 44.5	x: 1.433 m η = 13.4	η = 1.1	x: 1.433 m η = 5.5	x: 1.433 m η = 20.1	x: 1.433 m η = 1.8	x: 1.433 m η = 72.0	x: 1.433 m η = 38.4	η = 3.7	**PASSA** **η = 72.0**
N5/N77	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.5 m η = 2.2	x: 0 m η = 5.1	x: 0.5 m η = 38.6	x: 0.5 m η = 12.1	η = 3.2	η = 9.5	x: 0.5 m η = 15.8	x: 0.5 m η = 1.6	x: 0.5 m η = 55.7	x: 0.5 m η = 31.0	η = 2.2	**PASSA** **η = 55.7**
N77/N79	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 1.5	x: 0 m η = 3.7	x: 0 m η = 29.7	x: 0 m η = 2.4	η = 0.4	x: 0 m η = 3.1	x: 0 m η = 8.9	x: 0 m η = 0.1	x: 0 m η = 35.8	x: 0 m η = 18.9	η = 7.0	**PASSA** **η = 35.8**
N79/N78	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 9.1	x: 0 m η = 22.3	x: 0 m η = 19.7	x: 1.444 m η = 1.1	η = 0.1	x: 1.444 m η = 2.0	x: 0 m η = 3.9	x: 1.444 m η < 0.1	x: 0 m η = 42.3	x: 0 m η = 20.3	η = 4.7	**PASSA** **η = 42.3**
N78/N89	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.451 m η = 14.7	x: 0 m η = 35.7	x: 0 m η = 14.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.451 m η = 1.2	x: 0 m η = 2.2	N.A.(2)	x: 0 m η = 50.4	x: 0 m η = 23.0	η = 2.8	**PASSA** **η = 50.4**
N89/N116	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.332 m η = 16.0	x: 0 m η = 38.5	x: 0 m η = 8.0	x: 1.332 m η = 6.7	η = 0.8	x: 1.332 m η = 1.2	x: 0 m η = 0.6	x: 1.332 m η = 0.5	x: 1.332 m η = 48.2	x: 1.332 m η = 21.1	η = 0.8	**PASSA** **η = 48.2**
N116/N88	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.119 m η = 15.9	x: 0 m η = 37.2	x: 0.119 m η = 9.7	x: 0 m η = 6.7	η = 0.2	x: 0.119 m η = 7.5	x: 0.119 m η = 1.5	x: 0 m η = 0.4	x: 0.119 m η = 53.5	x: 0.119 m η = 25.0	η = 2.9	**PASSA** **η = 53.5**
N76/N78	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.849 m η = 6.9	x: 0 m η = 5.5	x: 0.849 m η = 14.8	M_{Sd} = 0.00 N.A.(1)	η = 0.5	η = 2.5	x: 0.849 m η = 2.2	N.A.(2)	x: 0.849 m η = 14.4	x: 0 m η = 24.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 24.2**
N75/N79	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.675 m η = 14.0	x: 0 m η = 9.9	x: 0.675 m η = 60.0	M_{Sd} = 0.00 N.A.(1)	η = 0.7	η = 16.6	x: 0.675 m η = 38.8	N.A.(2)	x: 0 m η = 44.8	x: 0 m η = 78.4	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 78.4**
N81/N82	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.5 m η = 1.7	x: 0 m η = 3.6	x: 0.5 m η = 17.9	x: 0.5 m η = 57.1	η = 14.2	η = 5.5	x: 0.5 m η = 3.5	x: 0.5 m η = 34.6	x: 0.5 m η = 78.5	x: 0.5 m η = 45.4	η = 6.0	**PASSA** **η = 78.5**
N82/N84	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 1.7	x: 0 m η = 4.1	x: 0 m η = 16.9	x: 1.444 m η = 3.5	η = 0.6	x: 0 m η = 1.4	x: 0 m η = 2.9	x: 1.444 m η = 0.1	x: 0 m η = 23.9	x: 0 m η = 12.5	η = 12.0	**PASSA** **η = 23.9**
N84/N83	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.444 m η = 8.0	x: 0 m η = 18.5	x: 0 m η = 12.0	x: 0 m η = 2.9	η = 0.2	x: 1.444 m η = 1.4	x: 0 m η = 1.5	x: 0 m η = 0.1	x: 0 m η = 33.5	x: 0 m η = 17.3	η = 3.7	**PASSA** **η = 33.5**

Barras	VERIFICACIONES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N83/N90	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.451 m η = 13.4	x: 0 m η = 31.5	x: 0 m η = 13.9	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 1.451 m η = 1.3	x: 0 m η = 1.9	N.A.(2)	x: 0 m η = 46.2	x: 0 m η = 21.8	η = 1.2	**PASSA** **η = 46.2**
N90/N115	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.369 m η = 15.4	x: 0 m η = 36.5	x: 0 m η = 9.4	x: 1.369 m η = 6.4	η = 0.8	x: 1.369 m η = 1.5	x: 0 m η = 0.9	x: 1.369 m η = 0.4	x: 1.369 m η = 47.5	x: 0 m η = 21.3	η = 3.3	**PASSA** **η = 47.5**
N115/N88	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.081 m η = 15.2	x: 0 m η = 35.2	x: 0.081 m η = 10.6	x: 0 m η = 6.5	η = 0.3	x: 0.081 m η = 9.3	x: 0.081 m η = 2.0	x: 0 m η = 0.4	x: 0.081 m η = 52.1	x: 0.081 m η = 24.6	η = 7.4	**PASSA** **η = 52.1**
N85/N88	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.2 m η = 0.7	x: 0 m η = 0.3	x: 0 m η = 3.7	x: 1.2 m η = 10.5	η = 0.6	η = 0.3	x: 0 m η = 0.1	x: 1.2 m η = 1.1	x: 1.2 m η = 6.6	x: 1.2 m η = 11.9	η = 0.4	**PASSA** **η = 11.9**
N91/N89	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.025 m η = 2.7	x: 0 m η = 8.7	x: 0 m η = 8.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	η = 1.3	x: 0 m η = 0.8	N.A.(2)	x: 0 m η = 23.7	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 23.7**
N91/N88	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 6.3	x: 0 m η = 8.7	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.2	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 8.7**
N76/N89	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.767 m η = 6.6	x: 0 m η = 31.2	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.767 m η = 0.2	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 31.2**
N86/N90	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.025 m η = 0.9	x: 0 m η = 0.8	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.2	η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 0.9**
N87/N83	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.849 m η = 11.0	x: 0 m η = 8.1	x: 0 m η = 14.1	x: 0.849 m η = 32.6	η = 1.8	η = 2.3	x: 0 m η = 2.0	x: 0.849 m η = 10.7	x: 0.849 m η = 28.1	x: 0.849 m η = 49.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 49.0**
N86/N88	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 0.3	x: 0 m η = 3.2	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.874 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 3.2**
N87/N90	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.767 m η = 9.7	x: 0 m η = 51.9	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.767 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 51.9**
N6/N92	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.5 m η = 0.8	x: 0 m η = 1.3	x: 0.5 m η = 9.2	x: 0 m η = 6.2	η = 1.0	η = 1.9	x: 0.5 m η = 0.9	x: 0 m η = 0.4	x: 0.5 m η = 13.1	x: 0.5 m η = 8.6	η = 0.9	**PASSA** **η = 13.1**
N6/N97	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 1.2	η = 2.7	x: 0 m η = 13.8	x: 0 m η = 5.1	η = 0.3	x: 0 m η = 1.8	x: 0 m η = 1.9	x: 0 m η = 0.3	x: 0 m η = 21.6	x: 0 m η = 13.1	η = 2.6	**PASSA** **η = 21.6**
N97/N96	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.5	η = 0.6	x: 0 m η = 3.0	x: 0 m η = 2.2	η = 0.2	x: 1.495 m η = 0.2	x: 0.187 m η = 0.1	x: 0 m η < 0.1	x: 0 m η = 4.1	x: 0 m η = 5.5	η = 2.7	**PASSA** **η = 5.5**
N96/N95	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.7	η = 0.7	x: 0.18 m η = 1.7	x: 1.44 m η = 1.8	η = 0.2	x: 1.44 m η = 0.2	x: 0.36 m η < 0.1	x: 1.44 m η < 0.1	x: 0 m η = 2.4	x: 1.44 m η = 3.2	η = 2.4	**PASSA** **η = 3.2**
N95/N93	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.3	η = 0.2	x: 1.44 m η = 1.4	x: 1.44 m η = 4.4	η = 0.3	x: 1.44 m η = 0.3	x: 1.44 m η < 0.1	x: 1.44 m η = 0.2	x: 1.44 m η = 3.2	x: 1.44 m η = 6.1	η = 2.0	**PASSA** **η = 6.1**
N93/N98	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.3	η = 0.2	x: 0 m η = 1.4	x: 0 m η = 3.5	η < 0.1	x: 0 m η = 0.3	x: 0 m η < 0.1	x: 0 m η = 0.1	x: 1.44 m η = 2.6	x: 0 m η = 5.2	η = 2.1	**PASSA** **η = 5.2**
N98/N99	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.8	η = 0.5	x: 1.44 m η = 1.6	x: 0 m η = 3.5	η = 0.1	x: 0 m η = 0.2	x: 1.26 m η < 0.1	x: 0 m η = 0.1	x: 1.44 m η = 3.2	x: 1.08 m η = 5.3	η = 2.5	**PASSA** **η = 5.3**
N99/N100	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 1.0	η = 0.8	x: 1.495 m η = 6.5	x: 0 m η = 3.1	η = 0.3	x: 0 m η = 0.6	x: 1.495 m η = 0.4	x: 0 m η = 0.1	x: 1.495 m η = 5.5	x: 1.495 m η = 7.8	η = 2.8	**PASSA** **η = 7.8**
N100/N81	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 1.0	η = 1.8	x: 1.495 m η = 19.3	x: 1.495 m η = 12.6	η = 1.1	x: 1.495 m η = 2.6	x: 1.495 m η = 3.8	x: 1.495 m η = 1.6	x: 1.495 m η = 33.3	x: 1.495 m η = 19.7	η = 2.2	**PASSA** **η = 33.3**
N93/N94	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.2 m η = 0.3	x: 0 m η = 0.1	x: 1.2 m η = 1.0	x: 1.2 m η = 7.2	η = 0.3	η = 0.1	x: 1.2 m η < 0.1	x: 1.2 m η = 0.5	x: 1.2 m η = 4.0	x: 1.2 m η = 8.5	η = 0.8	**PASSA** **η = 8.5**
N92/N103	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.5	x: 0 m η = 1.0	x: 0 m η = 7.6	x: 0 m η = 0.9	η = 0.1	x: 0 m η = 1.4	x: 0 m η = 0.6	x: 0 m η < 0.1	x: 0 m η = 9.5	x: 0 m η = 6.6	η = 2.3	**PASSA** **η = 9.5**
N103/N102	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 2.8	x: 0 m η = 5.3	x: 0.376 m η = 3.7	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 1.505 m η = 1.2	x: 0.376 m η = 0.1	N.A.(2)	x: 0.376 m η = 9.2	x: 0.564 m η = 5.7	η = 3.8	**PASSA** **η = 9.2**
N102/N101	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 4.2	x: 0 m η = 8.1	x: 0.544 m η = 2.8	x: 1.45 m η = 0.9	η = 0.1	x: 1.45 m η = 1.0	x: 0.544 m η = 0.1	x: 1.45 m η < 0.1	x: 0.544 m η = 11.3	x: 0.544 m η = 6.6	η = 3.4	**PASSA** **η = 11.3**
N101/N136	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 4.2	x: 0 m η = 8.3	x: 1.35 m η = 2.4	x: 1.35 m η = 4.2	η = 0.4	x: 1.35 m η = 1.0	x: 1.35 m η = 0.1	x: 1.35 m η = 0.2	x: 1.35 m η = 14.8	x: 1.35 m η = 8.4	η = 2.2	**PASSA** **η = 14.8**
N136/N94	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.1 m η = 4.2	x: 0 m η = 8.0	x: 0.1 m η = 2.7	x: 0.1 m η = 3.4	η < 0.1	x: 0.1 m η = 0.9	x: 0.1 m η = 0.1	x: 0.1 m η = 0.1	x: 0.1 m η = 14.1	x: 0.1 m η = 8.4	η = 0.4	**PASSA** **η = 14.1**
N82/N106	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.505 m η = 0.4	x: 1.505 m η = 0.2	x: 0 m η = 6.4	x: 1.505 m η = 2.6	η = 0.4	x: 0 m η = 1.4	x: 0 m η = 0.4	x: 1.505 m η = 0.1	x: 0 m η = 6.4	x: 0 m η = 8.6	η = 10.0	**PASSA** **η = 10.0**
N106/N105	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 3.2	x: 0 m η = 6.5	x: 0.188 m η = 5.9	x: 0 m η = 3.6	η = 0.3	x: 1.505 m η = 1.4	x: 0.188 m η = 0.3	x: 0 m η = 0.1	x: 0 m η = 15.9	x: 0.188 m η = 8.8	η = 2.6	**PASSA** **η = 15.9**
N105/N104	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 4.4	x: 0 m η = 9.1	x: 0.544 m η = 2.5	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.45 m η = 0.9	x: 0.544 m η = 0.1	N.A.(2)	x: 0.544 m η = 12.2	x: 0.725 m η = 6.7	η = 2.5	**PASSA** **η = 12.2**
N104/N135	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 4.2	x: 0 m η = 8.4	x: 1.35 m η = 2.0	x: 1.35 m η = 4.2	η = 0.5	x: 1.35 m η = 0.9	x: 1.35 m η < 0.1	x: 1.35 m η = 0.2	x: 1.35 m η = 14.5	x: 1.35 m η = 8.1	η = 4.4	**PASSA** **η = 14.5**

Barras	VERIFICACIONES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N135/N94	$(b_w/t) \leq 500$ $(b_w/t) \leq 500$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.1 m η = 4.1	x: 0 m η = 8.2	x: 0.1 m η = 2.9	x: 0 m η = 3.7	η = 0.3	x: 0.1 m η = 0.8	x: 0.1 m η = 0.1	x: 0 m η = 0.1	x: 0.1 m η = 14.6	x: 0.1 m η = 8.5	η = 6.7	**PASSA** **η = 14.6**
N95/N101	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.028 m η = 1.6	x: 0 m η = 2.0	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.2	η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 2.0**
N96/N102	x: 0 m $(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.857 m η = 1.1	x: 0 m η = 0.1	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.2	η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 1.1**
N97/N103	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.678 m η = 2.8	x: 0 m η = 1.7	x: 0.678 m η = 13.0	M_{Sd} = 0.00 N.A.(1)	η = 0.2	η = 3.8	x: 0.678 m η = 1.8	N.A.(2)	x: 0.678 m η = 11.0	x: 0.678 m η = 17.5	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 17.5**
N98/N104	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.028 m η = 1.4	x: 0 m η = 2.6	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.2	η = 0.6	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 2.6**
N99/N105	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.857 m η = 0.9	x: 0 m η = 0.6	M_{Sd} = 0.00 N.A.(1)	x: 0.857 m η = 26.5	η = 1.2	η = 0.6	N.A.(2)	x: 0.857 m η = 7.0	x: 0.857 m η = 30.3	x: 0.857 m η = 30.5	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 30.5**
N100/N106	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.678 m η = 1.8	x: 0.678 m η = 3.0	x: 0 m η = 13.6	x: 0.678 m η = 51.1	η = 4.0	η = 3.3	x: 0 m η = 1.9	x: 0.678 m η = 26.3	x: 0.678 m η = 35.9	x: 0.678 m η = 60.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 60.6**
N95/N94	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 1.9	x: 0 m η = 5.6	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.2	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 5.6**
N96/N101	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.769 m η = 0.4	x: 0 m η = 3.7	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.769 m η = 0.1	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 3.7**
N97/N102	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.723 m η = 6.4	x: 0 m η = 25.9	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.723 m η = 0.3	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 25.9**
N6/N103	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.641 m η = 9.6	x: 0 m η = 34.8	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 0 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 34.8**
N98/N94	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 2.6	x: 0 m η = 4.9	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.874 m η = 0.2	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 4.9**
N99/N104	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.769 m η = 1.4	x: 0 m η = 2.4	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 0.2	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 2.4**
N100/N105	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.723 m η = 5.4	x: 0 m η = 23.3	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.723 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 23.3**
N81/N106	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.641 m η = 12.9	x: 0 m η = 50.7	x: 0 m η = 8.0	M_{Sd} = 0.00 N.A.(1)	η = 0.4	x: 0 m η = 0.7	x: 0 m η = 0.5	N.A.(2)	x: 0 m η = 64.0	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 64.0**
N37/N142	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.4	η = 0.5	x: 0 m η = 71.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.8	x: 0 m η = 33.4	N.A.(2)	x: 0 m η = 44.1	x: 0 m η = 73.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.6**
N142/N54	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.4	η = 0.5	x: 0.209 m η = 42.3	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 2.51 m η = 9.3	x: 2.51 m η = 12.1	N.A.(2)	x: 2.51 m η = 27.2	x: 0.209 m η = 44.5	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 44.5**
N21/N152	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.2	η = 0.3	x: 0 m η = 67.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.1	x: 0 m η = 29.4	N.A.(2)	x: 0 m η = 42.3	x: 0 m η = 70.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 70.2**
N152/N37	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.2	η = 0.3	x: 2.557 m η = 71.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.557 m η = 10.3	x: 2.557 m η = 32.8	N.A.(2)	x: 2.557 m η = 44.4	x: 2.557 m η = 74.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 74.2**
N71/N160	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.3	η = 0.5	x: 0 m η = 75.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.4	x: 0 m η = 36.6	N.A.(2)	x: 0 m η = 47.1	x: 0 m η = 78.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 78.9**
N160/N21	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.3	η = 0.5	x: 2.559 m η = 67.3	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.559 m η = 10.0	x: 2.559 m η = 29.0	N.A.(2)	x: 2.559 m η = 41.7	x: 2.559 m η = 69.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 69.2**
N90/N172	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.6	η = 0.9	x: 2.347 m η = 51.0	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 9.1	x: 2.347 m η = 16.1	N.A.(2)	x: 2.347 m η = 31.7	x: 2.347 m η = 53.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 53.9**
N172/N71	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.6	η = 0.9	x: 2.557 m η = 76.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.557 m η = 11.3	x: 2.557 m η = 37.5	N.A.(2)	x: 2.557 m η = 47.4	x: 2.557 m η = 79.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 79.1**
N107/N143	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 1.5	η = 7.5	x: 0 m η = 71.2	x: 0 m η = 5.6	η = 0.3	x: 0 m η = 10.8	x: 0 m η = 33.5	x: 0 m η = 0.3	x: 0 m η = 84.4	x: 0 m η = 47.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 84.4**
N143/N109	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 1.5	x: 0 m η = 7.5	x: 0.209 m η = 42.5	x: 2.51 m η = 5.5	η = 0.3	x: 2.51 m η = 9.2	x: 2.51 m η = 11.5	x: 2.51 m η = 0.3	x: 0 m η = 54.7	x: 2.51 m η = 30.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 54.7**
N141/N108	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 2.51 m η = 1.9	x: 2.51 m η = 2.9	x: 2.51 m η = 71.4	x: 2.51 m η = 4.6	η = 0.2	x: 2.51 m η = 10.9	x: 2.51 m η = 33.7	x: 2.51 m η = 0.2	x: 2.51 m η = 48.0	x: 2.51 m η = 77.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 77.9**
N153/N107	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.4	η = 2.3	x: 2.559 m η = 71.2	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.559 m η = 10.3	x: 2.559 m η = 32.4	N.A.(2)	x: 2.559 m η = 77.0	x: 2.559 m η = 44.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 77.0**
N112/N151	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η < 0.1	x: 0 m η = 0.1	x: 0 m η = 66.8	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 0 m η = 10.1	x: 0 m η = 28.6	N.A.(2)	x: 0 m η = 71.3	x: 0 m η = 42.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 71.3**
N151/N108	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η < 0.1	η = 0.1	x: 2.554 m η = 72.7	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.554 m η = 10.4	x: 2.554 m η = 33.9	N.A.(2)	x: 2.554 m η = 77.4	x: 2.554 m η = 45.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 77.4**
N113/N161	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 0.3	η = 1.6	x: 0 m η = 73.3	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 0 m η = 10.3	x: 0 m η = 34.4	N.A.(2)	x: 0 m η = 78.8	x: 0 m η = 46.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 78.8**

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	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N161/N111	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 1.6	x: 2.559 m η = 68.3	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.559 m η = 10.1	x: 2.559 m η = 29.9	N.A.(2)	x: 2.559 m η = 73.8	x: 2.559 m η = 43.5	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.8**
N114/N166	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.2	η = 1.2	x: 0 m η = 73.4	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 0 m η = 10.3	x: 0 m η = 34.4	N.A.(2)	x: 0 m η = 79.1	x: 0 m η = 46.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 79.1**
N166/N112	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.2	η = 1.2	x: 2.554 m η = 68.1	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.554 m η = 10.1	x: 2.554 m η = 29.9	N.A.(2)	x: 2.554 m η = 73.2	x: 2.554 m η = 43.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.2**
N115/N173	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.4	η = 2.3	x: 2.346 m η = 48.1	x: 2.559 m η = 5.4	η = 0.2	x: 0 m η = 9.2	x: 2.346 m η = 14.4	x: 2.559 m η = 0.3	x: 2.346 m η = 55.0	x: 2.559 m η = 31.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 55.0**
N173/N113	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.4	η = 2.3	x: 2.559 m η = 75.4	x: 2.559 m η = 5.8	η = 0.3	x: 2.559 m η = 11.2	x: 2.559 m η = 36.5	x: 2.559 m η = 0.3	x: 2.559 m η = 83.4	x: 2.559 m η = 48.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 83.4**
N116/N171	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 1.7	x: 2.351 m η = 48.0	x: 2.564 m η = 5.2	η = 0.2	x: 0 m η = 9.3	x: 2.351 m η = 14.3	x: 2.564 m η = 0.3	x: 2.351 m η = 54.2	x: 2.351 m η = 30.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 54.2**
N171/N114	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 1.7	x: 2.554 m η = 75.2	x: 0 m η = 5.2	η = 0.2	x: 2.554 m η = 11.1	x: 2.554 m η = 36.4	x: 0 m η = 0.3	x: 2.554 m η = 81.9	x: 2.554 m η = 48.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 81.9**
N89/N170	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.5	η = 0.8	x: 2.351 m η = 47.6	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 9.3	x: 2.351 m η = 14.0	N.A.(2)	x: 2.351 m η = 29.7	x: 2.351 m η = 50.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 50.1**
N170/N74	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.5	η = 0.8	x: 2.554 m η = 74.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.554 m η = 11.1	x: 2.554 m η = 35.8	N.A.(2)	x: 2.554 m η = 46.1	x: 2.554 m η = 76.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 76.6**
N74/N165	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 0.5	x: 0 m η = 74.0	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.4	x: 0 m η = 34.9	N.A.(2)	x: 0 m η = 46.3	x: 0 m η = 77.4	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 77.4**
N165/N15	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 0.5	x: 2.554 m η = 67.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.554 m η = 10.1	x: 2.554 m η = 29.4	N.A.(2)	x: 2.554 m η = 41.8	x: 2.554 m η = 69.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 69.3**
N15/N150	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 0.4	x: 0 m η = 67.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.1	x: 0 m η = 29.1	N.A.(2)	x: 0 m η = 42.1	x: 0 m η = 70.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 70.0**
N150/N40	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.3	η = 0.4	x: 2.554 m η = 73.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.554 m η = 10.4	x: 2.554 m η = 34.3	N.A.(2)	x: 2.554 m η = 44.7	x: 2.554 m η = 74.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 74.9**
N40/N140	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.1	η = 0.1	x: 0 m η = 72.5	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 11.0	x: 0 m η = 34.7	N.A.(2)	x: 0 m η = 45.1	x: 0 m η = 76.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 76.0**
N140/N57	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.1	η = 0.1	x: 0.209 m η = 45.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.51 m η = 9.1	x: 0.209 m η = 13.0	N.A.(2)	x: 0.209 m η = 27.8	x: 0.209 m η = 47.8	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 47.8**
N27/N139	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.1	η = 0.1	x: 0 m η = 74.7	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 0 m η = 11.1	x: 0 m η = 36.8	N.A.(2)	x: 0 m η = 44.5	x: 0 m η = 74.8	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 74.8**
N139/N44	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.1	η = 0.1	x: 0.209 m η = 46.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.51 m η = 8.9	x: 0.209 m η = 13.7	N.A.(2)	x: 0.209 m η = 27.1	x: 0.418 m η = 46.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 46.7**
N16/N149	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η = 0.1	x: 0 m η = 67.8	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 10.1	x: 0 m η = 29.5	N.A.(2)	x: 0 m η = 41.4	x: 0 m η = 68.8	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 68.8**
N149/N27	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η = 0.1	x: 2.556 m η = 73.3	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.556 m η = 10.4	x: 2.556 m η = 34.4	N.A.(2)	x: 2.556 m η = 44.3	x: 2.556 m η = 74.5	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 74.5**
N61/N164	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η = 0.1	x: 0 m η = 73.7	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 10.4	x: 0 m η = 34.7	N.A.(2)	x: 0 m η = 44.4	x: 0 m η = 74.4	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 74.4**
N164/N16	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η = 0.1	x: 2.556 m η = 67.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.556 m η = 10.1	x: 2.556 m η = 29.2	N.A.(2)	x: 2.556 m η = 41.3	x: 2.556 m η = 68.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 68.7**
N78/N169	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η < 0.1	x: 2.349 m η = 45.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 9.5	x: 0 m η = 13.0	N.A.(2)	x: 0 m η = 29.1	x: 0 m η = 46.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 46.7**
N169/N61	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η < 0.1	x: 2.556 m η = 73.8	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 2.556 m η = 11.0	x: 2.556 m η = 35.1	N.A.(2)	x: 2.556 m η = 44.6	x: 2.556 m η = 74.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 74.6**
N79/N167	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.4	η = 1.9	x: 0 m η = 52.1	x: 0 m η = 4.9	η = 0.2	x: 0 m η = 9.7	x: 0 m η = 17.8	x: 0 m η = 0.2	x: 0 m η = 58.9	x: 0 m η = 34.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 58.9**
N167/N62	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.4	η = 1.9	x: 2.557 m η = 72.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.557 m η = 10.8	x: 2.557 m η = 34.0	N.A.(2)	x: 2.557 m η = 77.8	x: 2.557 m η = 45.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 77.8**
N62/N162	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.5	η = 2.4	x: 0 m η = 73.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.4	x: 0 m η = 34.6	N.A.(2)	x: 0 m η = 78.8	x: 0 m η = 45.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 78.8**
N162/N17	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.5	η = 2.4	x: 2.557 m η = 66.7	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.557 m η = 10.1	x: 2.557 m η = 28.6	N.A.(2)	x: 2.557 m η = 72.6	x: 2.557 m η = 42.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 72.6**
N17/N147	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.6	η = 3.0	x: 0 m η = 69.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.2	x: 0 m η = 30.9	N.A.(2)	x: 0 m η = 75.5	x: 0 m η = 43.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 75.5**
N147/N28	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.6	η = 3.0	x: 2.557 m η = 71.2	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.557 m η = 10.3	x: 2.557 m η = 32.6	N.A.(2)	x: 2.557 m η = 77.6	x: 2.557 m η = 45.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 77.6**
N28/N137	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.8	η = 3.9	x: 0 m η = 77.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 11.2	x: 0 m η = 39.4	N.A.(2)	x: 0 m η = 83.6	x: 0 m η = 47.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 83.6**

Barras	VERIFICAÇÕES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N137/N45	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.8	η = 3.9	x: 0.209 m η = 44.7	x: 2.51 m η = 6.4	η = 0.2	x: 2.51 m η = 8.9	x: 0.209 m η = 12.7	x: 2.51 m η = 0.4	x: 0.209 m η = 50.5	x: 0.209 m η = 27.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 50.5**
N26/N138	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.3	η = 11.3	x: 0 m η = 74.9	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.6	x: 0 m η = 36.9	N.A.(2)	x: 0 m η = 87.6	x: 0 m η = 47.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 87.6**
N138/N43	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.3	η = 11.3	x: 2.51 m η = 50.8	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.51 m η = 9.4	x: 2.51 m η = 17.4	N.A.(2)	x: 2.51 m η = 66.5	x: 2.51 m η = 35.8	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 66.5**
N8/N148	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.2	η = 6.1	x: 0 m η = 71.9	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.4	x: 0 m η = 33.1	N.A.(2)	x: 0 m η = 79.5	x: 0 m η = 45.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 79.5**
N148/N26	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.2	η = 6.1	x: 2.559 m η = 65.8	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.559 m η = 10.1	x: 2.559 m η = 27.8	N.A.(2)	x: 2.559 m η = 73.7	x: 2.559 m η = 42.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.7**
N60/N163	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.9	η = 4.6	x: 0 m η = 70.6	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.3	x: 0 m η = 32.0	N.A.(2)	x: 0 m η = 76.7	x: 0 m η = 44.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 76.7**
N163/N8	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.9	η = 4.6	x: 2.559 m η = 67.3	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.559 m η = 10.1	x: 2.559 m η = 29.1	N.A.(2)	x: 2.559 m η = 73.8	x: 2.559 m η = 42.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.8**
N77/N168	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.3	η = 6.5	x: 0 m η = 63.9	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.0	x: 0 m η = 26.3	N.A.(2)	x: 0 m η = 73.1	x: 0 m η = 41.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.1**
N168/N60	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.3	η = 6.5	x: 2.559 m η = 71.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.559 m η = 10.4	x: 2.559 m η = 32.5	N.A.(2)	x: 2.559 m η = 79.5	x: 2.559 m η = 45.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 79.5**
N92/N77	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.4	η = 0.6	x: 2.265 m η = 26.9	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.265 m η = 6.1	x: 2.265 m η = 5.6	N.A.(2)	x: 2.265 m η = 17.6	x: 2.265 m η = 28.8	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 28.8**
N82/N176	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.6	η = 13.3	x: 0 m η = 53.0	x: 0 m η = 4.7	η = 0.2	x: 0 m η = 9.6	x: 0 m η = 18.2	x: 0 m η = 0.2	x: 0 m η = 70.9	x: 0 m η = 37.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 70.9**
N176/N69	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.6	η = 13.2	x: 2.552 m η = 79.0	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.552 m η = 10.9	x: 2.552 m η = 40.0	N.A.(2)	x: 2.552 m η = 93.9	x: 2.552 m η = 50.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 93.9**
N69/N157	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.3	η = 6.4	x: 0 m η = 65.8	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.1	x: 0 m η = 27.9	N.A.(2)	x: 0 m η = 73.7	x: 0 m η = 41.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.7**
N157/N9	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.3	η = 6.4	x: 2.559 m η = 72.0	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.559 m η = 10.4	x: 2.559 m η = 33.2	N.A.(2)	x: 2.559 m η = 80.0	x: 2.559 m η = 45.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 80.0**
N9/N156	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.0	η = 4.9	x: 0 m η = 67.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.1	x: 0 m η = 29.1	N.A.(2)	x: 0 m η = 73.9	x: 0 m η = 42.5	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.9**
N156/N35	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.0	η = 4.9	x: 2.552 m η = 70.3	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.552 m η = 10.3	x: 2.552 m η = 31.8	N.A.(2)	x: 2.552 m η = 76.7	x: 2.552 m η = 43.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 76.7**
N35/N146	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.2	η = 5.6	x: 0 m η = 67.2	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 10.2	x: 0 m η = 29.8	N.A.(2)	x: 0 m η = 74.5	x: 0 m η = 42.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 74.5**
N146/N52	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.2	η = 5.6	x: 2.51 m η = 61.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.51 m η = 9.9	x: 2.51 m η = 25.2	N.A.(2)	x: 2.51 m η = 70.0	x: 2.51 m η = 39.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 70.0**
N117/N118	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.383 m η = 1.3	x: 0 m η = 2.4	x: 0.383 m η = 18.8	x: 0.383 m η = 11.9	η = 1.3	η = 6.0	x: 0.383 m η = 3.9	x: 0.383 m η = 1.4	x: 0.383 m η = 33.1	x: 0.383 m η = 21.2	η = 2.3	**PASSA** **η = 33.1**
N1/N125	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 2.0	η = 3.7	x: 0 m η = 19.1	x: 0 m η = 9.9	η = 0.9	x: 0 m η = 2.4	x: 0 m η = 3.7	x: 0 m η = 1.0	x: 0 m η = 32.7	x: 0 m η = 18.3	η = 1.4	**PASSA** **η = 32.7**
N125/N124	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.2	η < 0.1	x: 0 m η = 5.3	x: 1.552 m η = 2.4	η = 0.2	x: 1.552 m η = 0.4	x: 0 m η = 0.3	x: 1.552 m η = 0.1	x: 0 m η = 5.6	x: 0 m η = 3.6	η = 1.9	**PASSA** **η = 5.6**
N124/N123	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.5	η = 0.4	x: 0.54 m η = 1.5	x: 1.44 m η = 2.3	η < 0.1	x: 1.44 m η = 0.1	x: 0.36 m η < 0.1	N.A.(2)	x: 0 m η = 2.6	x: 0.72 m η = 4.2	η = 1.7	**PASSA** **η = 4.2**
N123/N119	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.4	η = 0.3	x: 1.44 m η = 1.3	x: 0 m η = 2.1	η < 0.1	x: 1.44 m η = 0.3	x: 1.44 m η < 0.1	N.A.(2)	x: 0 m η = 2.4	x: 0 m η = 3.8	η = 1.4	**PASSA** **η = 3.8**
N119/N121	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.5	η = 0.4	x: 0 m η = 2.5	x: 0 m η = 2.9	η = 0.1	x: 0 m η = 0.5	x: 0 m η = 0.1	x: 0 m η = 0.1	x: 0 m η = 3.3	x: 0 m η = 5.9	η = 1.4	**PASSA** **η = 5.9**
N121/N122	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.5	η = 1.5	x: 1.44 m η = 3.1	x: 0 m η = 1.5	η = 0.1	x: 0 m η = 0.3	x: 1.44 m η = 0.1	x: 0 m η < 0.1	x: 1.44 m η = 4.0	x: 1.08 m η = 4.9	η = 1.6	**PASSA** **η = 4.9**
N122/N126	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 1.7	η = 1.7	x: 1.552 m η = 5.9	x: 1.552 m η = 1.1	η = 0.1	x: 0 m η = 0.3	x: 1.552 m η = 0.3	x: 1.552 m η < 0.1	x: 1.552 m η = 6.6	x: 1.552 m η = 8.6	η = 1.8	**PASSA** **η = 8.6**
N126/N117	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η = 0.9	η = 2.1	x: 1.552 m η = 22.6	x: 1.552 m η = 5.0	η = 0.4	x: 1.552 m η = 2.9	x: 1.552 m η = 5.2	x: 1.552 m η = 0.3	x: 1.552 m η = 29.7	x: 1.552 m η = 18.5	η = 1.6	**PASSA** **η = 29.7**
N38/N144	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η < 0.1	x: 0 m η = 70.3	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 0 m η = 10.6	x: 0 m η = 32.6	N.A.(2)	x: 0 m η = 42.2	x: 0 m η = 70.6	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 70.6**
N144/N55	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η < 0.1	x: 2.51 m η = 46.4	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.51 m η = 9.4	x: 2.51 m η = 14.6	N.A.(2)	x: 2.51 m η = 30.4	x: 2.51 m η = 49.4	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 49.4**
N22/N154	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	η < 0.1	η < 0.1	x: 0 m η = 67.5	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 0 m η = 10.1	x: 0 m η = 29.2	N.A.(2)	x: 0 m η = 40.9	x: 0 m η = 68.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 68.1**

Barras	VERIFICACIONES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N154/N38	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta < 0.1$	$\eta < 0.1$	x: 2.556 m $\eta = 71.6$	$M_{Sd} = 0.00$ N.A.(1)	$\eta < 0.1$	x: 2.556 m $\eta = 10.3$	x: 2.556 m $\eta = 32.9$	N.A.(2)	x: 2.556 m $\eta = 43.4$	x: 2.556 m $\eta = 72.8$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 72.8**
N72/N159	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$N_{t,Sd} = 0.00$ N.A.(7)	$\eta < 0.1$	x: 0 m $\eta = 75.6$	$M_{Sd} = 0.00$ N.A.(1)	$\eta < 0.1$	x: 0 m $\eta = 10.4$	x: 0 m $\eta = 36.5$	N.A.(2)	x: 0 m $\eta = 76.1$	N.A.(6)	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 76.1**
N159/N22	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$N_{t,Sd} = 0.00$ N.A.(7)	$\eta < 0.1$	x: 2.559 m $\eta = 67.7$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	x: 2.559 m $\eta = 10.0$	x: 2.559 m $\eta = 29.4$	N.A.(2)	x: 2.559 m $\eta = 69.1$	N.A.(6)	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 69.1**
N83/N174	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta < 0.1$	$\eta = 0.2$	x: 2.349 m $\eta = 52.0$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	x: 0 m $\eta = 9.0$	x: 2.349 m $\eta = 16.7$	N.A.(2)	x: 2.135 m $\eta = 52.7$	x: 2.135 m $\eta = 30.2$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 52.7**
N174/N72	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta < 0.1$	$\eta = 0.2$	x: 2.556 m $\eta = 78.9$	$M_{Sd} = 0.00$ N.A.(1)	$V_{Sd} = 0.00$ N.A.(3)	x: 2.556 m $\eta = 11.5$	x: 2.556 m $\eta = 40.0$	N.A.(2)	x: 2.556 m $\eta = 79.6$	x: 2.556 m $\eta = 47.1$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 79.6**
N84/N175	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.9$	$\eta = 4.5$	x: 2.351 m $\eta = 48.8$	x: 0 m $\eta = 6.4$	$\eta = 0.2$	x: 0 m $\eta = 9.0$	x: 2.351 m $\eta = 14.7$	x: 0 m $\eta = 0.4$	x: 2.351 m $\eta = 55.2$	x: 2.351 m $\eta = 30.2$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 55.2**
N175/N73	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.9$	$\eta = 4.4$	x: 2.554 m $\eta = 81.2$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	x: 2.554 m $\eta = 11.5$	x: 2.554 m $\eta = 42.3$	N.A.(2)	x: 2.554 m $\eta = 88.6$	x: 2.554 m $\eta = 50.5$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 88.6**
N73/N158	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.6$	$\eta = 3.3$	x: 0 m $\eta = 72.8$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	x: 0 m $\eta = 10.3$	x: 0 m $\eta = 33.9$	N.A.(2)	x: 0 m $\eta = 78.8$	x: 0 m $\eta = 45.6$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 78.8**
N158/N23	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.6$	$\eta = 3.3$	x: 2.559 m $\eta = 69.3$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.2$	x: 2.559 m $\eta = 10.2$	x: 2.559 m $\eta = 30.8$	N.A.(2)	x: 2.559 m $\eta = 76.1$	x: 2.559 m $\eta = 44.1$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 76.1**
N23/N155	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.5$	$\eta = 2.7$	x: 0 m $\eta = 66.9$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	x: 0 m $\eta = 10.1$	x: 0 m $\eta = 28.7$	N.A.(2)	x: 0 m $\eta = 72.6$	x: 0 m $\eta = 42.4$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 72.6**
N155/N39	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.5$	$\eta = 2.7$	x: 2.554 m $\eta = 71.9$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.2$	x: 2.554 m $\eta = 10.4$	x: 2.554 m $\eta = 33.2$	N.A.(2)	x: 2.554 m $\eta = 77.9$	x: 2.554 m $\eta = 45.2$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 77.9**
N39/N145	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.4$	$\eta = 2.0$	x: 0 m $\eta = 69.0$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	x: 0 m $\eta = 10.5$	x: 0 m $\eta = 31.4$	N.A.(2)	x: 0 m $\eta = 73.9$	x: 0 m $\eta = 43.3$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 73.9**
N145/N56	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	$\eta = 0.4$	$\eta = 2.0$	x: 2.51 m $\eta = 52.9$	x: 2.51 m $\eta = 5.1$	$\eta = 0.2$	x: 2.51 m $\eta = 9.6$	x: 2.51 m $\eta = 18.8$	x: 2.51 m $\eta = 0.3$	x: 2.51 m $\eta = 60.0$	x: 2.51 m $\eta = 35.4$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 60.0**
N119/N120	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.2 m $\eta = 0.3$	x: 0 m $\eta = 0.1$	x: 1.2 m $\eta = 1.7$	x: 1.2 m $\eta = 4.4$	$\eta = 0.1$	$\eta = 0.3$	x: 1.2 m $\eta < 0.1$	x: 1.2 m $\eta = 0.2$	x: 1.2 m $\eta = 3.4$	x: 1.2 m $\eta = 6.4$	$\eta = 0.7$	**PASSA** **η = 6.4**
N118/N127	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 1.3$	x: 0 m $\eta = 2.6$	x: 0 m $\eta = 13.1$	x: 0 m $\eta = 2.5$	$\eta = 0.3$	x: 0 m $\eta = 2.0$	x: 0 m $\eta = 1.8$	x: 0 m $\eta = 0.1$	x: 0 m $\eta = 18.3$	x: 0 m $\eta = 12.2$	$\eta = 2.0$	**PASSA** **η = 18.3**
N127/N128	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 4.6$	x: 0 m $\eta = 9.0$	x: 0 m $\eta = 7.3$	$M_{Sd} = 0.00$ N.A.(1)	$\eta < 0.1$	x: 1.567 m $\eta = 1.5$	x: 0 m $\eta = 0.5$	N.A.(2)	x: 0 m $\eta = 17.0$	x: 0.392 m $\eta = 9.9$	$\eta = 1.8$	**PASSA** **η = 17.0**
N128/N129	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 6.5$	x: 0 m $\eta = 12.7$	x: 0.363 m $\eta = 4.3$	x: 1.453 m $\eta = 1.4$	$\eta = 0.1$	x: 1.453 m $\eta = 1.0$	x: 0.363 m $\eta = 0.2$	x: 1.453 m $\eta < 0.1$	x: 0.545 m $\eta = 17.5$	x: 0.545 m $\eta = 9.9$	$\eta = 1.5$	**PASSA** **η = 17.5**
N129/N133	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 6.3$	x: 0 m $\eta = 12.4$	x: 1.353 m $\eta = 2.9$	x: 1.353 m $\eta = 3.2$	$\eta = 0.3$	x: 1.353 m $\eta = 1.0$	x: 1.353 m $\eta = 0.1$	x: 1.353 m $\eta = 0.1$	x: 1.353 m $\eta = 18.4$	x: 1.353 m $\eta = 10.1$	$\eta = 1.2$	**PASSA** **η = 18.4**
N133/N120	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.1 m $\eta = 6.1$	x: 0 m $\eta = 11.7$	x: 0.1 m $\eta = 4.1$	x: 0 m $\eta = 3.1$	$\eta = 1.5$	x: 0.1 m $\eta = 1.7$	x: 0.1 m $\eta = 0.2$	x: 0 m $\eta = 0.1$	x: 0.1 m $\eta = 17.8$	x: 0.1 m $\eta = 10.3$	$\eta = 0.9$	**PASSA** **η = 17.8**
N43/N132	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 0.3$	x: 0 m $\eta = 0.4$	x: 0 m $\eta = 7.0$	x: 1.563 m $\eta = 1.4$	$\eta = 0.2$	x: 0 m $\eta = 1.4$	x: 0 m $\eta = 0.5$	x: 1.563 m $\eta < 0.1$	x: 0 m $\eta = 8.2$	x: 0 m $\eta = 7.9$	$\eta = 7.5$	**PASSA** **η = 8.2**
N132/N131	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 3.3$	x: 0 m $\eta = 7.1$	x: 0.391 m $\eta = 4.7$	x: 0 m $\eta = 3.0$	$\eta = 0.3$	x: 1.563 m $\eta = 1.3$	x: 0.391 m $\eta = 0.2$	x: 0 m $\eta = 0.1$	x: 0 m $\eta = 14.5$	x: 0.391 m $\eta = 7.3$	$\eta = 0.5$	**PASSA** **η = 14.5**
N131/N130	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 5.1$	x: 0 m $\eta = 10.5$	x: 0.544 m $\eta = 2.6$	$M_{Sd} = 0.00$ N.A.(1)	$\eta < 0.1$	x: 1.45 m $\eta = 1.0$	x: 0.544 m $\eta = 0.1$	N.A.(2)	x: 0.544 m $\eta = 13.5$	x: 0.725 m $\eta = 7.3$	$\eta = 2.8$	**PASSA** **η = 13.5**
N130/N134	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0 m $\eta = 5.4$	x: 0 m $\eta = 11.0$	x: 1.35 m $\eta = 2.4$	x: 1.35 m $\eta = 1.7$	$\eta = 0.1$	x: 1.35 m $\eta = 1.0$	x: 1.35 m $\eta = 0.1$	x: 1.35 m $\eta < 0.1$	x: 1.35 m $\eta = 14.9$	x: 1.35 m $\eta = 8.2$	$\eta = 3.1$	**PASSA** **η = 14.9**
N134/N120	$(b_w/t) \le 500$ $(b_w/t) \le 500$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.1 m $\eta = 5.3$	x: 0 m $\eta = 10.4$	x: 0.1 m $\eta = 4.1$	x: 0.1 m $\eta = 2.2$	$\eta = 1.4$	x: 0.1 m $\eta = 1.5$	x: 0.1 m $\eta = 0.2$	x: 0.1 m $\eta = 0.1$	x: 0.1 m $\eta = 16.8$	x: 0.1 m $\eta = 9.7$	$\eta = 5.2$	**PASSA** **η = 16.8**
N126/N127	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.595 m $\eta = 2.4$	x: 0 m $\eta = 1.2$	x: 0.595 m $\eta = 22.0$	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 1.0$	$\eta = 7.3$	x: 0.595 m $\eta = 5.4$	N.A.(2)	x: 0.595 m $\eta = 21.5$	x: 0.595 m $\eta = 34.8$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 34.8**
N122/N128	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.807 m $\eta = 0.8$	x: 0 m $\eta = 0.2$	$M_{Sd} = 0.00$ N.A.(1)	$M_{Sd} = 0.00$ N.A.(1)	$V_{Sd} = 0.00$ N.A.(3)	$\eta = 0.2$	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 0.8**
N121/N129	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.003 m $\eta = 3.0$	x: 0 m $\eta = 5.8$	$M_{Sd} = 0.00$ N.A.(1)	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	$\eta = 0.9$	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 5.8**
N123/N130	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 1.032 m $\eta = 0.7$	x: 0 m $\eta = 0.6$	$M_{Sd} = 0.00$ N.A.(1)	$M_{Sd} = 0.00$ N.A.(1)	$\eta = 0.1$	$\eta = 0.3$	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 0.7**
N124/N131	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.863 m $\eta = 2.1$	x: 0 m $\eta = 1.7$	$M_{Sd} = 0.00$ N.A.(1)	x: 0.863 m $\eta = 19.9$	$\eta = 0.9$	$\eta = 0.4$	N.A.(2)	x: 0.863 m $\eta = 4.0$	N.A.(5)	x: 0.863 m $\eta = 23.7$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 23.7**
N125/N132	$(b_w/t) \le 500$ $(b_f/t) \le 60$ Passa	$\lambda_{xx} \le 200.0$ $\lambda_{yy} \le 200.0$ Passa	x: 0.682 m $\eta = 2.7$	x: 0 m $\eta = 2.3$	x: 0 m $\eta = 16.2$	x: 0.682 m $\eta = 42.8$	$\eta = 3.2$	$\eta = 4.7$	x: 0 m $\eta = 2.9$	x: 0.682 m $\eta = 18.4$	x: 0.682 m $\eta = 34.8$	x: 0.682 m $\eta = 61.2$	$M_{t,Sd} = 0.00$ N.A.(4)	**PASSA** **η = 61.2**

Barras	VERIFICAÇÕES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	
N121/N120	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 5.1	x: 0 m η = 11.9	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.874 m η = 0.1	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 11.9**
N122/N129	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.755 m η = 0.9	x: 0 m η = 2.8	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.755 m η = 0.2	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 2.8**
N126/N128	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.749 m η = 8.5	x: 0 m η = 35.2	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.749 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 35.2**
N117/N127	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.662 m η = 13.2	x: 0 m η = 49.9	x: 0 m η = 9.5	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 0.7	x: 0 m η = 0.7	N.A.(2)	x: 0 m η = 61.0	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 61.0**
N123/N120	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.874 m η = 0.6	x: 0 m η = 1.0	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.874 m η = 0.2	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 1.0**
N124/N130	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.771 m η = 2.0	x: 0 m η = 6.5	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.771 m η = 0.1	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 6.5**
N125/N131	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.776 m η = 7.8	x: 0 m η = 32.1	M_{Sd} = 0.00 N.A.(1)	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.776 m η = 0.4	N.A.(2)	N.A.(2)	N.A.(5)	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 32.1**
N1/N132	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.695 m η = 12.5	x: 0 m η = 53.8	x: 0 m η = 8.1	M_{Sd} = 0.00 N.A.(1)	η = 0.3	x: 0 m η = 0.7	x: 0 m η = 0.5	N.A.(2)	x: 0 m η = 66.1	N.A.(6)	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 66.1**
N133/N109	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.4	x: 0 m η = 1.4	x: 1.683 m η = 25.3	M_{Sd} = 0.00 N.A.(1)	V_{Sd} = 0.00 N.A.(3)	x: 1.683 m η = 5.4	x: 1.683 m η = 6.2	N.A.(2)	x: 1.683 m η = 26.8	x: 1.683 m η = 17.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 26.8**
N110/N134	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.629 m η = 0.6	x: 1.629 m η = 0.6	x: 0 m η = 26.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 5.7	x: 0 m η = 7.0	N.A.(2)	x: 0 m η = 19.2	x: 0 m η = 29.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 29.3**
N129/N54	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 2.055 m η = 0.1	x: 2.055 m η = 0.1	x: 2.055 m η = 35.0	x: 2.055 m η = 5.1	η = 0.2	x: 2.055 m η = 6.5	x: 2.055 m η = 10.2	x: 2.055 m η = 0.3	x: 2.055 m η = 24.9	x: 2.055 m η = 40.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 40.1**
N128/N55	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 2.455 m η = 0.1	x: 2.455 m η = 0.1	x: 2.455 m η = 41.4	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.455 m η = 7.1	x: 2.455 m η = 11.7	N.A.(2)	x: 2.455 m η = 28.1	x: 2.455 m η = 45.1	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 45.1**
N127/N56	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.2	x: 0 m η = 0.9	x: 2.884 m η = 50.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 2.884 m η = 7.6	x: 2.884 m η = 13.2	N.A.(2)	x: 2.884 m η = 54.6	x: 2.884 m η = 32.9	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 54.6**
N118/N52	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.3	x: 0 m η = 1.9	x: 3.313 m η = 54.2	M_{Sd} = 0.00 N.A.(1)	η < 0.1	x: 3.313 m η = 7.4	x: 3.313 m η = 9.9	N.A.(2)	x: 3.313 m η = 57.1	x: 3.313 m η = 32.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 57.1**
N57/N130	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.259 m η = 0.1	x: 1.259 m η < 0.1	x: 0 m η = 25.2	M_{Sd} = 0.00 N.A.(1)	η = 0.3	x: 0 m η = 5.6	x: 0 m η = 6.7	N.A.(2)	x: 0 m η = 19.3	x: 0 m η = 29.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 29.7**
N44/N131	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.867 m η < 0.1	x: 0.867 m η < 0.1	x: 0 m η = 18.1	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 0 m η = 3.8	x: 0 m η = 3.4	N.A.(2)	x: 0 m η = 13.4	x: 0 m η = 18.8	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 18.8**
N45/N132	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.4	x: 0 m η = 1.1	x: 0.433 m η = 17.8	x: 0.433 m η = 11.1	η = 2.6	x: 0.433 m η = 4.3	x: 0.433 m η = 3.3	x: 0.433 m η = 1.3	x: 0.433 m η = 29.9	x: 0.433 m η = 15.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 29.9**
N79/N103	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η < 0.1	x: 0 m η = 0.2	x: 0 m η = 35.2	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 6.7	x: 0 m η = 10.7	N.A.(2)	x: 0 m η = 37.3	x: 0 m η = 23.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 37.3**
N78/N102	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.689 m η < 0.1	x: 1.689 m η < 0.1	x: 0 m η = 31.7	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 0 m η = 6.2	x: 0 m η = 9.6	N.A.(2)	x: 0 m η = 21.8	x: 0 m η = 34.4	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 34.4**
N89/N101	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 1.411 m η = 0.2	x: 1.411 m η = 0.1	x: 0 m η = 28.6	x: 0 m η = 6.4	η = 0.5	x: 0 m η = 5.9	x: 0 m η = 8.5	x: 0 m η = 0.4	x: 0 m η = 22.0	x: 0 m η = 35.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 35.2**
N135/N115	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.2	x: 0 m η = 0.5	x: 1.113 m η = 21.1	M_{Sd} = 0.00 N.A.(1)	η = 0.1	x: 1.113 m η = 4.6	x: 1.113 m η = 4.7	N.A.(2)	x: 1.113 m η = 22.7	x: 1.113 m η = 15.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 22.7**
N116/N136	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.1	x: 0 m η = 0.3	x: 0 m η = 22.0	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 0 m η = 4.7	x: 0 m η = 5.1	N.A.(2)	x: 0 m η = 24.6	x: 0 m η = 16.0	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 24.6**
N90/N104	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0.856 m η = 0.2	x: 0.856 m η = 0.2	x: 0 m η = 20.8	x: 0 m η = 7.5	η = 0.9	x: 0 m η = 4.9	x: 0 m η = 4.6	x: 0 m η = 0.6	x: 0 m η = 18.8	x: 0 m η = 28.5	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 28.5**
N83/N105	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η < 0.1	x: 0 m η = 0.1	x: 0 m η = 11.5	x: 0.581 m η = 5.1	η = 0.9	x: 0 m η = 1.8	x: 0 m η = 1.3	x: 0.581 m η = 0.3	x: 0.581 m η = 15.8	x: 0 m η = 11.3	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 15.8**
N84/N106	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.7	x: 0 m η = 1.6	x: 0.29 m η = 26.7	x: 0.29 m η = 10.1	η = 3.7	x: 0.29 m η = 10.3	x: 0.29 m η = 6.0	x: 0.29 m η = 1.2	x: 0.29 m η = 38.4	x: 0.29 m η = 20.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 38.4**
N141/N110	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	η = 1.9	η = 2.9	x: 0.209 m η = 41.4	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.509 m η = 9.1	x: 0.209 m η = 10.9	N.A.(2)	x: 2.509 m η = 29.5	x: 0.209 m η = 47.2	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 47.2**
N153/N111	$(b_w/t) \leq 500$ $(b_f/t) \leq 60$ Passa	$\lambda_{xx} \leq 200.0$ $\lambda_{yy} \leq 200.0$ Passa	x: 0 m η = 0.4	x: 0 m η = 2.3	x: 2.559 m η = 67.8	M_{Sd} = 0.00 N.A.(1)	η = 0.2	x: 2.559 m η = 10.2	x: 2.559 m η = 29.6	N.A.(2)	x: 2.559 m η = 73.4	x: 2.559 m η = 42.7	$M_{t,Sd}$ = 0.00 N.A.(4)	**PASSA** **η = 73.4**

Barras	VERIFICAÇÕES (ABNT NBR 14762:2010)													Estado
	b/t	λ	N_t	N_c	M_x	M_y	V_x	V_y	M_xV_y	M_yV_x	$N_cM_xM_y$	$N_tM_xM_y$	M_t	

Notação:
- *b/t: Valores máximos da relação comprimento-espessura*
- *λ: Limitação de esbeltez*
- *N_t: Resistência à tração*
- *N_c: Resistência à compressão*
- *M_x: Resistência à flexão eixo X*
- *M_y: Resistência à flexão eixo Y*
- *V_x: Resistência ao esforço cortante X*
- *V_y: Resistência ao esforço cortante Y*
- *M_xV_y: Resistência ao momento fletor X e esforço cortante Y combinados*
- *M_yV_x: Resistência ao momento fletor Y e esforço cortante X combinados*
- *$N_cM_xM_y$: Resistência à flexo-compressão*
- *$N_tM_xM_y$: Resistência à flexo-tração*
- *M_t: Resistência à torção*
- *x: Distância à origem da barra*
- *η: Coeficiente de aproveitamento (%)*
- *N.A.: Não aplicável*

Verificações desnecessárias para o tipo de perfil (N.A.):
- *(1) A verificação não será executada, já que não existe momento fletor.*
- *(2) Não há interação entre o momento fletor e o esforço cortante para nenhuma combinação. Assim a verificação não será executada.*
- *(3) A verificação não será executada, já que não existe esforço cortante.*
- *(4) A verificação não é necessária, já que não existe momento torsor.*
- *(5) Não há interação entre o esforço axial de compressão e o momento fletor para nenhuma combinação. Assim a verificação não será executada.*
- *(6) Não há interação entre o esforço axial de tração e o momento fletor para nenhuma combinação. Assim a verificação não será executada.*
- *(7) A verificação não será executada, já que não existe esforço axial de tração.*

NOME: CARLOS RAPHAEL MONTEIRO DE LEMOS

REGISTRO PROFISSIONAL: CREA-ES 011840/DS

CARLOS RAPHAEL MONTEIRO DE LEMOS:04665479780

Assinado de forma digital por CARLOS RAPHAEL MONTEIRO DE LEMOS:04665479780
Dados: 2023.06.30 19:34:33 -03'00'

ASSINATURA