

PRONTO ATENDIMENTO MUNICIPAL PROJETO PADRÃO

PROJETO LEGAL

MEMORIAL DE CÁLCULO

PROJETO ESTRUTURAL METÁLICO PADRÃO

MARÇO / 2022
VERSÃO R00



MEP Arquitetura e Planejamento Ltda. – EPP

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ASSUNTO:	PROJETO LEGAL MEMORIAL DE CÁLCULO PROJETO DE ESTRUTURAL METÁLICO PADRÃO	
OBRA:	PAM - PRONTO ATENDIMENTO MUNICIPAL	
LOCAL:	DIVERSOS	
PROPRIETÁRIO:	DIVERSOS MUNICÍPIOS	CNPJ: DIVERSOS

QUADROS DE ÁREAS:	
ÁREA DO TERRENO	2,400,00 m²
PAVIMENTO TÉRREO	
ÁREA A CONSTRUIR	727,95m²
SUBTOTAL	727,95m²
ANEXOS	
CENTRAL DE RESÍDUOS	8,15 m²
CENTRAL DE GASES	12,70 m²
CENTRAL DE VÁCUO CLÍNICO	3,78 m²
SUBTOTAL	24,63 m²
MARQUISES	60,31 m²
ÁREA TOTAL CONSTRUIDA	812,89 m²
</	

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1. OBJETO

O presente documento tem como objetivo apresentar as premissas, procedimentos e resultados de cálculo adotadas referente ao PROJETO ESTRUTURAL METÁLICO DE COBERTURA E MARQUISES, para construção do Pronto Atendimento Municipal (PAM) Projeto Padrão no Estado do Paraná.

2. MATERIAIS

- Perfis Dobrado formado a frio - CF 26 / A36 (f_y mínimo 250 Mpa);
- Aço para chapas placas de base SAE 1020 (f_y 240 Mpa);
- Aço para barra redondas chumbadores CA-25/SAE 1020 (f_y mínimo 240 Mpa);
- Módulo de elasticidade $E=200000\text{Mpa}$;
- Coeficiente de Poisson $\mu=0,3$;
- Módulo de elasticidade transversal $G=77000\text{Mpa}$;
- Coeficiente de dilatação térmica $\beta_a=1,2 \cdot 10^{-5} \text{ } ^\circ\text{C}^{-1}$
- Massa específica $\rho=7850 \text{ kgf/m}^3$
- Solda E60XX fw 415 MPa

3. NORMAS UTILIZADAS

- NBR 14762 – Dimensionamento de estrutura de aço constituída por perfis formado a frio / 2010;
- NBR 8800 - Projeto de estrutura de aço e de estrutura mista de aço e concreto para edifícios / 2008;
- NBR 6123 – Forças devidas ao vento em edificações / 1988.

4. SOFTWARE UTILIZADOS

- | | | |
|----------------------------------|---------------|---------------------|
| - Estrutura Metálica | Mcalc3D | V5.0 |
| - Ações de Vento nas edificações | Ciclone | V3.0 Software livre |
| | Visual Ventos | Software Livre |

5. TESOURA 1 E TESOURA 3

5.1. Cargas Consideradas

- Carga permanente (P) Peso próprio (Pp) (Gerado automático pelo software)
- (P) Peso próprio das telhas metálicas, instalações 12,00 kgf/m²
- (SC) Sobrecarga de utilização 25,00 kgf/m²

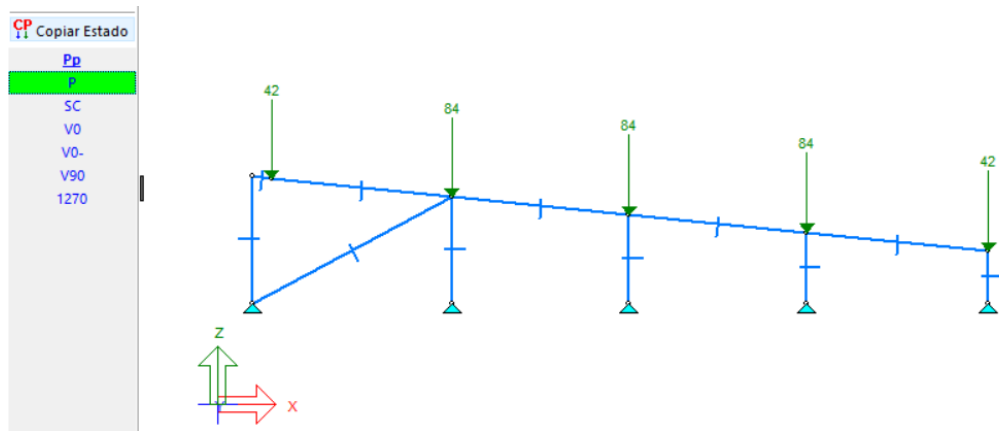
5.1.1. Sobrecarga de vento

Ciclone	Velocidade Básica	50,00 m/s
Fator S1 = 1		
Fator S2 = 0,783	Categoria IV Classe A	
Fator S3 = 1,10	Grupo 1	
CPI	-0,3 => 0	
Vk=43,09Ms	Pressão de obstrução = 113,80 kgf/m ²	

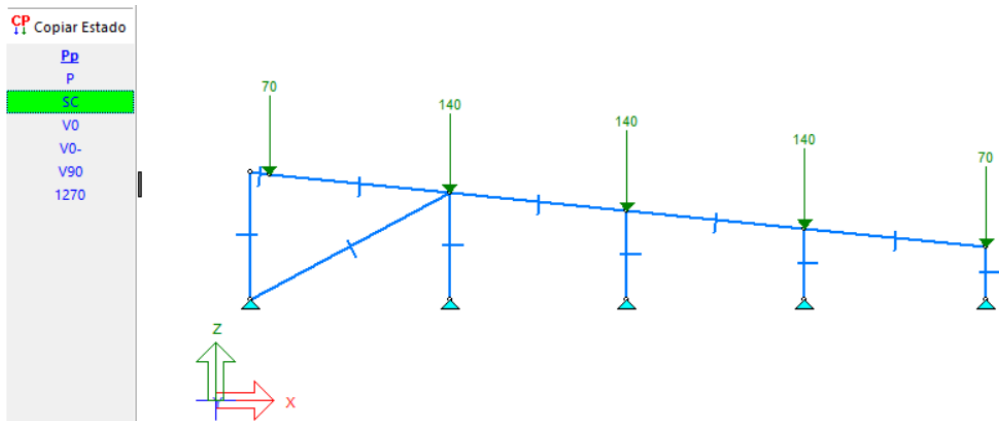
5.2. Combinações de Cálculo

COMBINAÇÃO 1	1,25Pp+1,40P+1,50 SC
COMBINAÇÃO 2	1,25Pp+1,35P+1,50SC +1,4.0,6 V0cp(-)
COMBINAÇÃO 3	1,25Pp+1,35P+1,50.0,8 SC +1,4 V0cp(-)
COMBINAÇÃO 4	1,0Pp+1,0P+1,4 V0
COMBINAÇÃO 5	1,0Pp+1,0P+1,4 V90
COMBINAÇÃO 6	1,0Pp+1,0P+1,4 V270

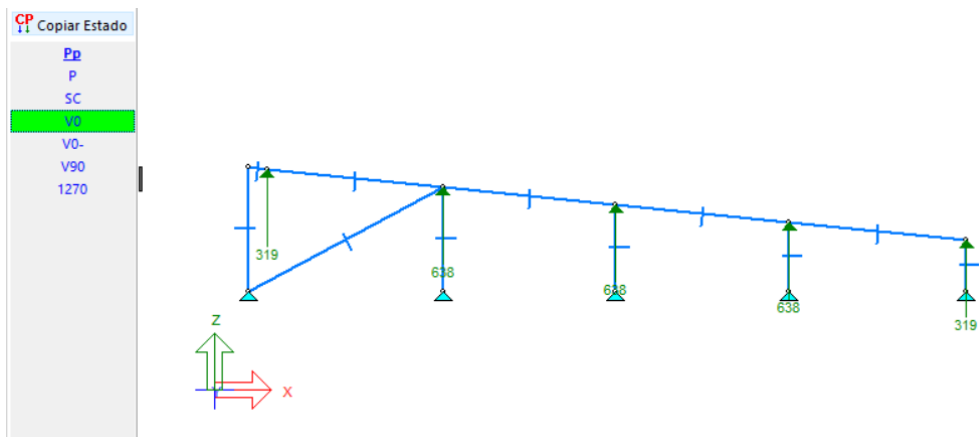
5.3. Lançamentos das cargas



Cargas Permanentes (kgf)

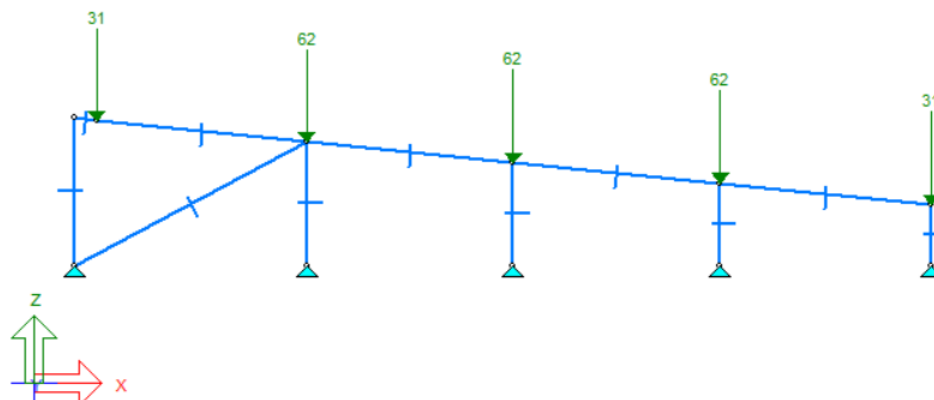


Sobrecarga de Cobertura (kgf)



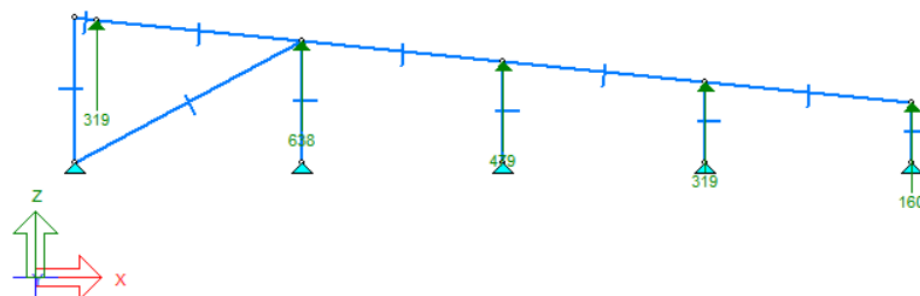
Vento 0 (kgf)

Pd
P
SC
V0
V0-
V90
1270



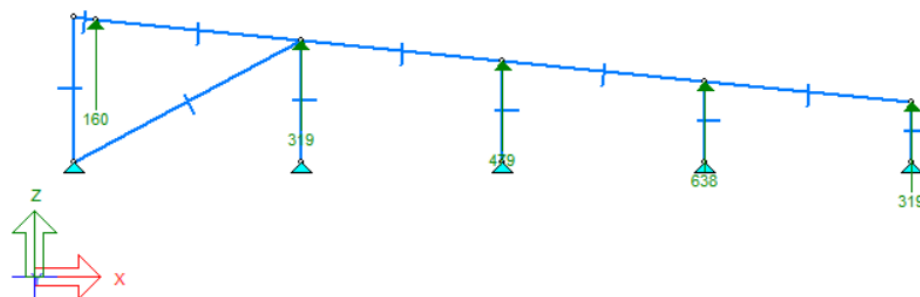
Vento 0- (sobrepessão) (kgf)

CP Copiar Estado
Pd
P
SC
V0
V0-
V90
1270



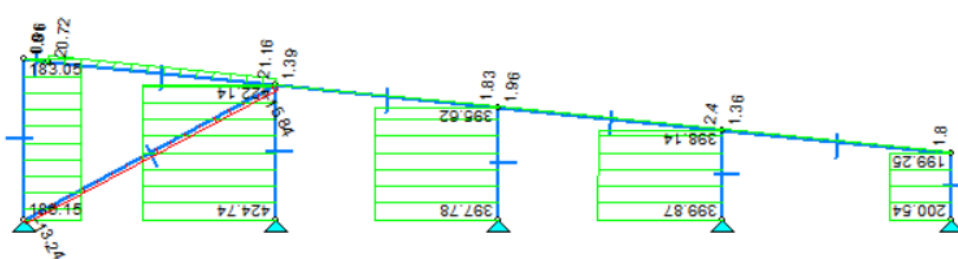
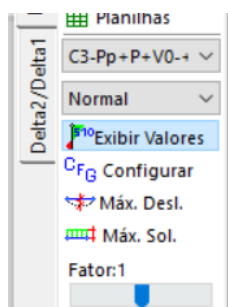
Vento 90 (kgf)

CP Copiar Estado
Pd
P
SC
V0
V0-
V90
1270

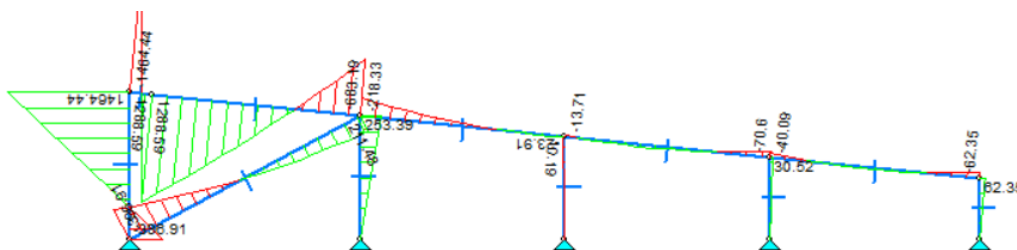
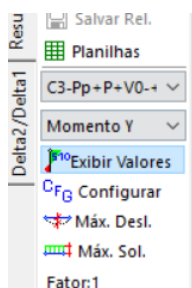


Vento 270 (kgf)

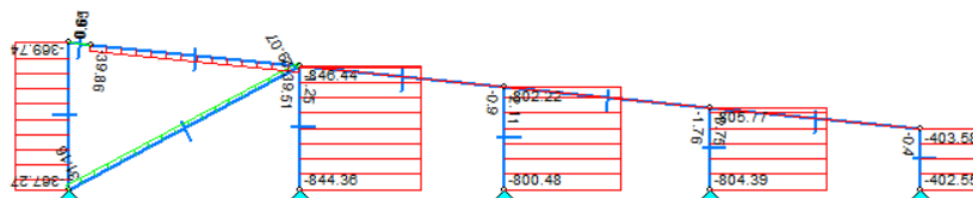
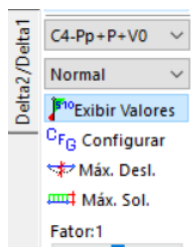
5.4. Resultados – Casos mais desfavoráveis



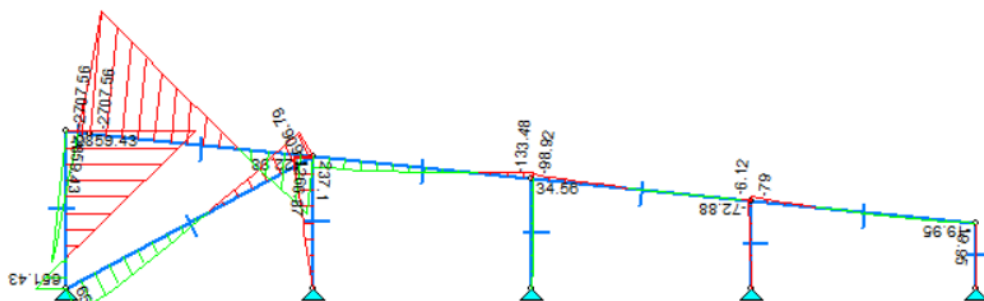
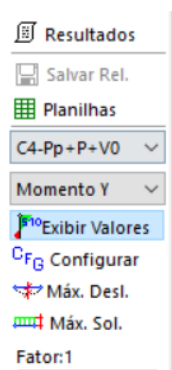
Esforço Normal Combinação 3 (Kgf)



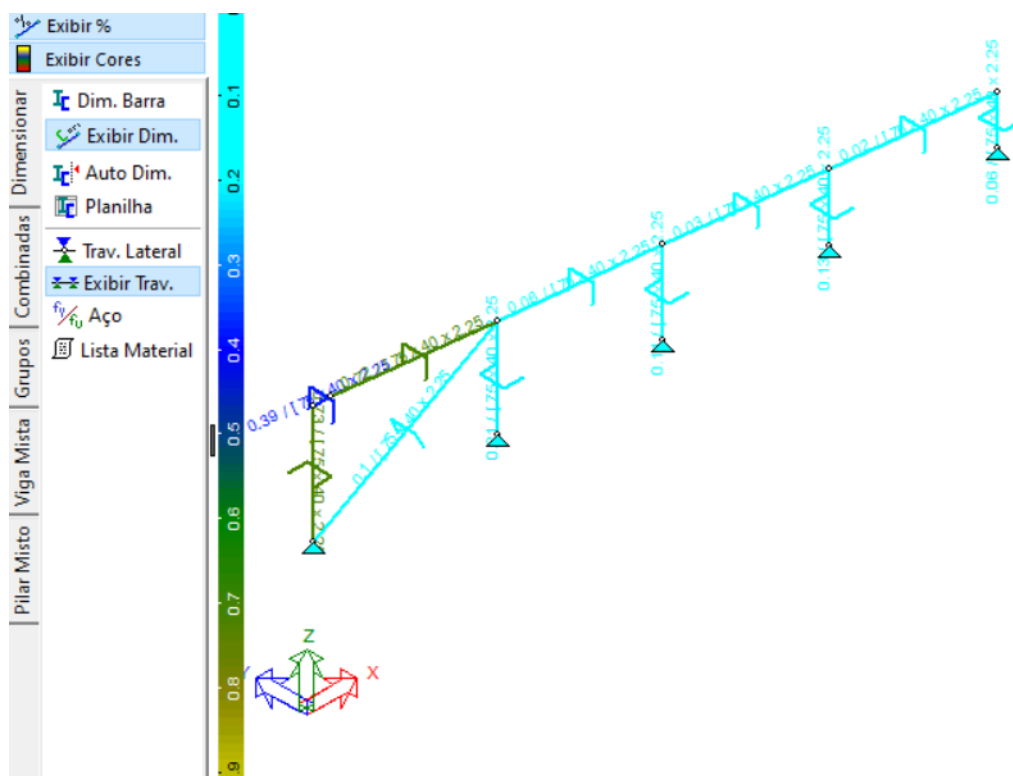
Momento Fletor Combinação 3 (Kgf.cm)



Esforço Normal Combinação 4 (Kgf)



Momento Fletor Combinação 4 (Kgf)



Resultado $S_d/R_d < 1$ Todas as barras atendem ao cálculo

Barra		Normal	Cortante Y	Cortante Z	Momento Y	Eq. Int. Max.	Dim.
1	Sol. Res. Sd/Rd	-403.58 7465.91 0.05	0.5 2178.41 0	0 2025 0	0 15942.13 0	0.06	[75 x 40 x 2.25
2	Sol. Res. Sd/Rd	-369.76 7465.91 0.05	-36.62 2178.41 0.02	0 2025 0	0 15942.13 0	0.73	[75 x 40 x 2.25
3	Sol. Res. Sd/Rd	-846.35 7465.91 0.11	5.27 2178.41 0.00	0 2025 0	0 15942.13 0	0.21	[75 x 40 x 2.25
4	Sol. Res. Sd/Rd	-802.22 7465.91 0.11	-0.51 2178.41 0	0 2025 0	0 15942.13 0	0.11	[75 x 40 x 2.25
5	Sol. Res. Sd/Rd	-805.77 7465.91 0.11	1.36 2178.41 0	0 2025 0	0 15942.13 0	0.13	[75 x 40 x 2.25
6	Sol. Res. Sd/Rd	-15.84 7465.91 0.00	-5.99 2178.41 0.00	0 2025 0	0 15083.87 0	0.1	[75 x 40 x 2.25
7	Sol. Res. Sd/Rd	1.01 1142.68 0	-184.08 2178.41 0.08	0 2025 0	0 15453.27 0	0.39	[75 x 40 x 2.25
8	Sol. Res. Sd/Rd	-39.86 7465.91 0.01	-30.65 2178.41 0.01	0 2025 0	0 15449 0	0.72	[75 x 40 x 2.25
9	Sol. Res. Sd/Rd	1.83 1164.47 0.00	-3.86 2178.41 0.00	0 2025 0	0 15559.39 0	0.06	[75 x 40 x 2.25
10	Sol. Res. Sd/Rd	-2.02 7465.91 0	-2.48 2178.41 0.00	0 2025 0	0 15942.13 0	0.03	[75 x 40 x 2.25
11	Sol. Res. Sd/Rd	-0.75 7465.91 0	-2.49 2178.41 0.00	0 2025 0	0 15691.27 0	0.02	[75 x 40 x 2.25

6. TESOURA 2

6.1. Cargas Consideradas

- Carga permanente (P) Peso próprio (Pp) (Gerado automático pelo software)
- (P) Peso próprio das telhas metálicas, instalações 12,00 kgf/m²
- (SC) Sobrecarga de utilização 25,00 kgf/m²

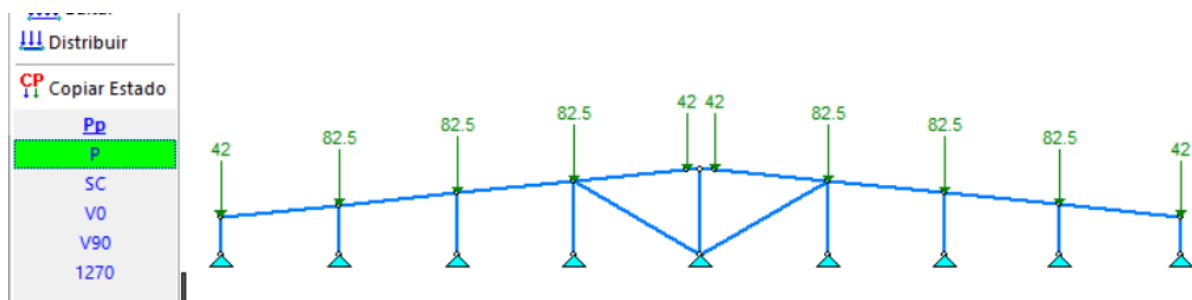
6.1.1. Sobrecarga de vento

Visual Ventos	Velocidade Básica	50,00 m/s
Fator S1 = 1		
Fator S2 = 0,78	Categoria IV Classe A	
Fator S3 = 1,10	Grupo 1	
CPi	-0,3 => 0	
Vk=43,06Ms	Pressão de obstrução = 114,00 kgf/m ²	

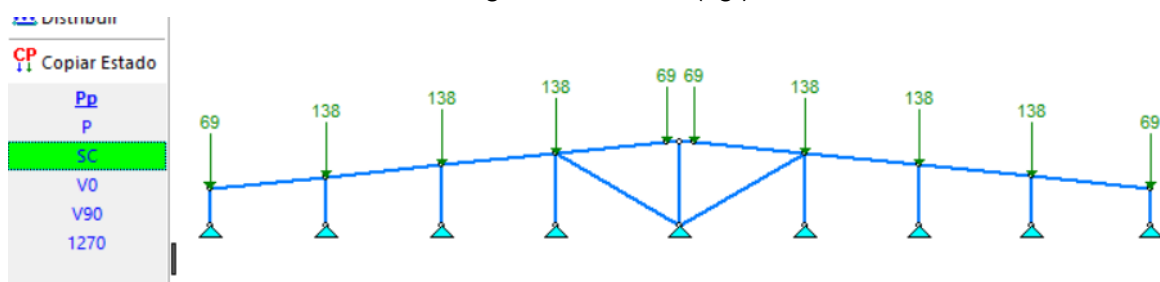
6.2. Combinações de Cálculo

COMBINAÇÃO 1	1,25Pp+1,40P+1,50 SC
COMBINAÇÃO 2	1,0Pp+1,0P+1,4 V0
COMBINAÇÃO 3	1,0Pp+1,0P+1,4 V90
COMBINAÇÃO 4	1,0Pp+1,0P+1,4 V270

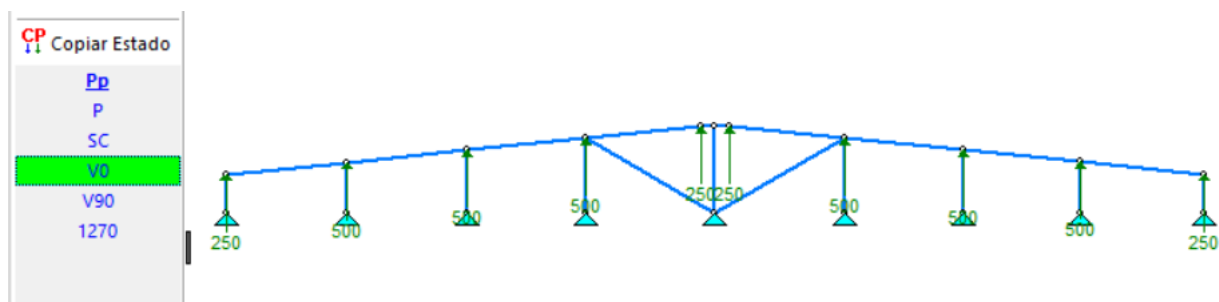
6.3. Lançamentos das cargas



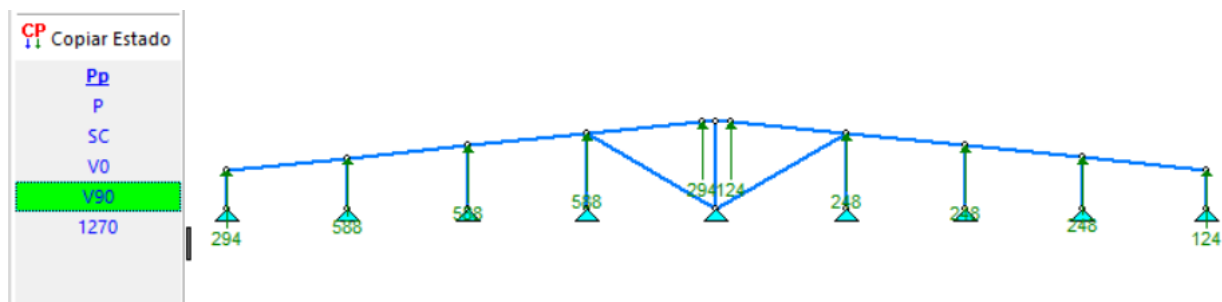
Carga Permanente (kgf)



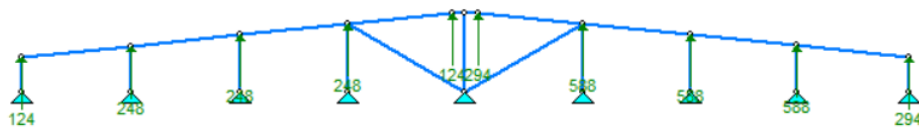
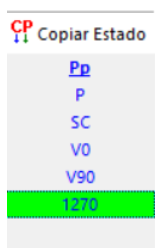
Sobrecarga de Cobertura (kgf)



Vento 0 (kgf)

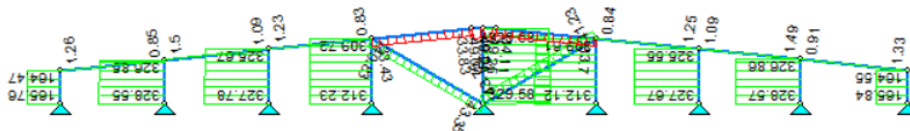
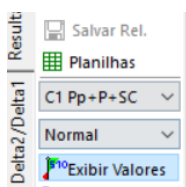


Vento 90 (kgf)

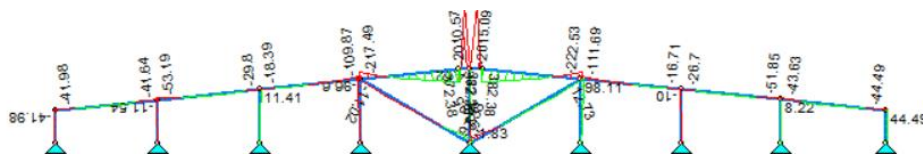


Vento 270 (kgf)

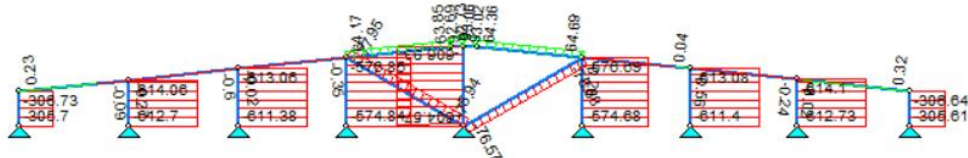
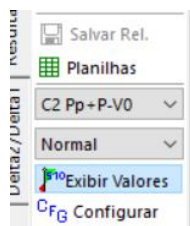
6.4. Resultados - Casos mais desfavoráveis



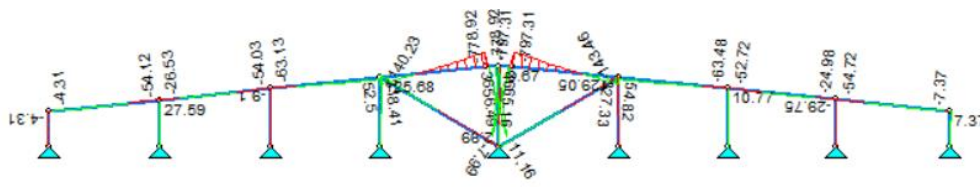
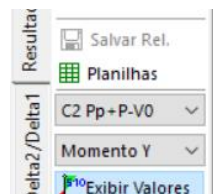
Esforço Normal – Combinação 1



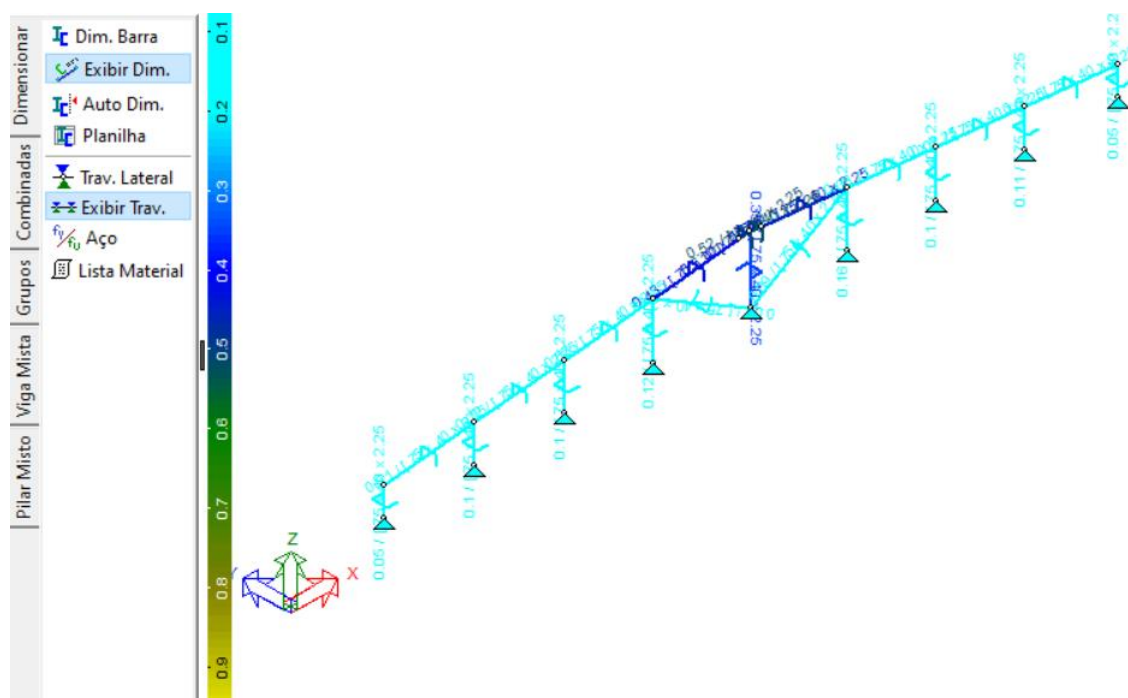
Momento Fletor – Combinação 1



Normal – Combinação 2



Momento Fletor – combinação 2

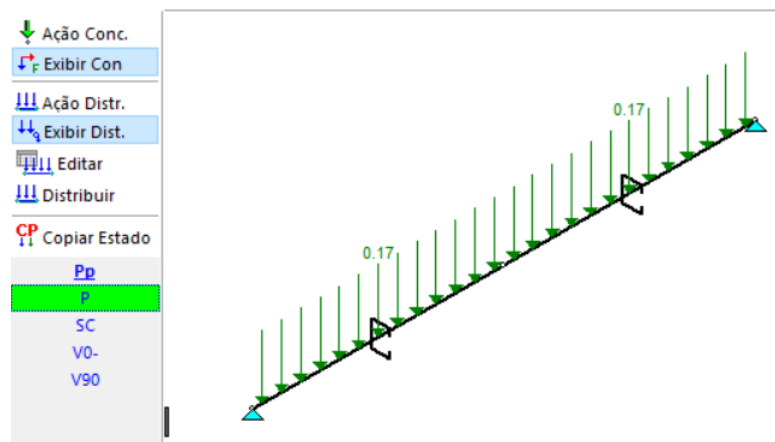


Resultado $S_d/R_d < 1$ Todas as barras atendem ao cálculo

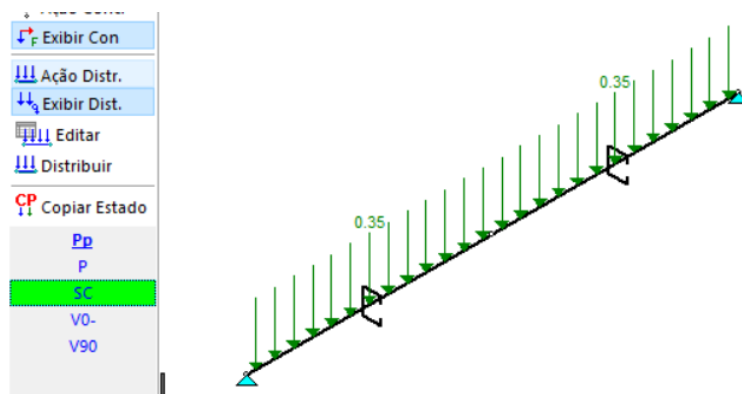
Barra		Normal	Cortante Y	Cortante Z	Momento Y	Eq. Int. Max.	Dimensionamento
1	Sd/Rd	0.05	0	0	0	0.05	[75 x 40 x 2.25
2	Sd/Rd	0.07	0.01	0	0	0.35	[75 x 40 x 2.25
3	Sd/Rd	0.01	0.00	0	0	0.09	[75 x 40 x 2.25
4	Sd/Rd	0.1	0.00	0	0	0.16	[75 x 40 x 2.25
5	Sd/Rd	0.1	0	0	0	0.1	[75 x 40 x 2.25
6	Sd/Rd	0.1	0	0	0	0.11	[75 x 40 x 2.25
7	Sd/Rd	0.05	0	0	0	0.05	[75 x 40 x 2.25
8	Sd/Rd	0.01	0.00	0	0	0.04	[75 x 40 x 2.25
9	Sd/Rd	0.1	0.00	0	0	0.12	[75 x 40 x 2.25
10	Sd/Rd	0.1	0	0	0	0.1	[75 x 40 x 2.25
11	Sd/Rd	0.1	0	0	0	0.1	[75 x 40 x 2.25
12	Sd/Rd	0	0	0	0	0.01	[75 x 40 x 2.25
13	Sd/Rd	0.03	0.01	0	0	0.46	[75 x 40 x 2.25
14	Sd/Rd	0.01	0.07	0	0	0.51	[75 x 40 x 2.25
15	Sd/Rd	0.01	0.07	0	0	0.52	[75 x 40 x 2.25
16	Sd/Rd	0	0.00	0	0	0.03	[75 x 40 x 2.25
17	Sd/Rd	0	0	0	0	0.02	[75 x 40 x 2.25
18	Sd/Rd	0	0.00	0	0	0.02	[75 x 40 x 2.25
19	Sd/Rd	0.02	0.01	0	0	0.43	[75 x 40 x 2.25
20	Sd/Rd	0	0.00	0	0	0.03	[75 x 40 x 2.25
21	Sd/Rd	0	0	0	0	0.02	[75 x 40 x 2.25

7. TERÇAS

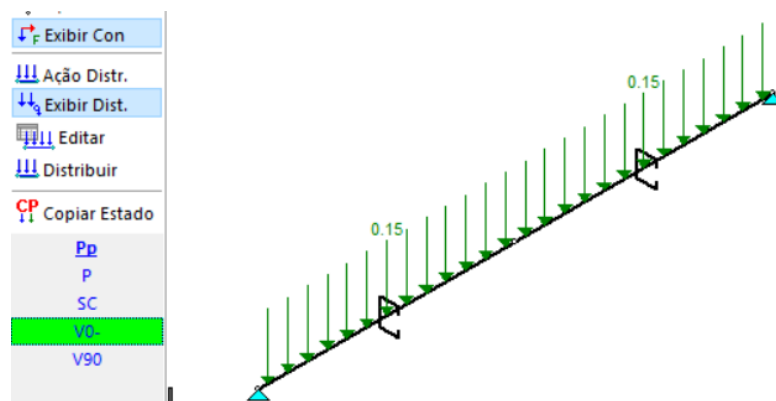
7.1. Terças para vão de até 4,00 metros



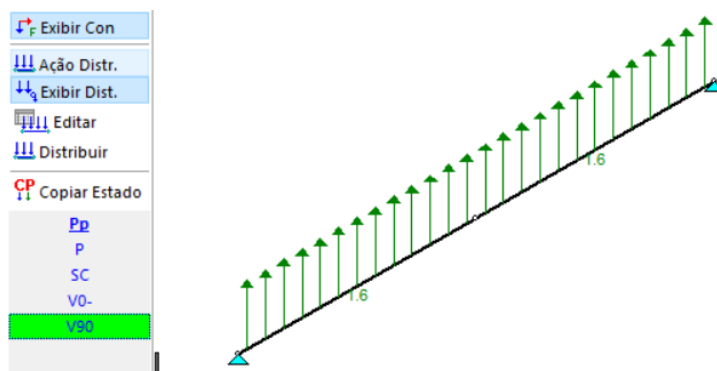
Carga permanente (Kgf/cm)



Sobrecarga de cobertura (kgf/cm)

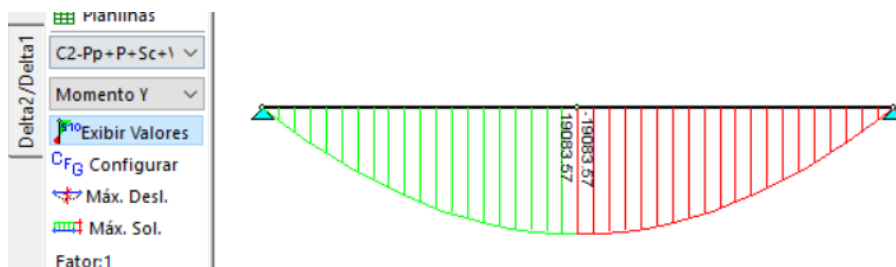


Sobrecarga de vento 0- (Sobrepresão) (kgf/cm)

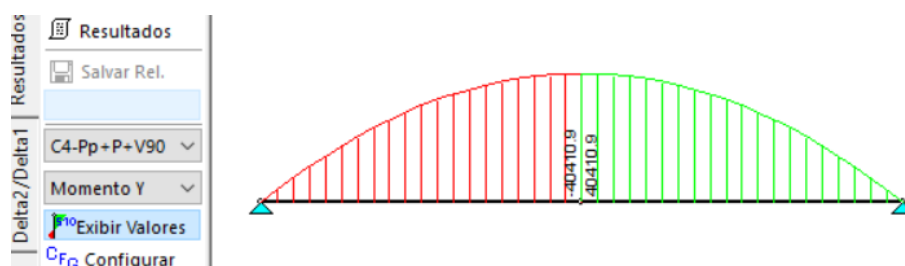


Sobrecarga de vento 90 (kgf/cm)

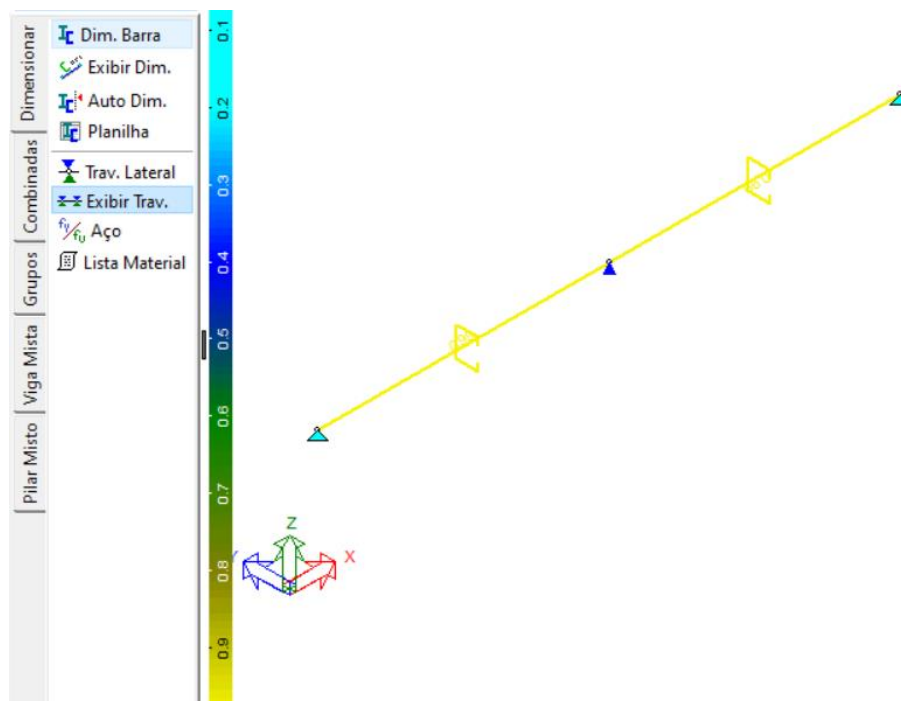
7.1.1. Resultados



Momento Fletor – Combinação 2 (kgf.cm)



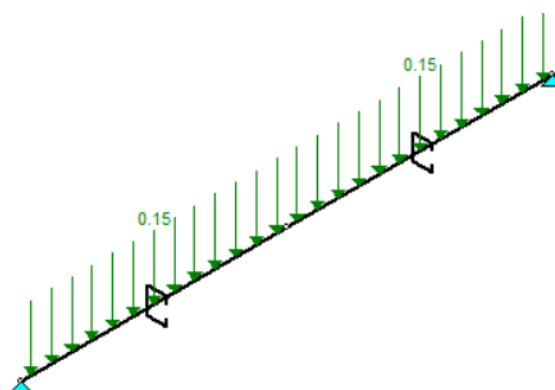
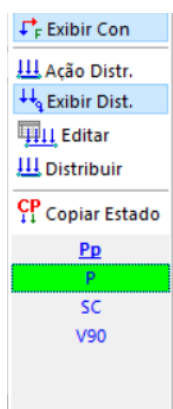
Momento Fletor – Combinação 2 (kgf.cm)



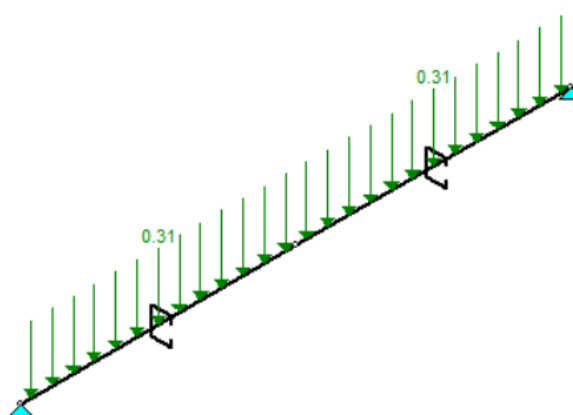
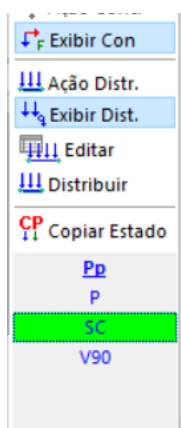
Resultado $S_d/R_d < 1$ Todas as barras atendem ao cálculo

Barra		Normal	Cortante Y	Cortante Z	Momento Y	Eq. Int. Max.	Dimensionamento
1	Sol.	0	0	-404.11	40410.9	0.99	UENR 100 x 50 x 17 x 3
	Res.	14318.18	3109.09	3600	40937.27		
	S_d/R_d	---	0	0.11	0.99		
2	Sol.	0	0	404.11	-40410.9	0.99	UENR 100 x 50 x 17 x 3
	Res.	14318.18	3109.09	3600	40931.66		
	S_d/R_d	---	0	0.11	0.99		

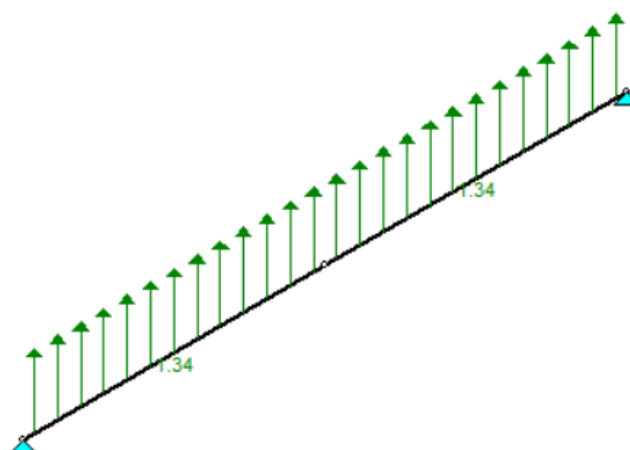
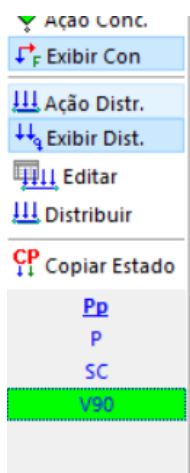
7.2. Terças para vão de até 4,17 metros



Carga permanente (kgf)

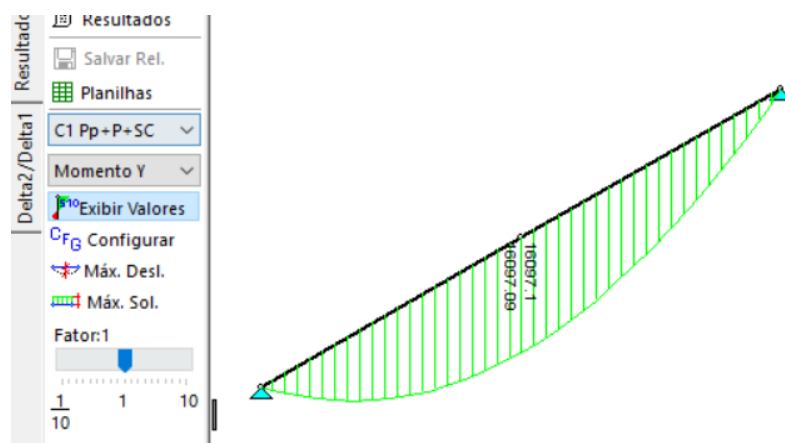


Sobrecarga de cobertura (kgf)

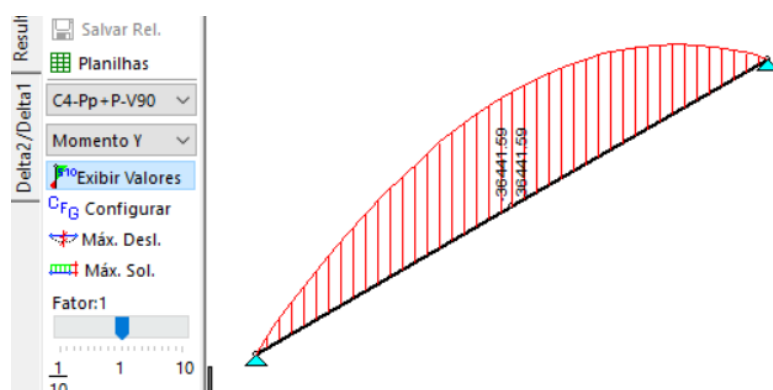


Sobrecarga de Vento (kgf)

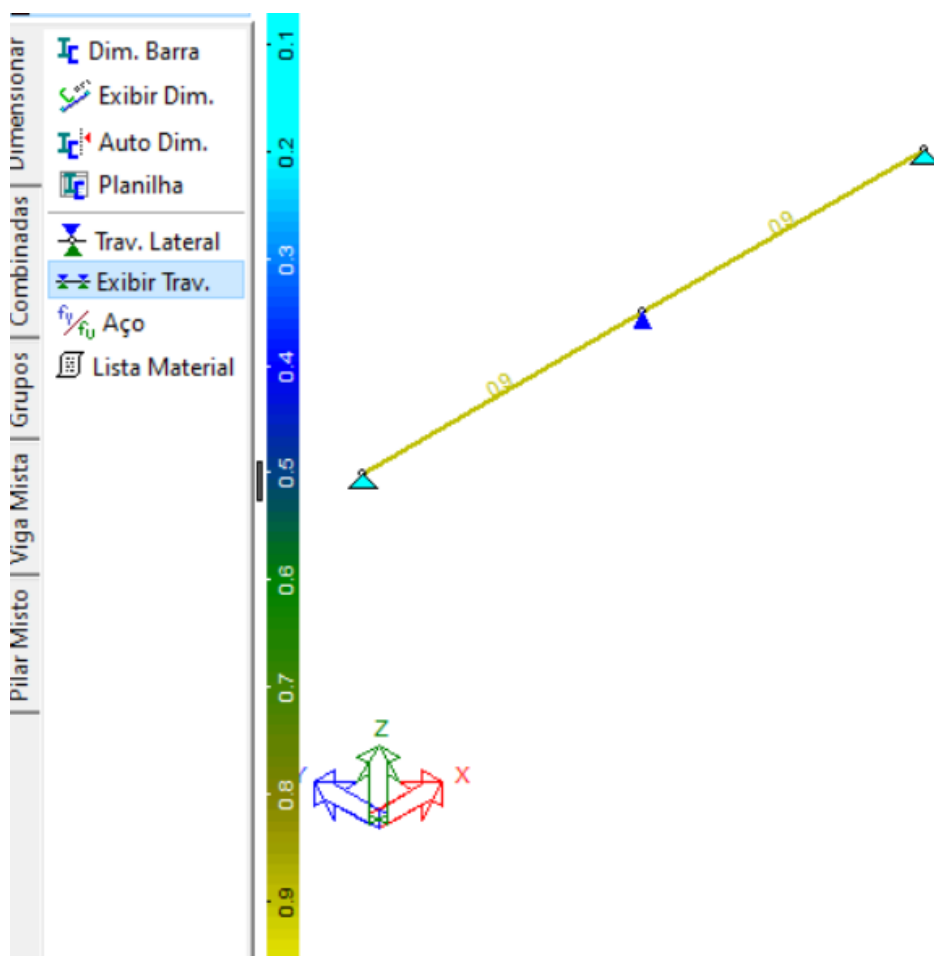
7.2.1. Resultados



Momento Fletor – Combinação 1 (kgf.cm)



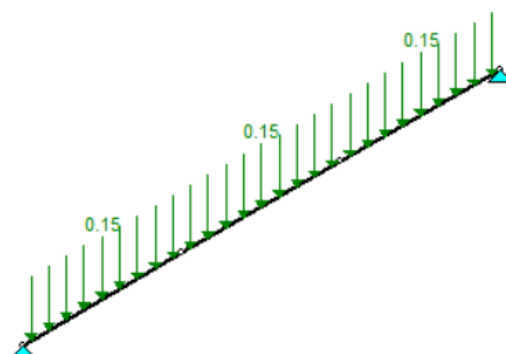
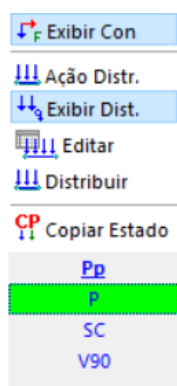
Momento Fletor – Combinação 2 (kgf.cm)



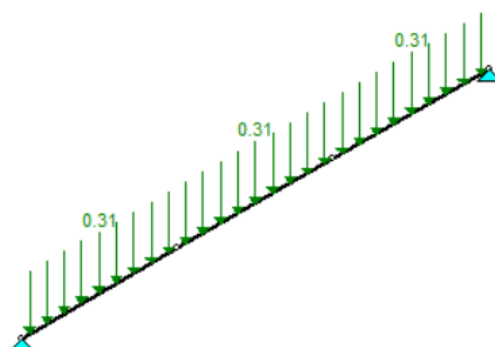
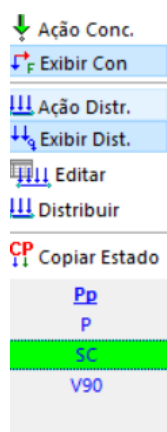
Resultado $Sd/Rd < 1$ Todas as barras atendem ao cálculo

Barra		Normal	Cortante Y	Cortante Z	Momento Y	Eq. Int. Max.	Dimensionamento
1	Sol.	0	0	-349.56	36441.59	0.9	UENR 100 x 50 x 17 x 3
	Res.	14318.18	3109.09	3600	40397.2		
	Sd/Rd	---	0	0.1	0.9		
2	Sol.	0	0	-349.56	36441.59	0.9	UENR 100 x 50 x 17 x 3
	Res.	14318.18	3109.09	3600	40397.2		
	Sd/Rd	---	0	0.1	0.9		

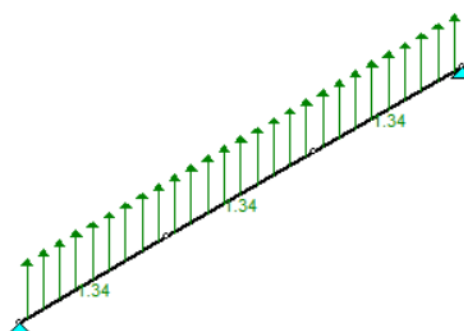
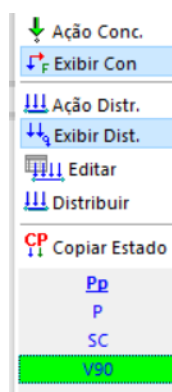
7.3. Terças para vão de até 4,41 metros



Carga permanente (kgf)

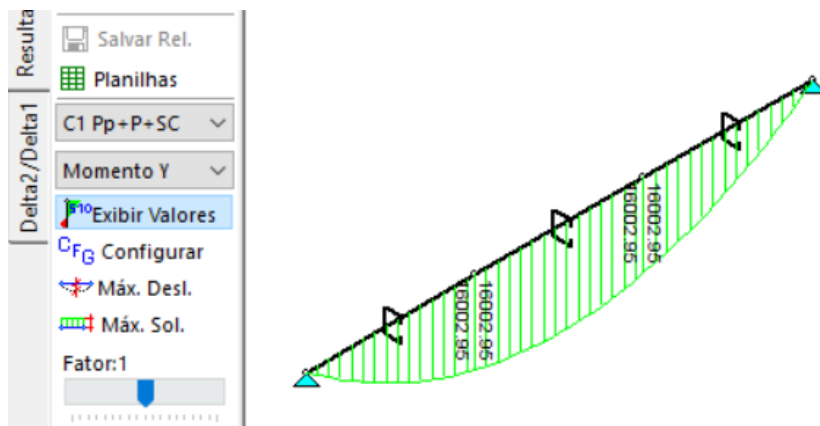


Sobrecarga de Utilização (kgf)

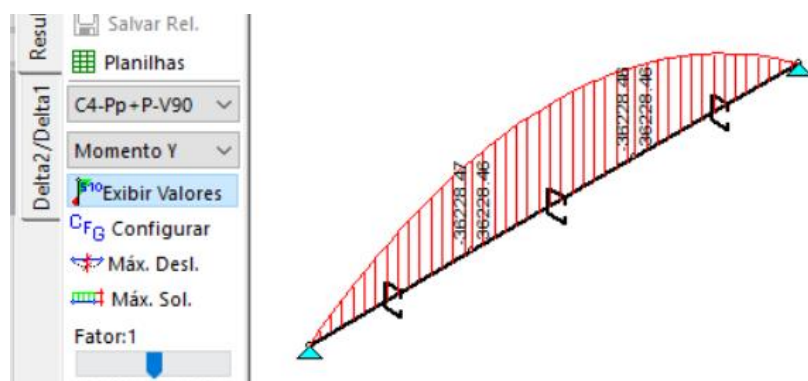


Sobrecarga de Vento (kgf)

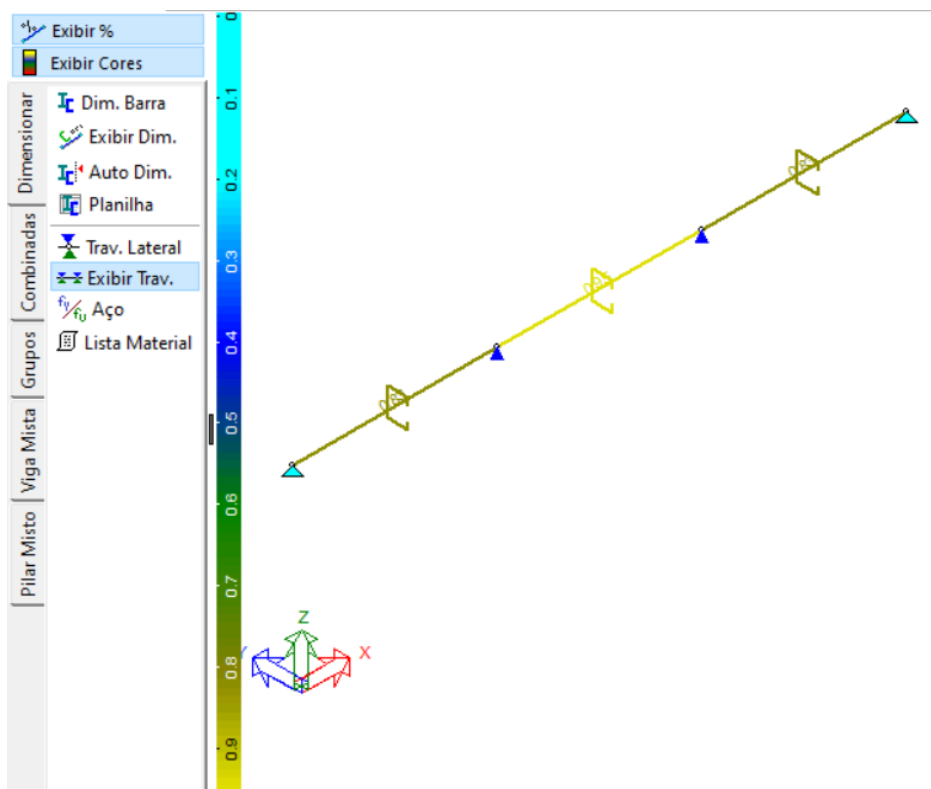
7.3.1. Resultados



Momento Fletor – Combinação 1 (kgf.cm)



Momento Fletor – Combinação 2 (kgf.cm)



Resultado $S_d/R_d < 1$ Todas as barras atendem ao cálculo

Barra		Normal	Cortante Y	Cortante Z	Momento Y	Eq. Int. Max.	Dimensionamento
1	Sol. Res. Sd/Rd	0 14318.18 ---	0 3109.09 0	-369.68 3600 0.1	36228.47 43845.91 0.83	0.83	UENR 100 x 50 x 17 x 3
2	Sol. Res. Sd/Rd	0 14318.18 ---	0 3109.09 0	-123.23 3600 0.03	40757.02 42774.29 0.95	0.95	UENR 100 x 50 x 17 x 3
3	Sol. Res. Sd/Rd	0 14318.18 ---	0 3109.09 0	-369.68 3600 0.1	36228.46 43845.91 0.83	0.83	UENR 100 x 50 x 17 x 3

8. COBERTURA DA CAIXA D'ÁGUA

8.1. Cargas Consideradas

- Carga permanente (P) Peso próprio (Pp) (Gerado automático pelo software)
- (P) Peso próprio das telhas metálicas, instalações 12,00 kgf/m²
- (SC) Sobrecarga de utilização 25,00 kgf/m²

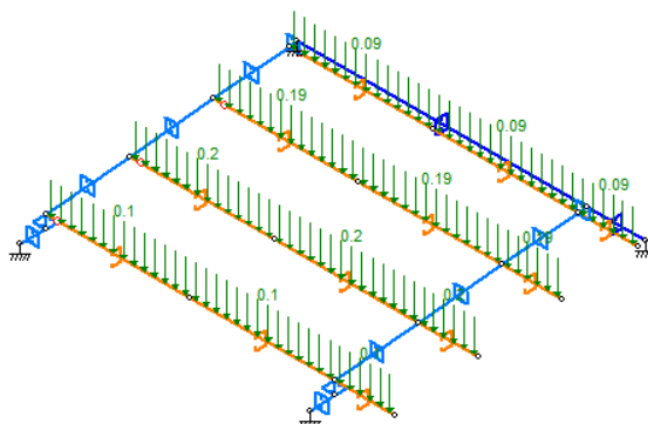
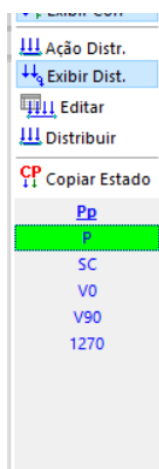
8.1.1. Sobrecarga de Vento

Ciclone	Velocidade Básica	50,00 m/s
Fator S1 = 1		
Fator S2 = 0,828	Categoria IV Classe A	
Fator S3 = 1,10	Grupo 1	
CPi	-0,3 => 0	
Vk=45,52Ms	Pressão de obstrução = 127,00 kgf/m ²	

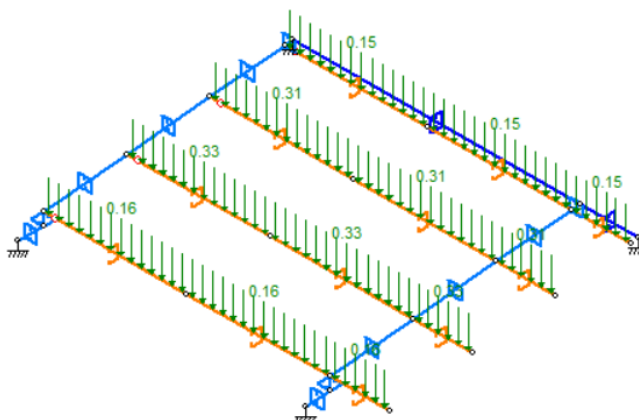
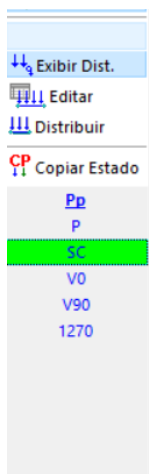
8.2. -(Vxx) Sobrecarga de Vento :Ciclone Combinações de Cálculo

COMBINAÇÃO 1	1,25Pp+1,40P+1,50 SC
COMBINAÇÃO 2	1,0Pp+1,0P+1,4 V0
COMBINAÇÃO 3	1,0Pp+1,0P+1,4 V90
COMBINAÇÃO 4	1,0Pp+1,0P+1,4 V270

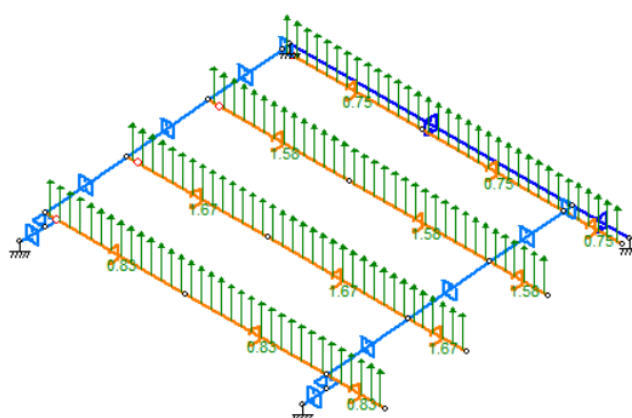
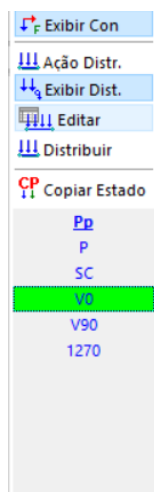
8.3. Lançamento das Cargas



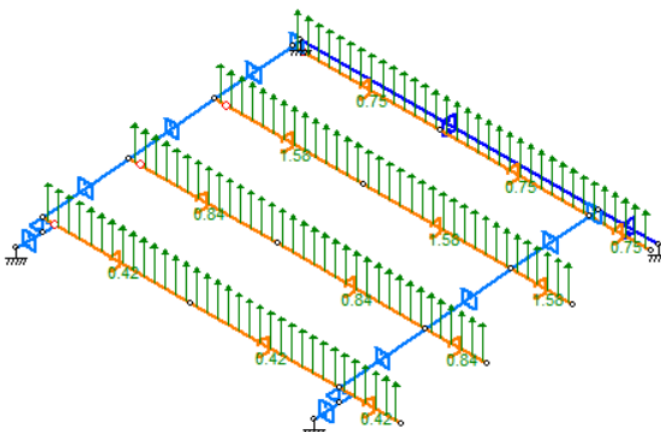
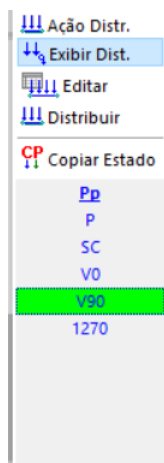
Cargas Permanentes (kgf/cm)



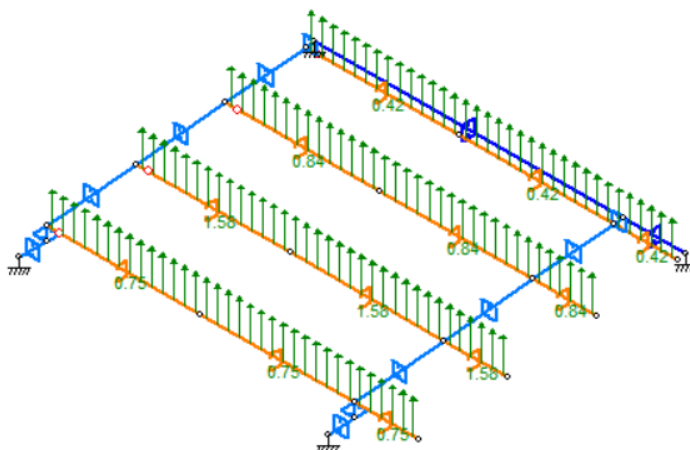
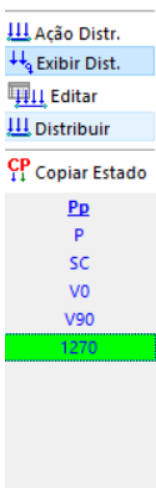
Sobrecarga de Cobertura (kgf.cm)



Vento 0 (kgf.cm)

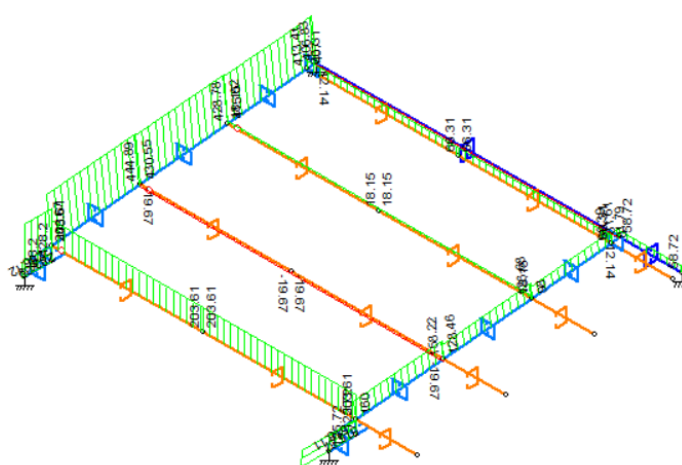
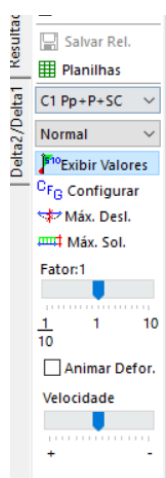


Vento 90 (kgf.cm)

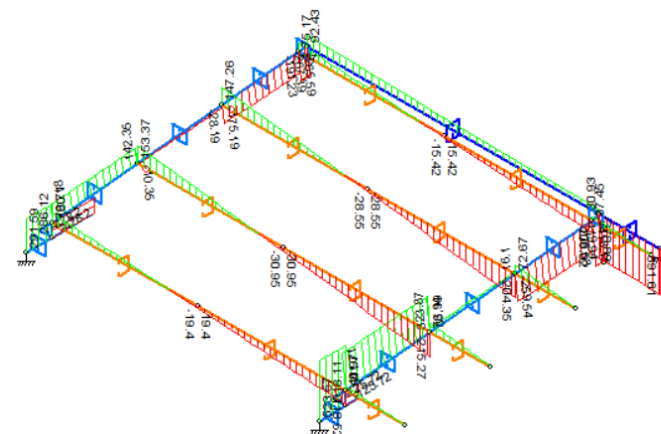
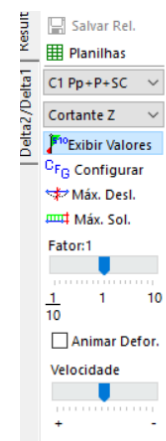


Vento 270 (kgf.cm)

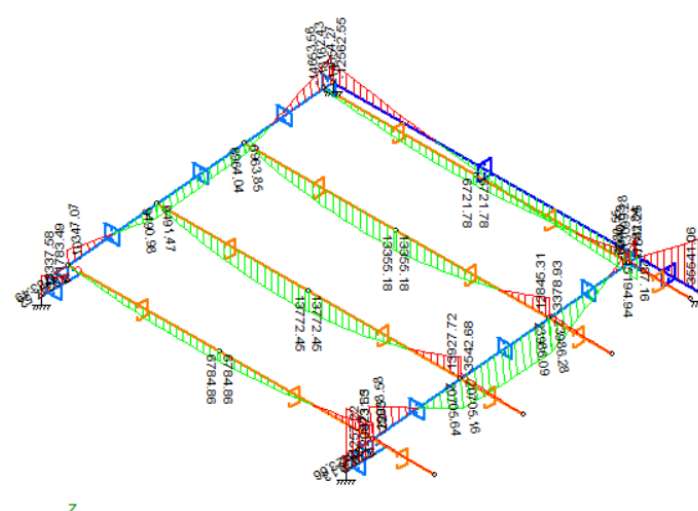
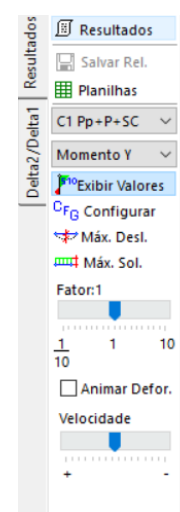
8.4. Resultados - Casos mais desfavoráveis



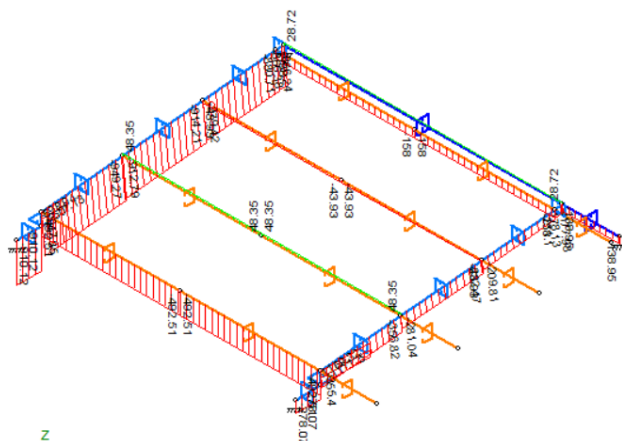
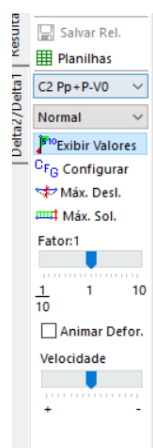
Esforço Normal (kgf) – Combinação 1



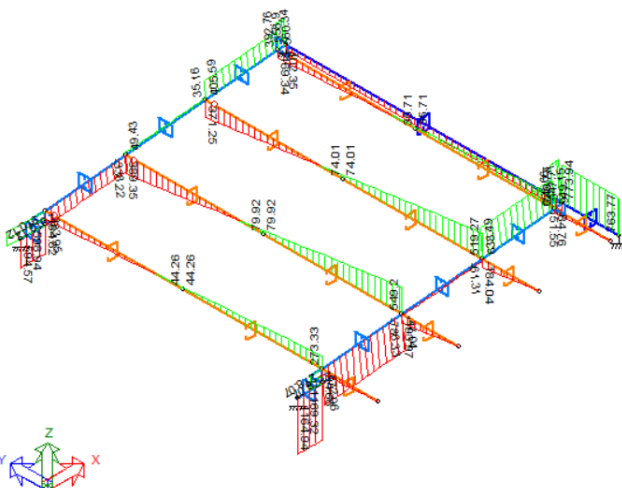
Esforço Cortante (kgf) – Combinação 1



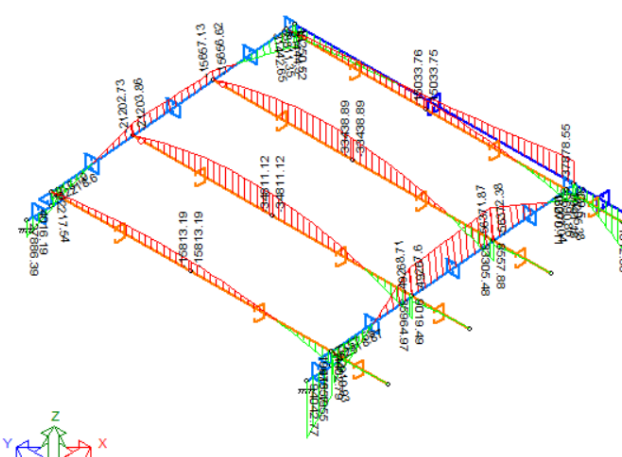
Momento Fleter (kgf.cm) – Combinação 1



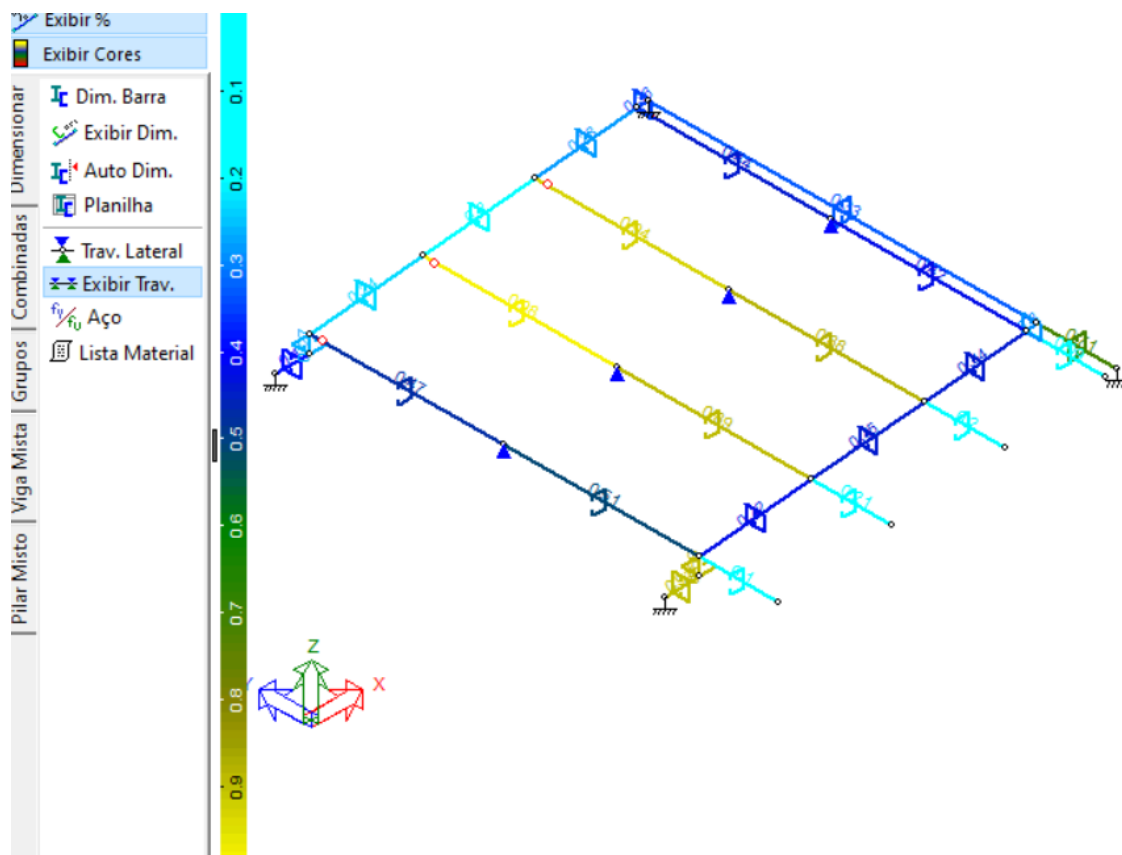
Esforço Normal (kgf) – Combinação 2



Esforço Cortante (kgf) – Combinação 2



Momento Fletor (kgf.cm) – Combinação 2



Resultado $S_d/R_d < 1$ Todas as barras atendem ao cálculo

Barra		Normal	Cortante Y	Cortante Z	Momento Y	Eq. Int. Max.	Dimensionamento
1	Sol. Res. Sd/Rd	-278.07 31655.46 0.01	478.42 6461.18 0.07	1169.32 10074.82 0.12	-94042.77 138153.06 0.68	0.91	CA 150 x 50 x 17 x 2.65
2	Sol. Res. Sd/Rd	-1171.5 31655.46 0.04	478.42 6461.18 0.07	278.07 10074.82 0.03	-52918.87 138153.06 0.38	0.89	CA 150 x 50 x 17 x 2.65
3	Sol. Res. Sd/Rd	-356.82 31655.46 0.01	-14.09 6461.18 0.00	786.33 10074.82 0.08	-52919.93 138153.06 0.38	0.42	CA 150 x 50 x 17 x 2.65
4	Sol. Res. Sd/Rd	-282.47 31655.46 0.01	34.27 6461.18 0.01	61.31 10074.82 0.01	56371.87 138153.06 0.41	0.45	CA 150 x 50 x 17 x 2.65
5	Sol. Res. Sd/Rd	-211.1 31655.46 0.01	-9.66 6461.18 0.00	638.49 10074.82 0.06	56372.38 138153.06 0.41	0.44	CA 150 x 50 x 17 x 2.65
6	Sol. Res. Sd/Rd	-910.12 31655.46 0.03	-456.05 6461.18 0.07	598.94 10074.82 0.06	-27886.39 138153.06 0.2	0.4	CA 150 x 50 x 17 x 2.65
7	Sol. Res. Sd/Rd	-601.13 31655.46 0.02	-456.05 6461.18 0.07	910.12 10074.82 0.09	-22218.6 138153.06 0.16	0.27	CA 150 x 50 x 17 x 2.65
8	Sol. Res. Sd/Rd	-949.27 31655.46 0.03	36.46 6461.18 0.01	338.22 10074.82 0.03	-22217.54 138153.06 0.16	0.24	CA 150 x 50 x 17 x 2.65
9	Sol. Res. Sd/Rd	-914.21 31655.46 0.03	-11.89 6461.18 0.00	49.43 10074.82 0.00	21203.86 138153.06 0.15	0.2	CA 150 x 50 x 17 x 2.65
10	Sol. Res. Sd/Rd	-880.71 31655.46 0.03	32.04 6461.18 0.00	405.59 10074.82 0.04	-31442.65 138153.06 0.23	0.28	CA 150 x 50 x 17 x 2.65
11	Sol. Res. Sd/Rd	28.72 14538.15 0.00	-17.4 6461.18 0.00	151.55 10074.82 0.02	37878.55 138153.06 0.27	0.33	CA 150 x 50 x 17 x 2.65
12	Sol. Res. Sd/Rd	-138.95 31655.46 0.00	253.45 6461.18 0.04	773.94 10074.82 0.08	-71812.88 138153.06 0.52	0.71	CA 150 x 50 x 17 x 2.65
13	Sol. Res. Sd/Rd	-43.93 14318.18 0.00	-2.38 3109.09 0	-371.25 3600 0.1	34795.58 38611.25 0.9	0.94	UENR 100 x 50 x 17 x 3
14	Sol. Res. Sd/Rd	0 14318.18 ---	0 3109.09 0	-184.04 3600 0.05	-8557.88 43845.91 0.2	0.2	UENR 100 x 50 x 17 x 3
15	Sol. Res. Sd/Rd	48.35 4243.72 0.01	-2.12 3109.09 0	-389.35 3600 0.11	36302.63 38549.58 0.94	0.98	UENR 100 x 50 x 17 x 3
16	Sol. Res. Sd/Rd	0 14318.18 ---	0 3109.09 0	-193.97 3600 0.05	-9019.49 43845.91 0.21	0.21	UENR 100 x 50 x 17 x 3
17	Sol. Res. Sd/Rd	-492.51 14318.18 0.03	-0.95 3109.09 0	-184.82 3600 0.05	16763.61 38496.28 0.44	0.47	UENR 100 x 50 x 17 x 3

9. MARQUISE 1

9.1. Cargas Consideradas

-Carga permanente (P) Peso próprio (Pp) (Gerado automático pelo software)	
-(P) Peso próprio das telhas metálicas, instalações	15,00 kgf/m ²
-(P) Peso próprio do ACM e acessórios	20,00 kgf/m ²
-(SC) Sobrecarga de utilização	25,00 kgf/m ²

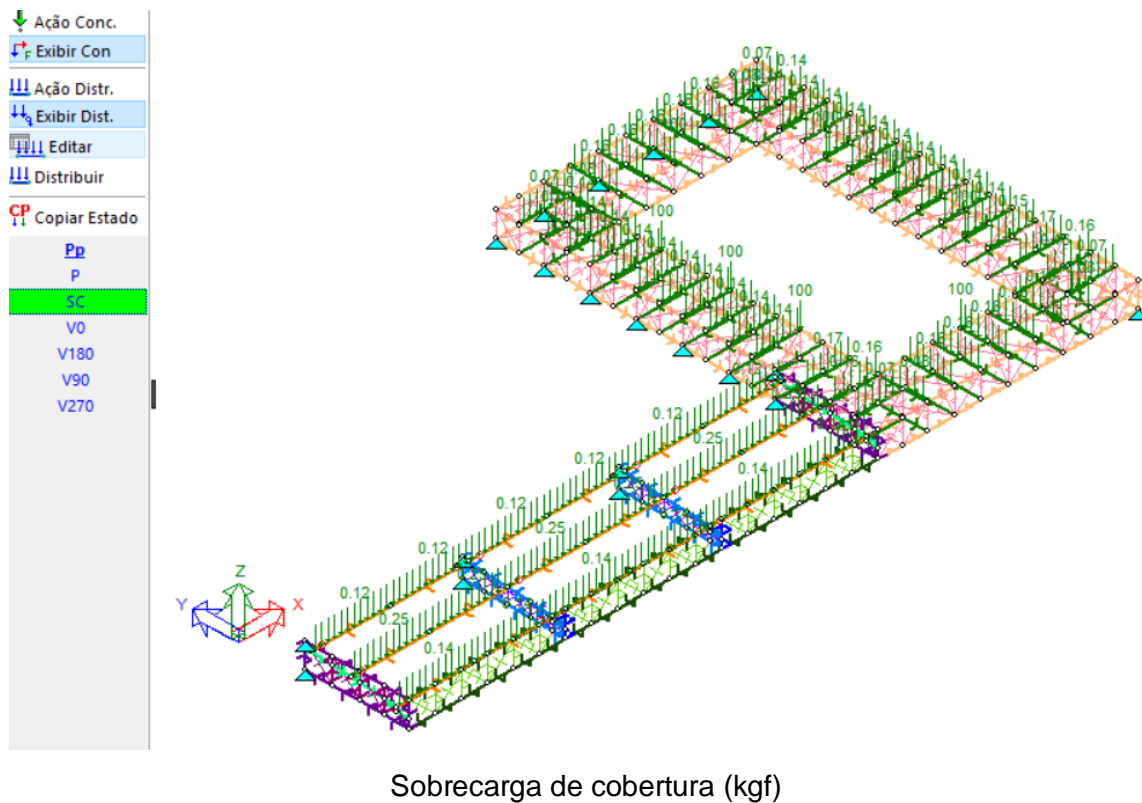
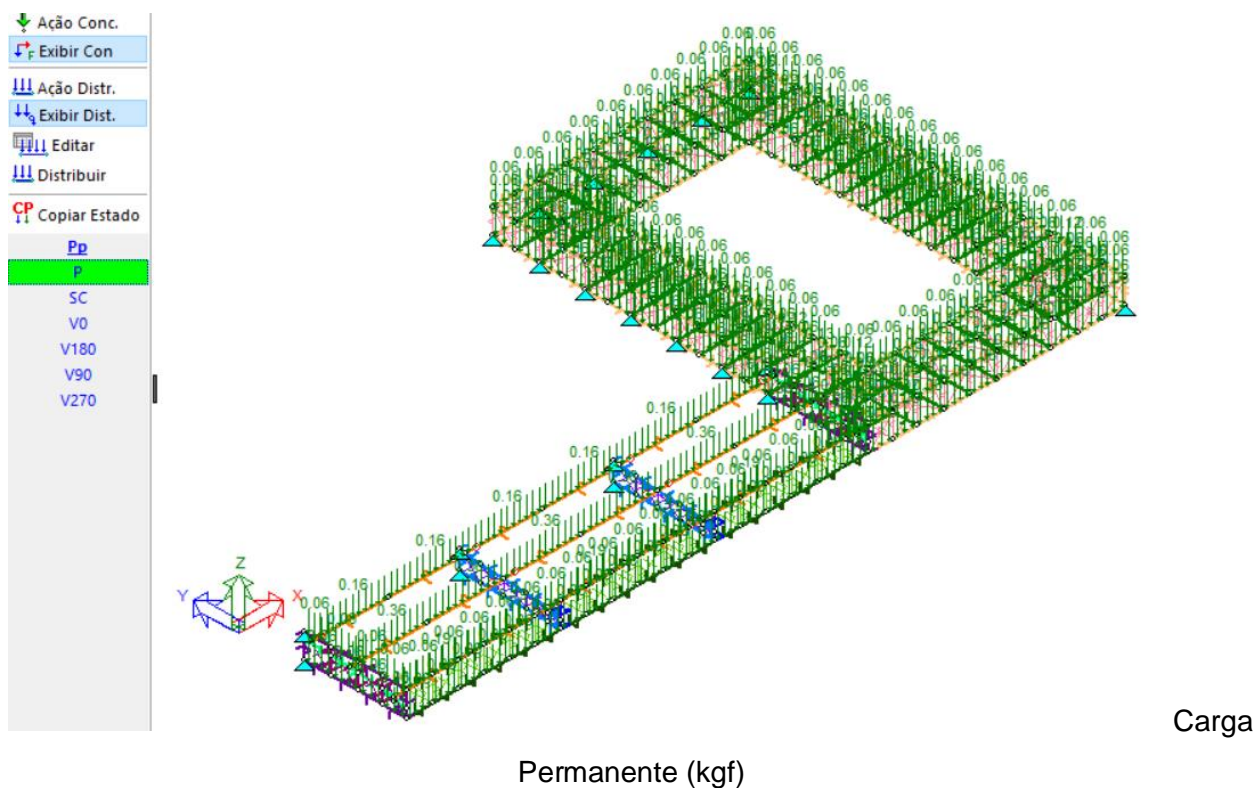
9.1.1. Sobrecarga de Vento

Ciclone	Velocidade Básica	50,00 m/s
Fator S1 = 1		
Fator S2 = 0,761	Categoria IV Classe A	
Fator S3 = 1,10	Grupo 1	
CPI	-0,3 => 0	
Vk=41,84Ms	Pressão de obstrução = 107,30 kgf/m ²	

9.2. -(Vxx) Sobrecarga de Vento :Ciclone Combinações de Cálculo

COMBINAÇÃO 1	1,25Pp+1,40P+1,50 SC
COMBINAÇÃO 2	1,0Pp+1,0P+1,4 V0
COMBINAÇÃO 3	1,0Pp+1,0P+1,4 V180
COMBINAÇÃO 4	1,0Pp+1,0P+1,4 V90
COMBINAÇÃO 5	1,0Pp+1,0P+1,4 V270

9.3. Lançamento das cargas



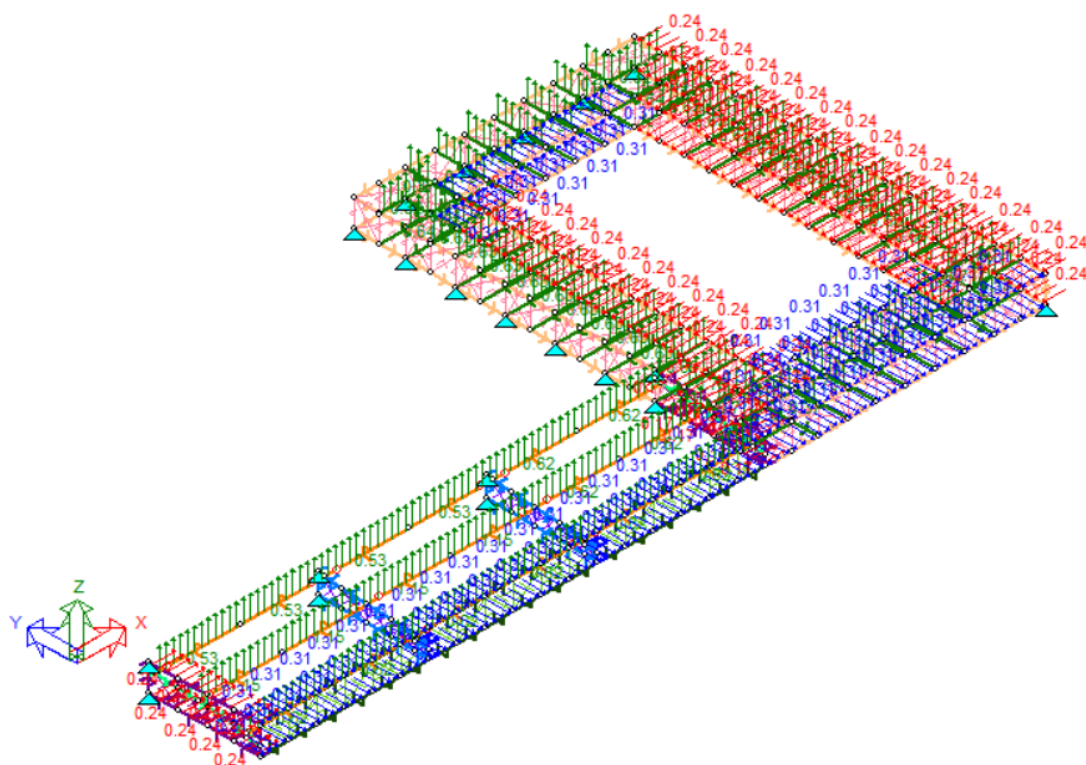
↓ Ação Conc.
↕ Exibir Con

||| Ação Distr.
||| Exibir Dist.

||| Editar
||| Distribuir

CP Copiar Estado

Pp
P
SC
V0
V180
V90
V270



Vento 0 (kgf)

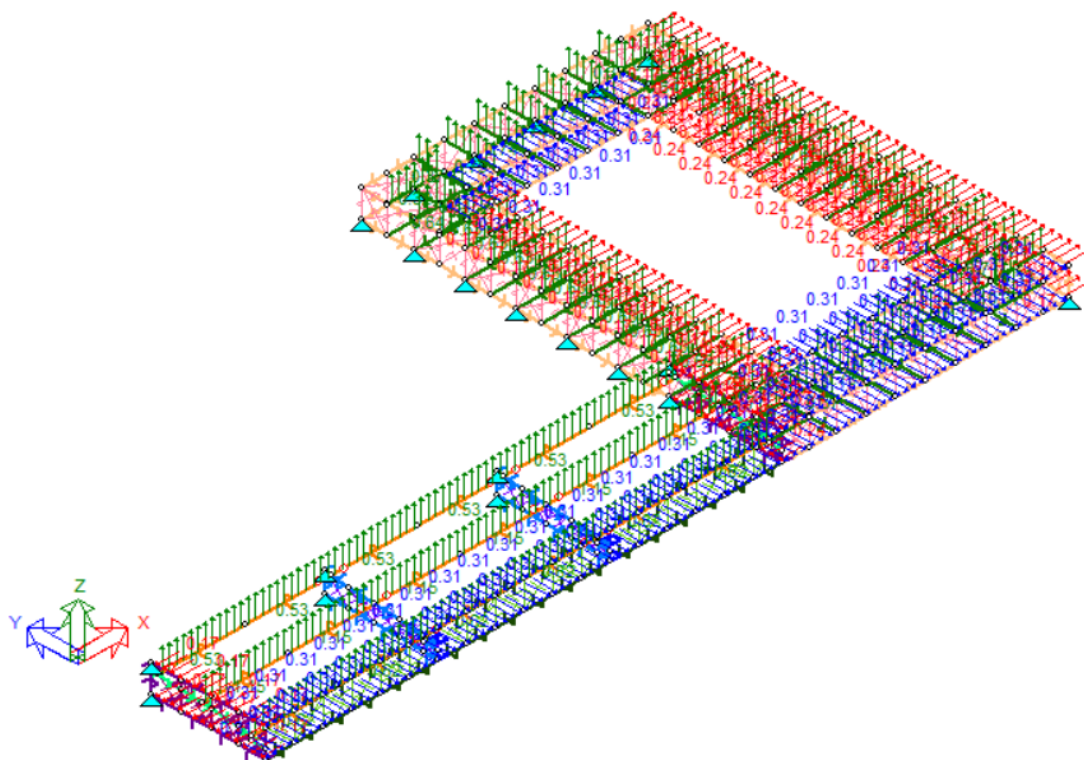
↓ Ação Conc.
↕ Exibir Con

||| Ação Distr.
||| Exibir Dist.

||| Editar
||| Distribuir

CP Copiar Estado

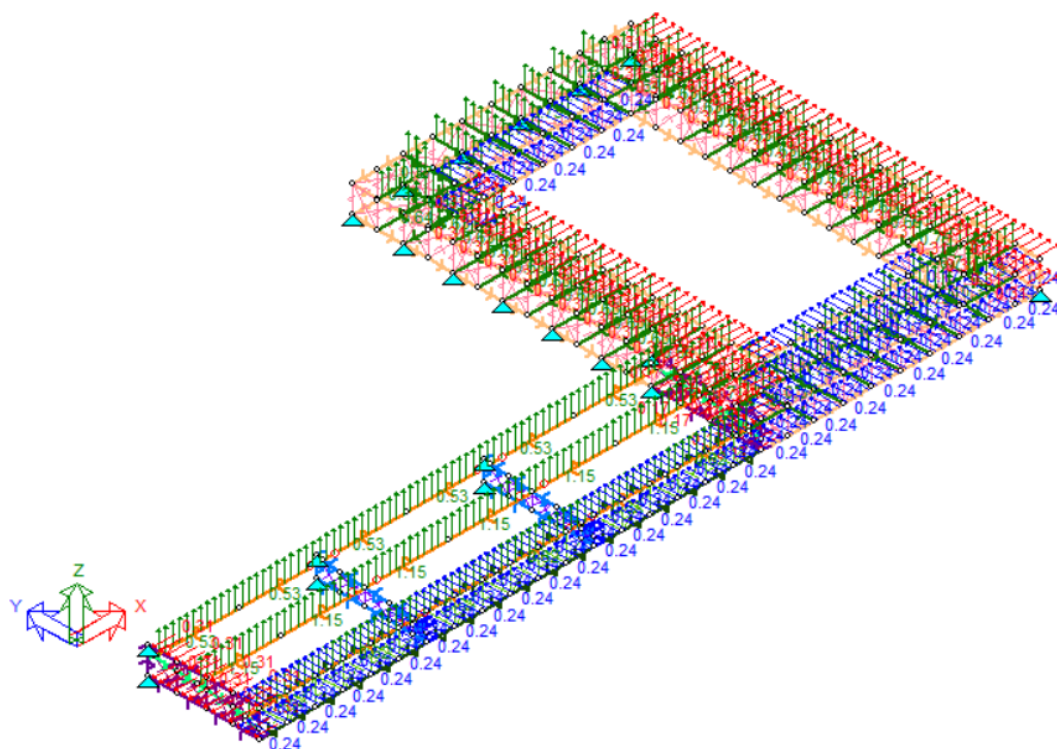
Pp
P
SC
V0
V180
V90
V270



Vento 180 (kgf)

↓ Ação Conc.
 ↗ Exibir Con
 ||| Ação Distr.
 ↗ Exibir Dist.
 ||| Editar
 ||| Distribuir
 CP Copiar Estado

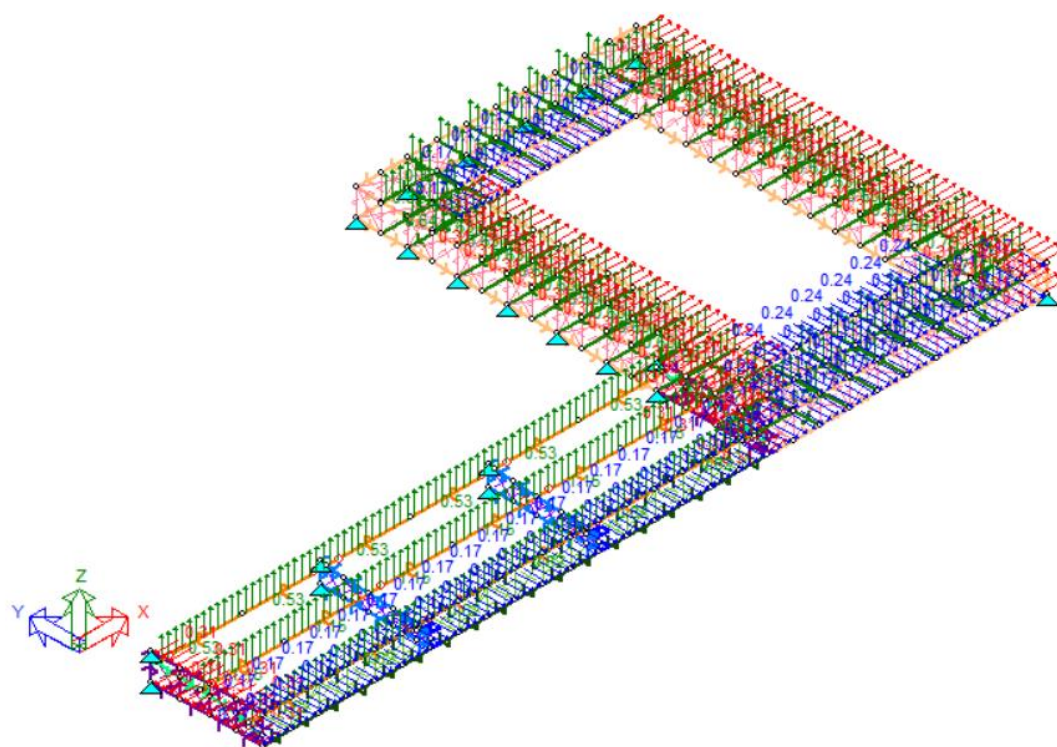
Pp
P
SC
V0
V180
V90
V270



Vento 90 (kgf)

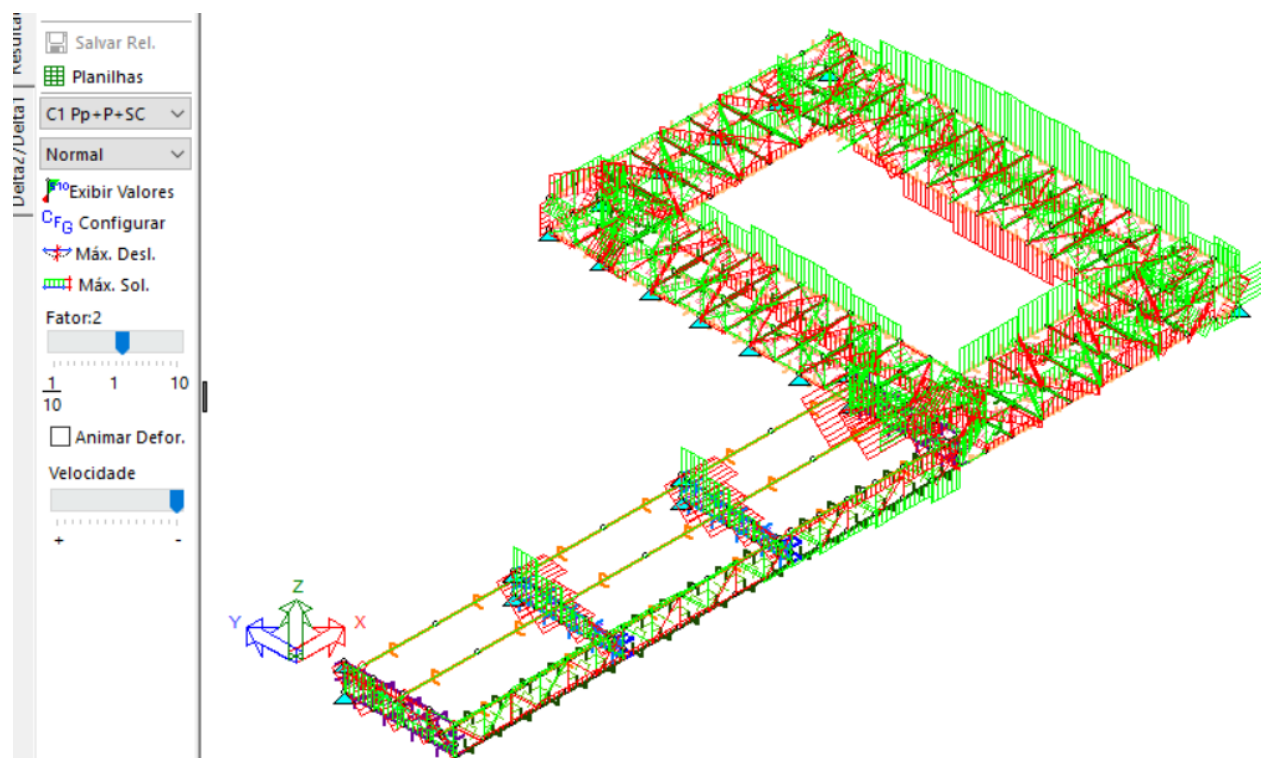
↓ Ação Conc.
 ↗ Exibir Con
 ||| Ação Distr.
 ↗ Exibir Dist.
 ||| Editar
 ||| Distribuir
 CP Copiar Estado

Pp
P
SC
V0
V180
V90
V270

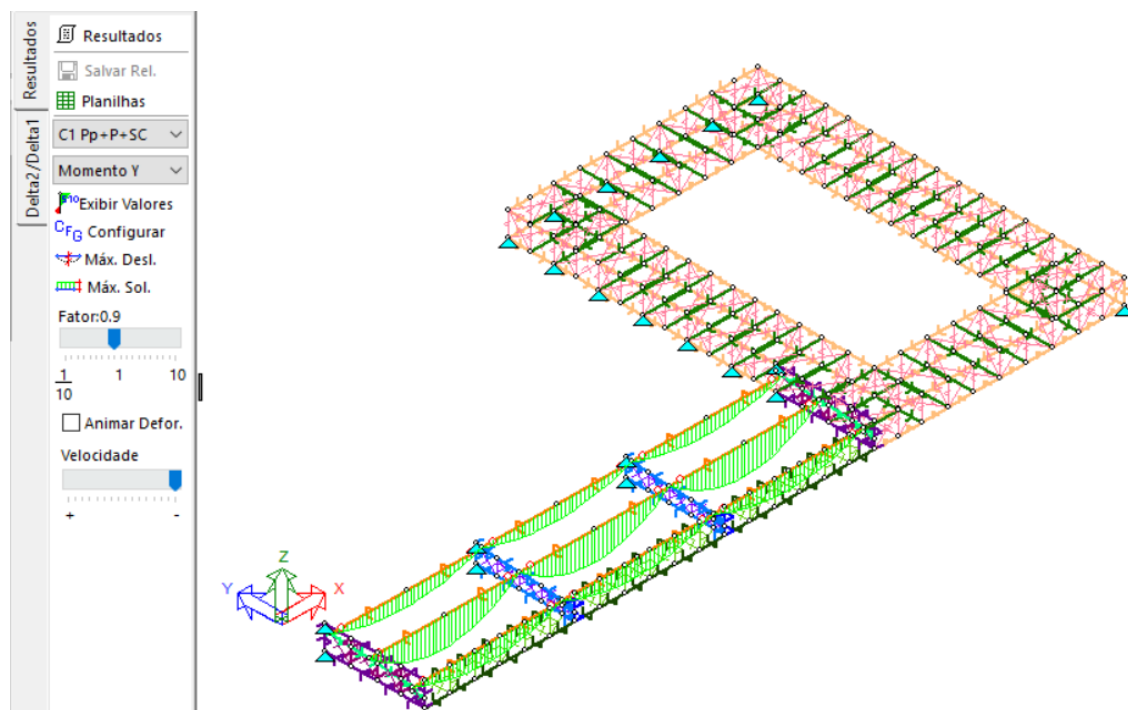


Vento 270 (kgf)

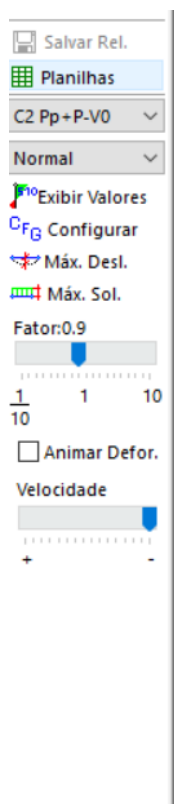
9.4. Resultados – Casos mais desfavoráveis



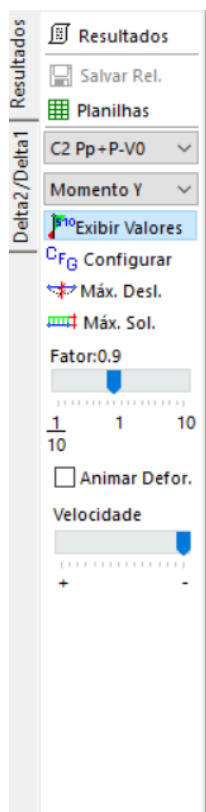
Esforço Normal (kgf) – Combinação 1



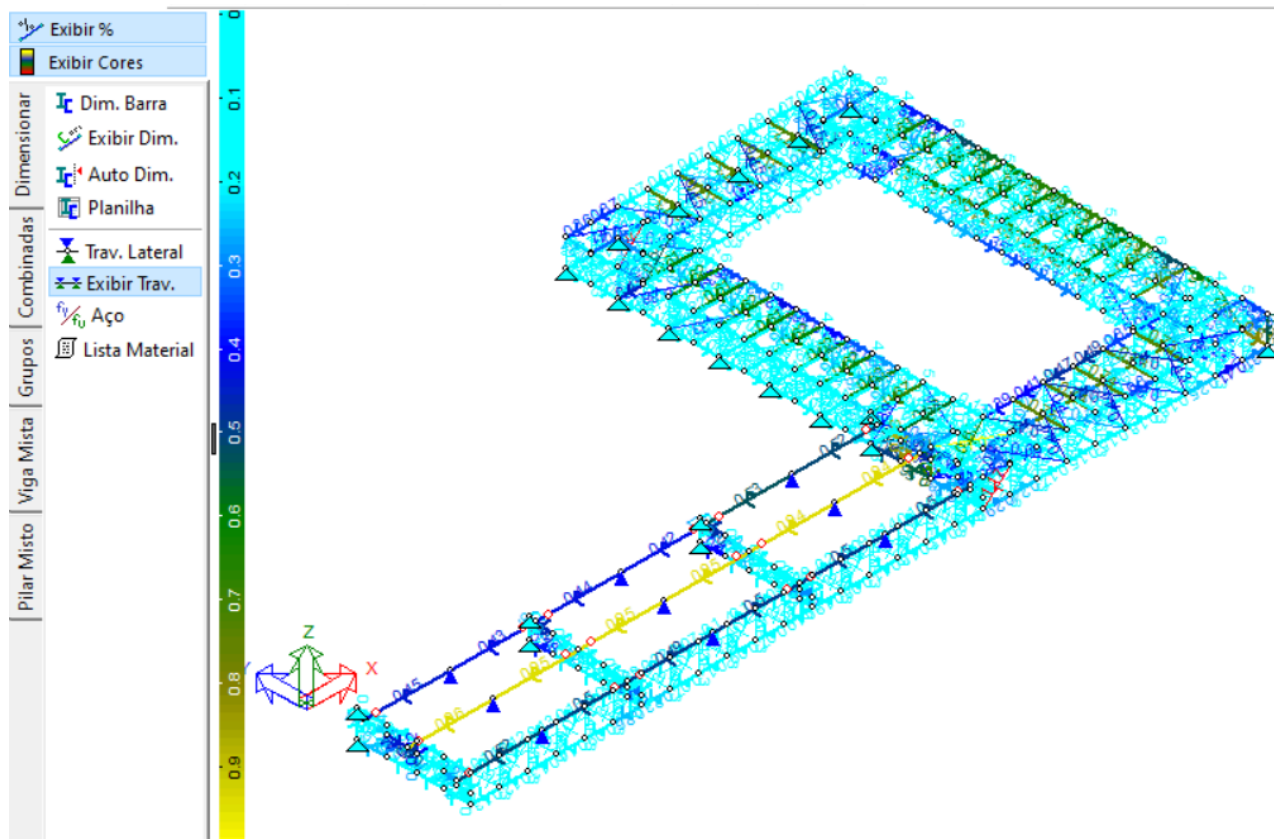
Momento Fletor (kgf.cm) – Combinação 1



Esforço Normal (kgf) – Combinação 2



Momento Fletor (kgf.cm) – Combinação 2



Resultado $S_d/R_d < 1$ Todas as barras atendem ao cálculo

Barra		Normal	Cortante Z	Momento Y	Eq. Int. Max.	Dimensionamento
1	Sd/Rd	0.00	0	0	2.23E-3	LLM 22.2 x 3.2 x 100
2	Sd/Rd	0.00	0	0	1.45E-3	LLM 22.2 x 3.2 x 100
3	Sd/Rd	0.00	0	0	2.3E-3	LLM 22.2 x 3.2 x 100
4	Sd/Rd	0.00	0	0	1.44E-3	LLM 22.2 x 3.2 x 100
5	Sd/Rd	0.00	0	0	2.23E-3	LLM 22.2 x 3.2 x 100
6	Sd/Rd	0.02	0	0	0.02	LLM 22.2 x 3.2 x 100
7	Sd/Rd	0.04	0	0	0.04	LLM 22.2 x 3.2 x 100
8	Sd/Rd	0.02	0	0	0.02	LLM 22.2 x 3.2 x 100
9	Sd/Rd	0.01	0	0	0.01	LLM 22.2 x 3.2 x 100
10	Sd/Rd	0.04	0	0	0.04	LLM 22.2 x 3.2 x 100
11	Sd/Rd	0.02	0	0	0.02	LLM 22.2 x 3.2 x 100
12	Sd/Rd	0.00	0	0	2.29E-3	LLM 22.2 x 3.2 x 100
13	Sd/Rd	0.00	0	0	1.43E-3	LLM 22.2 x 3.2 x 100
14	Sd/Rd	0.00	0	0	2.28E-3	LLM 22.2 x 3.2 x 100
15	Sd/Rd	0.00	0	0	1.48E-3	LLM 22.2 x 3.2 x 100
16	Sd/Rd	0.00	0	0	2E-3	LLM 22.2 x 3.2 x 100
17	Sd/Rd	0.01	0	0	0.01	LLM 22.2 x 3.2 x 100
18	Sd/Rd	0.03	0	0	0.03	LLM 22.2 x 3.2 x 100
19	Sd/Rd	0.03	0	0	0.03	LLM 22.2 x 3.2 x 100
20	Sd/Rd	0.01	0	0	0.01	LLM 22.2 x 3.2 x 100
21	Sd/Rd	0.05	0	0	0.05	LLM 22.2 x 3.2 x 100
22	Sd/Rd	0.02	0	0	0.02	LLM 22.2 x 3.2 x 100
23	Sd/Rd	0.00	0	0	2.45E-3	LLM 22.2 x 3.2 x 100
24	Sd/Rd	0.00	0	0	1.41E-3	LLM 22.2 x 3.2 x 100
25	Sd/Rd	0.00	0	0	2.3E-3	LLM 22.2 x 3.2 x 100
26	Sd/Rd	0.00	0	0	1.5E-3	LLM 22.2 x 3.2 x 100
27	Sd/Rd	0.00	0	0	2.01E-3	LLM 22.2 x 3.2 x 100
28	Sd/Rd	0.04	0	0	0.04	LLM 22.2 x 3.2 x 100
29	Sd/Rd	0.06	0	0	0.06	LLM 22.2 x 3.2 x 100
30	Sd/Rd	0.07	0	0	0.07	LLM 22.2 x 3.2 x 100
31	Sd/Rd	0.04	0	0	0.04	LLM 22.2 x 3.2 x 100
32	Sd/Rd	0.09	0	0	0.09	LLM 22.2 x 3.2 x 100
33	Sd/Rd	0.04	0	0	0.04	LLM 22.2 x 3.2 x 100
34	Sd/Rd	0.02	0.01	0.03	0.06	[100 x 40 x 2.65
35	Sd/Rd	0.38	0.00	0.07	0.55	LLAM 31.8 x 3.2

36	Sd/Rd	0.00	0	0	3.44E-3	LLAM 25.4 x 3.2
37	Sd/Rd	0.00	0	0	2.79E-3	LLAM 25.4 x 3.2
38	Sd/Rd	0.00	0	0	2.25E-3	LLAM 25.4 x 3.2
39	Sd/Rd	0.00	0	0	2.75E-3	LLAM 25.4 x 3.2
40	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
41	Sd/Rd	0.01	0	0	5.36E-3	LLAM 25.4 x 3.2
42	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
43	Sd/Rd	0.01	0	0	5.39E-3	LLAM 25.4 x 3.2
44	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
45	Sd/Rd	0.11	0	0	0.11	LLAM 25.4 x 3.2
46	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
47	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
48	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
49	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
50	Sd/Rd	0.15	0	0	0.15	LLAM 25.4 x 3.2
51	Sd/Rd	0.11	0	0	0.11	LLAM 25.4 x 3.2
52	Sd/Rd	0.19	0	0	0.19	LLAM 25.4 x 3.2
53	Sd/Rd	0.00	0.02	0.13	0.14	[100 x 40 x 2.65
54	Sd/Rd	0.00	0.01	0.11	0.12	[100 x 40 x 2.65
55	Sd/Rd	0.00	0.01	0.12	0.13	[100 x 40 x 2.65
56	Sd/Rd	0.00	0.01	0.12	0.13	[100 x 40 x 2.65
57	Sd/Rd	0.01	0.02	0.07	0.09	[100 x 40 x 2.65
58	Sd/Rd	0.01	0.03	0.19	0.22	[100 x 40 x 2.65
59	Sd/Rd	0.01	0.03	0.19	0.22	[100 x 40 x 2.65
60	Sd/Rd	0.02	0.02	0.05	0.07	[100 x 40 x 2.65
61	Sd/Rd	0.01	0.01	0.08	0.1	[100 x 40 x 2.65
62	Sd/Rd	0.01	0.01	0.08	0.1	[100 x 40 x 2.65
63	Sd/Rd	0.01	0.02	0.05	0.07	[100 x 40 x 2.65
64	Sd/Rd	0.01	0.02	0.18	0.19	[100 x 40 x 2.65
65	Sd/Rd	0.01	0.03	0.17	0.2	[100 x 40 x 2.65
66	Sd/Rd	0.01	0.02	0.07	0.09	[100 x 40 x 2.65
67	Sd/Rd	0.04	0.01	0.1	0.14	[100 x 40 x 2.65
68	Sd/Rd	0.04	0.01	0.1	0.14	[100 x 40 x 2.65
69	Sd/Rd	0.05	0.02	0.07	0.13	[100 x 40 x 2.65
70	Sd/Rd	0.05	0.02	0.16	0.21	[100 x 40 x 2.65
71	Sd/Rd	0.03	0.02	0.15	0.19	[100 x 40 x 2.65

72	Sd/Rd	0.1	0	0.00	0.11	[100 x 40 x 2.65
73	Sd/Rd	0.03	0.01	0.1	0.13	[100 x 40 x 2.65
74	Sd/Rd	0.02	0.01	0.1	0.11	[100 x 40 x 2.65
75	Sd/Rd	0.02	0.02	0.06	0.08	[100 x 40 x 2.65
76	Sd/Rd	0.01	0.03	0.18	0.19	[100 x 40 x 2.65
77	Sd/Rd	0.01	0.02	0.17	0.19	[100 x 40 x 2.65
78	Sd/Rd	0.01	0.02	0.05	0.07	[100 x 40 x 2.65
79	Sd/Rd	0.01	0.01	0.08	0.09	[100 x 40 x 2.65
80	Sd/Rd	0.02	0.01	0.08	0.1	[100 x 40 x 2.65
81	Sd/Rd	0.02	0.02	0.05	0.07	[100 x 40 x 2.65
82	Sd/Rd	0.04	0.03	0.19	0.23	[100 x 40 x 2.65
83	Sd/Rd	0.04	0.03	0.21	0.26	[100 x 40 x 2.65
84	Sd/Rd	0.02	0.02	0.07	0.09	[100 x 40 x 2.65
85	Sd/Rd	0.02	0.01	0.12	0.14	[100 x 40 x 2.65
86	Sd/Rd	0.00	0.01	0.12	0.13	[100 x 40 x 2.65
87	Sd/Rd	0.00	0.01	0.11	0.12	[100 x 40 x 2.65
88	Sd/Rd	0.00	0.02	0.13	0.13	[100 x 40 x 2.65
89	Sd/Rd	0.03	0.00	0.01	0.32	LLAM 31.8 x 3.2
90	Sd/Rd	0.03	0.00	0.01	0.2	LLAM 31.8 x 3.2
91	Sd/Rd	0.03	0.00	0.02	0.17	LLAM 31.8 x 3.2
92	Sd/Rd	0.08	0.00	0.02	0.14	LLAM 31.8 x 3.2
93	Sd/Rd	0.08	0.00	0.03	0.15	LLAM 31.8 x 3.2
94	Sd/Rd	0.28	0.00	0.02	0.33	LLAM 31.8 x 3.2
95	Sd/Rd	0.09	0.00	0.03	0.14	LLAM 31.8 x 3.2
96	Sd/Rd	0.3	0.00	0.02	0.35	LLAM 31.8 x 3.2
97	Sd/Rd	0.04	0.00	0.02	0.28	LLAM 31.8 x 3.2
98	Sd/Rd	0.23	0.00	0.05	0.3	LLAM 31.8 x 3.2
99	Sd/Rd	0.22	0.00	0.07	0.31	LLAM 31.8 x 3.2
100	Sd/Rd	0.23	0.00	0.02	0.41	LLAM 31.8 x 3.2
101	Sd/Rd	0.11	0.00	0.02	0.25	LLAM 31.8 x 3.2
102	Sd/Rd	0.18	0.00	0.03	0.18	LLAM 31.8 x 3.2
103	Sd/Rd	0.18	0.00	0.03	0.18	LLAM 31.8 x 3.2
104	Sd/Rd	0.13	0.00	0.02	0.15	LLAM 31.8 x 3.2
105	Sd/Rd	0.13	0.00	0.02	0.15	LLAM 31.8 x 3.2
106	Sd/Rd	0.04	0.00	0.02	0.17	LLAM 31.8 x 3.2
107	Sd/Rd	0.06	0.00	0.01	0.24	LLAM 31.8 x 3.2

108	Sd/Rd	0.02	0.00	0.01	0.29	LLAM 31.8 x 3.2
109	Sd/Rd	0.21	0	0	0.21	LLAM 25.4 x 3.2
110	Sd/Rd	0.00	0	0	4.07E-3	LLAM 25.4 x 3.2
111	Sd/Rd	0.00	0	0	4.74E-3	LLAM 25.4 x 3.2
112	Sd/Rd	0.01	0	0	6.39E-3	LLAM 25.4 x 3.2
113	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
114	Sd/Rd	0.01	0	0	5.54E-3	LLAM 25.4 x 3.2
115	Sd/Rd	0.01	0	0	8.46E-3	LLAM 25.4 x 3.2
116	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
117	Sd/Rd	0.01	0	0	5.66E-3	LLAM 25.4 x 3.2
118	Sd/Rd	0.32	0	0	0.32	LLAM 25.4 x 3.2
119	Sd/Rd	0.62	0	0	0.62	LLAM 25.4 x 3.2
120	Sd/Rd	0.16	0	0	0.16	LLAM 25.4 x 3.2
121	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
122	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
123	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
124	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
125	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
126	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
127	Sd/Rd	0.01	0	0	5.7E-3	LLAM 25.4 x 3.2
128	Sd/Rd	0.01	0	0	8.54E-3	LLAM 25.4 x 3.2
129	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
130	Sd/Rd	0.01	0	0	6.88E-3	LLAM 25.4 x 3.2
131	Sd/Rd	0.06	0	0	0.06	LLAM 25.4 x 3.2
132	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
133	Sd/Rd	0.1	0	0	0.1	LLAM 25.4 x 3.2
134	Sd/Rd	0.31	0	0	0.31	LLAM 25.4 x 3.2
135	Sd/Rd	0.22	0.01	0.1	0.36	LLAM 31.8 x 3.2
136	Sd/Rd	0.17	0.00	0.03	0.17	LLAM 31.8 x 3.2
137	Sd/Rd	0.52	0.00	0.03	0.6	LLAM 31.8 x 3.2
138	Sd/Rd	0.46	0.00	0.03	0.52	LLAM 31.8 x 3.2
139	Sd/Rd	0.58	0.00	0.04	0.65	LLAM 31.8 x 3.2
140	Sd/Rd	0.53	0.00	0.04	0.6	LLAM 31.8 x 3.2
141	Sd/Rd	0.61	0.00	0.02	0.67	LLAM 31.8 x 3.2
142	Sd/Rd	0.58	0.00	0.03	0.64	LLAM 31.8 x 3.2

143	Sd/Rd	0.58	0.00	0.04	0.66	LLAM 31.8 x 3.2
144	Sd/Rd	0.54	0.00	0.03	0.6	LLAM 31.8 x 3.2
145	Sd/Rd	0.51	0.00	0.03	0.58	LLAM 31.8 x 3.2
146	Sd/Rd	0.46	0.00	0.03	0.52	LLAM 31.8 x 3.2
147	Sd/Rd	0.38	0.00	0.02	0.44	LLAM 31.8 x 3.2
148	Sd/Rd	0.34	0.00	0.03	0.39	LLAM 31.8 x 3.2
149	Sd/Rd	0.18	0.00	0.02	0.18	LLAM 31.8 x 3.2
150	Sd/Rd	0.03	0.00	0.02	0.1	LLAM 31.8 x 3.2
151	Sd/Rd	0.25	0.00	0.02	0.28	LLAM 31.8 x 3.2
152	Sd/Rd	0.08	0.00	0.02	0.11	LLAM 31.8 x 3.2
153	Sd/Rd	0.08	0.00	0.03	0.13	LLAM 31.8 x 3.2
154	Sd/Rd	0.06	0.00	0.02	0.11	LLAM 31.8 x 3.2
155	Sd/Rd	0.06	0.00	0.03	0.12	LLAM 31.8 x 3.2
156	Sd/Rd	0.1	0.00	0.02	0.13	LLAM 31.8 x 3.2
157	Sd/Rd	0.06	0.00	0.03	0.12	LLAM 31.8 x 3.2
158	Sd/Rd	0.13	0.00	0.02	0.14	LLAM 31.8 x 3.2
159	Sd/Rd	0.13	0.00	0.02	0.13	LLAM 31.8 x 3.2
160	Sd/Rd	0.12	0.00	0.02	0.12	LLAM 31.8 x 3.2
161	Sd/Rd	0.12	0.00	0.02	0.13	LLAM 31.8 x 3.2
162	Sd/Rd	0.02	0.00	0.03	0.11	LLAM 31.8 x 3.2
163	Sd/Rd	0.06	0.00	0.03	0.13	LLAM 31.8 x 3.2
164	Sd/Rd	0.06	0.00	0.03	0.14	LLAM 31.8 x 3.2
165	Sd/Rd	0.15	0.00	0.05	0.16	LLAM 31.8 x 3.2
166	Sd/Rd	0.68	0.01	0.12	0.81	LLAM 31.8 x 3.2
167	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
168	Sd/Rd	0.28	0	0	0.28	LLAM 25.4 x 3.2
169	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
170	Sd/Rd	0.01	0	0	7.87E-3	LLAM 25.4 x 3.2
171	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
172	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
173	Sd/Rd	0.14	0	0	0.14	LLAM 25.4 x 3.2
174	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
175	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
176	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
177	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
178	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2

179	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
180	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
181	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
182	Sd/Rd	0.09	0	0	0.09	LLAM 25.4 x 3.2
183	Sd/Rd	0.1	0	0	0.1	LLAM 25.4 x 3.2
184	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
185	Sd/Rd	0.22	0	0	0.22	LLAM 25.4 x 3.2
186	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
187	Sd/Rd	0.04	0.01	0.19	0.23	LLAM 31.8 x 3.2
188	Sd/Rd	0.04	0.00	0.04	0.08	LLAM 31.8 x 3.2
189	Sd/Rd	0.02	0.00	0.03	0.05	LLAM 31.8 x 3.2
190	Sd/Rd	0.02	0.00	0.02	0.06	LLAM 31.8 x 3.2
191	Sd/Rd	0.02	0.00	0.02	0.04	LLAM 31.8 x 3.2
192	Sd/Rd	0.02	0.00	0.02	0.05	LLAM 31.8 x 3.2
193	Sd/Rd	0.03	0.00	0.02	0.05	LLAM 31.8 x 3.2
194	Sd/Rd	0.03	0.00	0.03	0.06	LLAM 31.8 x 3.2
195	Sd/Rd	0.1	0.00	0.03	0.1	LLAM 31.8 x 3.2
196	Sd/Rd	0.1	0.00	0.01	0.1	LLAM 31.8 x 3.2
197	Sd/Rd	0.08	0.00	0.01	0.11	LLAM 31.8 x 3.2
198	Sd/Rd	0.08	0.00	0.02	0.11	LLAM 31.8 x 3.2
199	Sd/Rd	0.04	0.00	0.02	0.05	LLAM 31.8 x 3.2
200	Sd/Rd	0.05	0.00	0.04	0.08	LLAM 31.8 x 3.2
201	Sd/Rd	0.06	0.00	0.04	0.08	LLAM 31.8 x 3.2
202	Sd/Rd	0.14	0.00	0.04	0.14	LLAM 31.8 x 3.2
203	Sd/Rd	0.03	0.00	0.04	0.07	LLAM 31.8 x 3.2
204	Sd/Rd	0.04	0.00	0.03	0.06	LLAM 31.8 x 3.2
205	Sd/Rd	0.02	0.00	0.03	0.05	LLAM 31.8 x 3.2
206	Sd/Rd	0.03	0.00	0.03	0.04	LLAM 31.8 x 3.2
207	Sd/Rd	0.02	0.00	0.03	0.04	LLAM 31.8 x 3.2
208	Sd/Rd	0.02	0.00	0.03	0.05	LLAM 31.8 x 3.2
209	Sd/Rd	0.01	0.00	0.04	0.04	LLAM 31.8 x 3.2
210	Sd/Rd	0.01	0.01	0.16	0.22	LLAM 31.8 x 3.2
211	Sd/Rd	0	0.02	0.15	0.15	LLAM 50.8 x 3.2
212	Sd/Rd	0.01	0	0	0.17	LLAM 50.8 x 3.2
213	Sd/Rd	0.02	0.02	0.15	0.51	LLAM 50.8 x 3.2
214	Sd/Rd	0.00	0	0	0.23	LLAM 50.8 x 3.2

215	Sd/Rd	0.35	0.00	0.04	0.71	LLLM 22.2 x 3.2 x 100
216	Sd/Rd	0.07	0.00	0.03	0.27	LLLM 22.2 x 3.2 x 100
217	Sd/Rd	0.1	0	0	0.1	LLLM 22.2 x 3.2 x 100
218	Sd/Rd	0.04	0	0	0.04	LLLM 22.2 x 3.2 x 100
219	Sd/Rd	0.4	0.01	0.12	0.84	LLLM 22.2 x 3.2 x 100
220	Sd/Rd	0.53	0	0	0.53	LLLM 22.2 x 3.2 x 100
221	Sd/Rd	0.41	0	0	0.41	LLLM 22.2 x 3.2 x 100
222	Sd/Rd	0.16	0.00	0.01	0.21	[100 x 40 x 2.65
223	Sd/Rd	0.43	0.00	0.04	0.5	[100 x 40 x 2.65
224	Sd/Rd	0.02	0.01	0.02	0.05	[100 x 40 x 2.65
225	Sd/Rd	0.01	0.01	0.09	0.29	LLAM 50.8 x 3.2
226	Sd/Rd	0	0.01	0.06	0.13	LLAM 50.8 x 3.2
227	Sd/Rd	0.01	0.00	0.08	0.27	LLLM 22.2 x 3.2 x 100
228	Sd/Rd	0.32	0.00	0.03	0.62	LLLM 22.2 x 3.2 x 100
229	Sd/Rd	0.36	0.01	0.17	0.88	LLLM 22.2 x 3.2 x 100
230	Sd/Rd	0.01	0	0	6.23E-3	LLAM 25.4 x 3.2
231	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
232	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
233	Sd/Rd	0.01	0	0	6E-3	LLAM 25.4 x 3.2
234	Sd/Rd	0.19	0	0	0.19	LLAM 25.4 x 3.2
235	Sd/Rd	0.37	0	0	0.37	LLAM 25.4 x 3.2
236	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
237	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
238	Sd/Rd	0.01	0	0	5.81E-3	LLAM 25.4 x 3.2
239	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
240	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
241	Sd/Rd	0.01	0	0	6.26E-3	LLAM 25.4 x 3.2
242	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
243	Sd/Rd	0.07	0	0	0.07	LLAM 25.4 x 3.2
244	Sd/Rd	0.01	0	0	7.7E-3	LLAM 25.4 x 3.2
245	Sd/Rd	0.2	0	0	0.2	LLAM 25.4 x 3.2
246	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
247	Sd/Rd	0.21	0	0	0.21	LLAM 25.4 x 3.2
248	Sd/Rd	0.26	0.00	0.03	0.33	LLAM 31.8 x 3.2
249	Sd/Rd	0.26	0.00	0.02	0.31	LLAM 31.8 x 3.2

250	Sd/Rd	0.51	0.00	0.04	0.59	LLAM 31.8 x 3.2
251	Sd/Rd	0.51	0.00	0.04	0.58	LLAM 31.8 x 3.2
252	Sd/Rd	0.62	0.00	0.04	0.69	LLAM 31.8 x 3.2
253	Sd/Rd	0.62	0.00	0.04	0.69	LLAM 31.8 x 3.2
254	Sd/Rd	0.63	0.00	0.04	0.71	LLAM 31.8 x 3.2
255	Sd/Rd	0.63	0.00	0.04	0.7	LLAM 31.8 x 3.2
256	Sd/Rd	0.55	0.00	0.05	0.63	LLAM 31.8 x 3.2
257	Sd/Rd	0.55	0.00	0.05	0.62	LLAM 31.8 x 3.2
258	Sd/Rd	0.33	0.00	0.03	0.4	LLAM 31.8 x 3.2
259	Sd/Rd	0.33	0.00	0.05	0.4	LLAM 31.8 x 3.2
260	Sd/Rd	0.31	0.00	0.04	0.36	LLAM 31.8 x 3.2
261	Sd/Rd	0.02	0.00	0.03	0.17	LLAM 31.8 x 3.2
262	Sd/Rd	0.04	0.00	0.03	0.16	LLAM 31.8 x 3.2
263	Sd/Rd	0.22	0.00	0.04	0.27	LLAM 31.8 x 3.2
264	Sd/Rd	0.22	0.00	0.03	0.26	LLAM 31.8 x 3.2
265	Sd/Rd	0.29	0.00	0.04	0.35	LLAM 31.8 x 3.2
266	Sd/Rd	0.29	0.00	0.04	0.34	LLAM 31.8 x 3.2
267	Sd/Rd	0.26	0.00	0.03	0.31	LLAM 31.8 x 3.2
268	Sd/Rd	0.26	0.00	0.04	0.31	LLAM 31.8 x 3.2
269	Sd/Rd	0.16	0.00	0.03	0.16	LLAM 31.8 x 3.2
270	Sd/Rd	0.16	0.00	0.02	0.16	LLAM 31.8 x 3.2
271	Sd/Rd	0.01	0	0	5.15E-3	LLAM 25.4 x 3.2
272	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
273	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
274	Sd/Rd	0.00	0	0	4.97E-3	LLAM 25.4 x 3.2
275	Sd/Rd	0.18	0	0	0.18	LLAM 25.4 x 3.2
276	Sd/Rd	0.36	0	0	0.36	LLAM 25.4 x 3.2
277	Sd/Rd	0.11	0	0	0.11	LLAM 25.4 x 3.2
278	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
279	Sd/Rd	0.00	0	0	4.87E-3	LLAM 25.4 x 3.2
280	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
281	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
282	Sd/Rd	0.01	0	0	5.28E-3	LLAM 25.4 x 3.2
283	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
284	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
285	Sd/Rd	0.01	0	0	6.64E-3	LLAM 25.4 x 3.2

286	Sd/Rd	0.2	0	0	0.2	LLAM 25.4 x 3.2
287	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
288	Sd/Rd	0.21	0	0	0.21	LLAM 25.4 x 3.2
289	Sd/Rd	0.06	0.00	0.02	0.13	LLAM 31.8 x 3.2
290	Sd/Rd	0.19	0.00	0.02	0.19	LLAM 31.8 x 3.2
291	Sd/Rd	0.25	0.00	0.03	0.29	LLAM 31.8 x 3.2
292	Sd/Rd	0.31	0.00	0.02	0.34	LLAM 31.8 x 3.2
293	Sd/Rd	0.36	0.00	0.03	0.4	LLAM 31.8 x 3.2
294	Sd/Rd	0.33	0.00	0.03	0.36	LLAM 31.8 x 3.2
295	Sd/Rd	0.38	0.00	0.02	0.42	LLAM 31.8 x 3.2
296	Sd/Rd	0.26	0.00	0.03	0.3	LLAM 31.8 x 3.2
297	Sd/Rd	0.31	0.00	0.03	0.35	LLAM 31.8 x 3.2
298	Sd/Rd	0.02	0.00	0.01	0.09	LLAM 31.8 x 3.2
299	Sd/Rd	0.11	0.00	0.06	0.13	LLAM 31.8 x 3.2
300	Sd/Rd	0.17	0.00	0.05	0.19	LLAM 31.8 x 3.2
301	Sd/Rd	0.01	0.00	0.02	0.1	LLAM 31.8 x 3.2
302	Sd/Rd	0.01	0.00	0.02	0.08	LLAM 31.8 x 3.2
303	Sd/Rd	0.05	0.00	0.02	0.1	LLAM 31.8 x 3.2
304	Sd/Rd	0.05	0.00	0.02	0.1	LLAM 31.8 x 3.2
305	Sd/Rd	0.17	0.00	0.03	0.17	LLAM 31.8 x 3.2
306	Sd/Rd	0.17	0.00	0.02	0.17	LLAM 31.8 x 3.2
307	Sd/Rd	0.09	0.00	0.02	0.12	LLAM 31.8 x 3.2
308	Sd/Rd	0.09	0.00	0.02	0.12	LLAM 31.8 x 3.2
309	Sd/Rd	0.1	0.00	0.02	0.15	LLAM 31.8 x 3.2
310	Sd/Rd	0.1	0.00	0.02	0.16	LLAM 31.8 x 3.2
311	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
312	Sd/Rd	0.01	0	0	5.96E-3	LLAM 25.4 x 3.2
313	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
314	Sd/Rd	0.01	0	0	5.87E-3	LLAM 25.4 x 3.2
315	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
316	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
317	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
318	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
319	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
320	Sd/Rd	0.07	0	0	0.07	LLAM 25.4 x 3.2
321	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2

322	Sd/Rd	0.31	0.00	0.03	0.34	LLAM 31.8 x 3.2
323	Sd/Rd	0.2	0.00	0.03	0.23	LLAM 31.8 x 3.2
324	Sd/Rd	0.35	0.00	0.03	0.4	LLAM 31.8 x 3.2
325	Sd/Rd	0.25	0.00	0.03	0.27	LLAM 31.8 x 3.2
326	Sd/Rd	0.21	0.00	0.02	0.26	LLAM 31.8 x 3.2
327	Sd/Rd	0.07	0.00	0.05	0.17	LLAM 31.8 x 3.2
328	Sd/Rd	0.03	0.00	0.02	0.19	LLAM 31.8 x 3.2
329	Sd/Rd	0.08	0.00	0.02	0.14	LLAM 31.8 x 3.2
330	Sd/Rd	0.08	0.00	0.02	0.14	LLAM 31.8 x 3.2
331	Sd/Rd	0.06	0.00	0.02	0.12	LLAM 31.8 x 3.2
332	Sd/Rd	0.06	0.00	0.02	0.12	LLAM 31.8 x 3.2
333	Sd/Rd	0.02	0.00	0.02	0.11	LLAM 31.8 x 3.2
334	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
335	Sd/Rd	0.01	0	0	6.34E-3	LLAM 25.4 x 3.2
336	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
337	Sd/Rd	0.01	0	0	6.31E-3	LLAM 25.4 x 3.2
338	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
339	Sd/Rd	0.15	0	0	0.15	LLAM 25.4 x 3.2
340	Sd/Rd	0.28	0	0	0.28	LLAM 25.4 x 3.2
341	Sd/Rd	0.1	0	0	0.1	LLAM 25.4 x 3.2
342	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
343	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
344	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
345	Sd/Rd	0.36	0.00	0.02	0.39	LLAM 31.8 x 3.2
346	Sd/Rd	0.36	0.00	0.03	0.41	LLAM 31.8 x 3.2
347	Sd/Rd	0.43	0.00	0.03	0.47	LLAM 31.8 x 3.2
348	Sd/Rd	0.43	0.00	0.03	0.49	LLAM 31.8 x 3.2
349	Sd/Rd	0.32	0.00	0.02	0.35	LLAM 31.8 x 3.2
350	Sd/Rd	0.32	0.00	0.02	0.38	LLAM 31.8 x 3.2
351	Sd/Rd	0.14	0.00	0.02	0.16	LLAM 31.8 x 3.2
352	Sd/Rd	0.15	0.00	0.03	0.18	LLAM 31.8 x 3.2
353	Sd/Rd	0.24	0.00	0.03	0.29	LLAM 31.8 x 3.2
354	Sd/Rd	0.15	0.00	0.02	0.18	LLAM 31.8 x 3.2
355	Sd/Rd	0.24	0.00	0.02	0.3	LLAM 31.8 x 3.2
356	Sd/Rd	0.07	0.00	0.02	0.15	LLAM 31.8 x 3.2

357	Sd/Rd	0.28	0	0	0.28	LLAM 25.4 x 3.2
358	Sd/Rd	0.15	0	0	0.15	LLAM 25.4 x 3.2
359	Sd/Rd	0.00	0	0	2.38E-3	LLAM 25.4 x 3.2
360	Sd/Rd	0.00	0	0	2.85E-3	LLAM 25.4 x 3.2
361	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
362	Sd/Rd	0.07	0	0	0.07	LLAM 25.4 x 3.2
363	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
364	Sd/Rd	0.09	0	0	0.09	LLAM 25.4 x 3.2
365	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
366	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
367	Sd/Rd	0.21	0	0	0.21	LLAM 25.4 x 3.2
368	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
369	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
370	Sd/Rd	0.09	0	0	0.09	LLAM 25.4 x 3.2
371	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
372	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
373	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
374	Sd/Rd	0.3	0.00	0.02	0.36	LLAM 31.8 x 3.2
375	Sd/Rd	0.3	0.00	0.02	0.37	LLAM 31.8 x 3.2
376	Sd/Rd	0.06	0.00	0.03	0.07	LLAM 31.8 x 3.2
377	Sd/Rd	0.06	0.00	0.03	0.07	LLAM 31.8 x 3.2
378	Sd/Rd	0.03	0.00	0.03	0.07	LLAM 31.8 x 3.2
379	Sd/Rd	0.03	0.00	0.03	0.05	LLAM 31.8 x 3.2
380	Sd/Rd	0.07	0.00	0.03	0.09	LLAM 31.8 x 3.2
381	Sd/Rd	0.07	0.00	0.02	0.07	LLAM 31.8 x 3.2
382	Sd/Rd	0.03	0.00	0.02	0.05	LLAM 31.8 x 3.2
383	Sd/Rd	0.03	0.00	0.01	0.04	LLAM 31.8 x 3.2
384	Sd/Rd	0.03	0.00	0.03	0.06	LLAM 31.8 x 3.2
385	Sd/Rd	0.01	0.00	0.05	0.07	LLAM 31.8 x 3.2
386	Sd/Rd	0.01	0.00	0.05	0.07	LLAM 31.8 x 3.2
387	Sd/Rd	0.01	0.00	0.04	0.05	LLAM 31.8 x 3.2
388	Sd/Rd	0.05	0.00	0.04	0.07	LLAM 31.8 x 3.2
389	Sd/Rd	0.04	0.00	0.04	0.06	LLAM 31.8 x 3.2
390	Sd/Rd	0.08	0.00	0.04	0.09	LLAM 31.8 x 3.2
391	Sd/Rd	0.06	0.00	0.04	0.07	LLAM 31.8 x 3.2
392	Sd/Rd	0.15	0.00	0.04	0.15	LLAM 31.8 x 3.2

393	Sd/Rd	0.07	0.00	0.02	0.07	LLAM 31.8 x 3.2
394	Sd/Rd	0.00	0	0	4.92E-3	LLAM 25.4 x 3.2
395	Sd/Rd	0.00	0	0	4.94E-3	LLAM 25.4 x 3.2
396	Sd/Rd	0.01	0	0	6.73E-3	LLAM 25.4 x 3.2
397	Sd/Rd	0.01	0	0	6.16E-3	LLAM 25.4 x 3.2
398	Sd/Rd	0.02	0.02	0.16	0.2	LLAM 31.8 x 3.2
399	Sd/Rd	0.01	0.04	0.72	0.73	LLAM 31.8 x 3.2
400	Sd/Rd	0.31	0	0	0.31	LLAM 25.4 x 3.2
401	Sd/Rd	0.01	0.03	0.66	0.68	LLAM 31.8 x 3.2
402	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2
403	Sd/Rd	0.00	0.03	0.61	0.62	LLAM 31.8 x 3.2
404	Sd/Rd	0.01	0.03	0.61	0.61	LLAM 31.8 x 3.2
405	Sd/Rd	0.00	0.03	0.61	0.62	LLAM 31.8 x 3.2
406	Sd/Rd	0.00	0.03	0.61	0.62	LLAM 31.8 x 3.2
407	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2
408	Sd/Rd	0.01	0.02	0.14	0.17	LLAM 31.8 x 3.2
409	Sd/Rd	0.04	0.00	0.04	0.11	LLAM 31.8 x 3.2
410	Sd/Rd	0	0.02	0.3	0.33	LLAM 31.8 x 3.2
411	Sd/Rd	0.04	0.01	0.07	0.2	LLAM 31.8 x 3.2
412	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
413	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
414	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
415	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
416	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
417	Sd/Rd	0.09	0	0	0.09	LLAM 25.4 x 3.2
418	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
419	Sd/Rd	0.15	0	0	0.15	LLAM 25.4 x 3.2
420	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
421	Sd/Rd	0.21	0	0	0.21	LLAM 25.4 x 3.2
422	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
423	Sd/Rd	0.28	0	0	0.28	LLAM 25.4 x 3.2
424	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
425	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
426	Sd/Rd	0.26	0	0	0.26	LLAM 25.4 x 3.2
427	Sd/Rd	0.00	0.02	0.3	0.31	LLAM 31.8 x 3.2
428	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2

429	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2
430	Sd/Rd	0.17	0.00	0.04	0.17	LLAM 31.8 x 3.2
431	Sd/Rd	0.03	0	0.02	0.09	LLAM 31.8 x 3.2
432	Sd/Rd	0.02	0.00	0.02	0.11	LLAM 31.8 x 3.2
433	Sd/Rd	0.53	0	0.01	0.57	LLAM 31.8 x 3.2
434	Sd/Rd	0.03	0.00	0.02	0.13	LLAM 31.8 x 3.2
435	Sd/Rd	0.14	0.00	0.04	0.18	LLAM 31.8 x 3.2
436	Sd/Rd	0.15	0	0	0.15	LLAM 25.4 x 3.2
437	Sd/Rd	0.09	0	0	0.09	LLAM 25.4 x 3.2
438	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
439	Sd/Rd	0	0.04	0.71	0.72	LLAM 31.8 x 3.2
440	Sd/Rd	0.01	0.04	0.72	0.73	LLAM 31.8 x 3.2
441	Sd/Rd	0	0.04	0.72	0.73	LLAM 31.8 x 3.2
442	Sd/Rd	0.01	0.04	0.72	0.74	LLAM 31.8 x 3.2
443	Sd/Rd	0	0.04	0.71	0.73	LLAM 31.8 x 3.2
444	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
445	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
446	Sd/Rd	0.07	0	0	0.07	LLAM 25.4 x 3.2
447	Sd/Rd	0.06	0	0	0.06	LLAM 25.4 x 3.2
448	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
449	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
450	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
451	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
452	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
453	Sd/Rd	0.18	0	0	0.18	LLAM 25.4 x 3.2
454	Sd/Rd	0.39	0	0	0.39	LLAM 25.4 x 3.2
455	Sd/Rd	0.4	0	0	0.4	LLAM 25.4 x 3.2
456	Sd/Rd	0.18	0	0	0.18	LLAM 25.4 x 3.2
457	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
458	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
459	Sd/Rd	0.11	0	0	0.11	LLAM 25.4 x 3.2
460	Sd/Rd	0.09	0	0	0.09	LLAM 25.4 x 3.2
461	Sd/Rd	0.03	0	0	0.03	LLAM 25.4 x 3.2
462	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
463	Sd/Rd	0.06	0	0	0.06	LLAM 25.4 x 3.2

464	Sd/Rd	0.14	0	0	0.14	LLAM 25.4 x 3.2
465	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
466	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
467	Sd/Rd	0.24	0	0	0.24	LLAM 25.4 x 3.2
468	Sd/Rd	0.06	0	0	0.06	LLAM 25.4 x 3.2
469	Sd/Rd	0.37	0	0	0.37	LLAM 25.4 x 3.2
470	Sd/Rd	0.17	0.00	0.03	0.17	LLAM 31.8 x 3.2
471	Sd/Rd	0	0.01	0.16	0.16	LLAM 31.8 x 3.2
472	Sd/Rd	0.23	0	0	0.23	LLAM 25.4 x 3.2
473	Sd/Rd	0	0.01	0.15	0.15	LLAM 31.8 x 3.2
474	Sd/Rd	0.00	0.01	0.14	0.14	LLAM 31.8 x 3.2
475	Sd/Rd	0.00	0.01	0.14	0.14	LLAM 31.8 x 3.2
476	Sd/Rd	0.00	0.01	0.14	0.14	LLAM 31.8 x 3.2
477	Sd/Rd	0.00	0.01	0.14	0.14	LLAM 31.8 x 3.2
478	Sd/Rd	0.00	0.01	0.14	0.14	LLAM 31.8 x 3.2
479	Sd/Rd	0	0.01	0.2	0.2	LLAM 31.8 x 3.2
480	Sd/Rd	0.03	0.00	0.04	0.09	LLAM 31.8 x 3.2
481	Sd/Rd	0	0.00	0.08	0.11	LLAM 31.8 x 3.2
482	Sd/Rd	0.1	0	0	0.1	LLAM 25.4 x 3.2
483	Sd/Rd	0.42	0	0	0.42	LLAM 25.4 x 3.2
484	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
485	Sd/Rd	0.1	0	0	0.1	LLAM 25.4 x 3.2
486	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
487	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
488	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
489	Sd/Rd	0.04	0	0	0.04	LLAM 25.4 x 3.2
490	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
491	Sd/Rd	0.11	0	0	0.11	LLAM 25.4 x 3.2
492	Sd/Rd	0.21	0	0	0.21	LLAM 25.4 x 3.2
493	Sd/Rd	0.19	0	0	0.19	LLAM 25.4 x 3.2
494	Sd/Rd	0.29	0	0	0.29	LLAM 25.4 x 3.2
495	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
496	Sd/Rd	0.09	0	0	0.09	LLAM 25.4 x 3.2
497	Sd/Rd	0.00	0.01	0.14	0.14	LLAM 31.8 x 3.2
498	Sd/Rd	0	0.01	0.14	0.14	LLAM 31.8 x 3.2
499	Sd/Rd	0.01	0.03	0.6	0.63	LLAM 31.8 x 3.2

500	Sd/Rd	0.26	0	0	0.26	LLAM 25.4 x 3.2
501	Sd/Rd	0.49	0	0	0.49	LLAM 25.4 x 3.2
502	Sd/Rd	0.02	0.00	0.04	0.1	LLAM 31.8 x 3.2
503	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
504	Sd/Rd	0.06	0.01	0.09	0.12	LLAM 31.8 x 3.2
505	Sd/Rd	0	0.00	0.08	0.09	LLAM 31.8 x 3.2
506	Sd/Rd	0.02	0.00	0.03	0.13	LLAM 31.8 x 3.2
507	Sd/Rd	0	0.01	0.06	0.3	[100 x 40 x 2.65
508	Sd/Rd	0	0.01	0.06	0.13	[100 x 40 x 2.65
509	Sd/Rd	0.01	0.00	0.01	0.06	[100 x 40 x 2.65
510	Sd/Rd	0.00	0.03	0.14	0.16	[100 x 40 x 2.65
511	Sd/Rd	0.05	0.02	0.11	0.28	[100 x 40 x 2.65
512	Sd/Rd	0.2	0.02	0.11	0.56	[100 x 40 x 2.65
513	Sd/Rd	0.01	0.02	0.17	0.19	LLAM 31.8 x 3.2
514	Sd/Rd	0.01	0.04	0.57	0.58	LLAM 31.8 x 3.2
515	Sd/Rd	0.19	0	0	0.19	LLAM 25.4 x 3.2
516	Sd/Rd	0.01	0.03	0.66	0.67	LLAM 31.8 x 3.2
517	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2
518	Sd/Rd	0	0.03	0.61	0.63	LLAM 31.8 x 3.2
519	Sd/Rd	0	0.03	0.61	0.62	LLAM 31.8 x 3.2
520	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2
521	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2
522	Sd/Rd	0.01	0.03	0.61	0.62	LLAM 31.8 x 3.2
523	Sd/Rd	0.01	0.02	0.14	0.16	LLAM 31.8 x 3.2
524	Sd/Rd	0.03	0.02	0.24	0.28	LLAM 31.8 x 3.2
525	Sd/Rd	0.43	0	0	0.43	LLAM 25.4 x 3.2
526	Sd/Rd	0.99	0	0	0.99	LLAM 25.4 x 3.2
527	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
528	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
529	Sd/Rd	0.26	0	0	0.26	LLAM 25.4 x 3.2
530	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
531	Sd/Rd	0.19	0	0	0.19	LLAM 25.4 x 3.2
532	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
533	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
534	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
535	Sd/Rd	0.1	0	0	0.1	LLAM 25.4 x 3.2

536	Sd/Rd	0.25	0	0	0.25	LLAM 25.4 x 3.2
537	Sd/Rd	0.15	0	0	0.15	LLAM 25.4 x 3.2
538	Sd/Rd	1.2	0	0	1.2	LLAM 25.4 x 3.2
539	Sd/Rd	0.41	0	0	0.41	LLAM 25.4 x 3.2
540	Sd/Rd	0	0.02	0.3	0.33	LLAM 31.8 x 3.2
541	Sd/Rd	0	0.03	0.61	0.61	LLAM 31.8 x 3.2
542	Sd/Rd	0	0.03	0.61	0.61	LLAM 31.8 x 3.2
543	Sd/Rd	0.28	0.01	0.09	0.4	LLAM 31.8 x 3.2
544	Sd/Rd	0.02	0.01	0.25	0.28	LLAM 31.8 x 3.2
545	Sd/Rd	0.18	0	0	0.18	LLAM 25.4 x 3.2
546	Sd/Rd	0	0.01	0.15	0.15	LLAM 31.8 x 3.2
547	Sd/Rd	0	0.01	0.14	0.15	LLAM 31.8 x 3.2
548	Sd/Rd	0.00	0.01	0.14	0.16	LLAM 31.8 x 3.2
549	Sd/Rd	0	0.01	0.14	0.14	LLAM 31.8 x 3.2
550	Sd/Rd	0	0.01	0.14	0.14	LLAM 31.8 x 3.2
551	Sd/Rd	0	0.01	0.14	0.15	LLAM 31.8 x 3.2
552	Sd/Rd	0	0.01	0.2	0.22	LLAM 31.8 x 3.2
553	Sd/Rd	0.41	0.01	0.03	0.45	LLAM 31.8 x 3.2
554	Sd/Rd	0.01	0.00	0.07	0.15	LLAM 31.8 x 3.2
555	Sd/Rd	1.17	0	0	1.17	LLAM 25.4 x 3.2
556	Sd/Rd	0.38	0	0	0.38	LLAM 25.4 x 3.2
557	Sd/Rd	0.26	0	0	0.26	LLAM 25.4 x 3.2
558	Sd/Rd	0.39	0	0	0.39	LLAM 25.4 x 3.2
559	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
560	Sd/Rd	0.13	0	0	0.13	LLAM 25.4 x 3.2
561	Sd/Rd	0.06	0	0	0.06	LLAM 25.4 x 3.2
562	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
563	Sd/Rd	0.14	0	0	0.14	LLAM 25.4 x 3.2
564	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
565	Sd/Rd	0.33	0	0	0.33	LLAM 25.4 x 3.2
566	Sd/Rd	0.12	0	0	0.12	LLAM 25.4 x 3.2
567	Sd/Rd	0.38	0	0	0.38	LLAM 25.4 x 3.2
568	Sd/Rd	0.05	0	0	0.05	LLAM 25.4 x 3.2
569	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
570	Sd/Rd	0	0.01	0.14	0.14	LLAM 31.8 x 3.2

571	Sd/Rd	0	0.01	0.14	0.15	LLAM 31.8 x 3.2
572	Sd/Rd	0	0.03	0.6	0.61	LLAM 31.8 x 3.2
573	Sd/Rd	0	0.00	0.08	0.1	LLAM 31.8 x 3.2
574	Sd/Rd	0.17	0.00	0.05	0.18	LLAM 31.8 x 3.2
575	Sd/Rd	0.26	0	0.01	0.29	LLAM 31.8 x 3.2
576	Sd/Rd	0.1	0	0	0.1	LLAM 25.4 x 3.2
577	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
578	Sd/Rd	0.08	0.01	0.06	0.14	LLAM 31.8 x 3.2
579	Sd/Rd	0.01	0	0	0.01	LLAM 25.4 x 3.2
580	Sd/Rd	0.16	0	0.01	0.16	LLAM 31.8 x 3.2
581	Sd/Rd	0.15	0	0.04	0.15	LLAM 31.8 x 3.2
582	Sd/Rd	0.00	0.01	0.07	0.12	LLAM 31.8 x 3.2
583	Sd/Rd	0.22	0.00	0.04	0.31	LLAM 31.8 x 3.2
584	Sd/Rd	0.01	0.00	0.01	0.08	LLAM 31.8 x 3.2
585	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
586	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
587	Sd/Rd	0.01	0	0	9.88E-3	LLAM 25.4 x 3.2
588	Sd/Rd	0	0.01	0.16	0.17	LLAM 31.8 x 3.2
589	Sd/Rd	0	0.01	0.16	0.16	LLAM 31.8 x 3.2
590	Sd/Rd	0	0.01	0.16	0.17	LLAM 31.8 x 3.2
591	Sd/Rd	0	0.01	0.16	0.17	LLAM 31.8 x 3.2
592	Sd/Rd	0	0.01	0.16	0.17	LLAM 31.8 x 3.2
593	Sd/Rd	0.45	0	0	0.45	LLAM 25.4 x 3.2
594	Sd/Rd	0.18	0	0	0.18	LLAM 25.4 x 3.2
595	Sd/Rd	0.45	0	0	0.45	LLAM 25.4 x 3.2
596	Sd/Rd	0.26	0	0	0.26	LLAM 25.4 x 3.2
597	Sd/Rd	0.45	0	0	0.45	LLAM 25.4 x 3.2
598	Sd/Rd	0.35	0	0	0.35	LLAM 25.4 x 3.2
599	Sd/Rd	0.33	0	0	0.33	LLAM 25.4 x 3.2
600	Sd/Rd	0.19	0	0	0.19	LLAM 25.4 x 3.2
601	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
602	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
603	Sd/Rd	0.18	0	0	0.18	LLAM 25.4 x 3.2
604	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
605	Sd/Rd	0.00	0.04	0.71	0.73	LLAM 31.8 x 3.2
606	Sd/Rd	0.01	0.04	0.72	0.73	LLAM 31.8 x 3.2

607	Sd/Rd	0.00	0.01	0.16	0.18	LLAM 31.8 x 3.2
608	Sd/Rd	0.00	0.01	0.16	0.18	LLAM 31.8 x 3.2
609	Sd/Rd	0.43	0	0	0.43	LLAM 25.4 x 3.2
610	Sd/Rd	0.36	0	0	0.36	LLAM 25.4 x 3.2
611	Sd/Rd	0.24	0	0	0.24	LLAM 25.4 x 3.2
612	Sd/Rd	0.47	0	0	0.47	LLAM 25.4 x 3.2
613	Sd/Rd	0.02	0.04	0.72	0.74	LLAM 31.8 x 3.2
614	Sd/Rd	0.01	0.04	0.72	0.74	LLAM 31.8 x 3.2
615	Sd/Rd	0	0.01	0.16	0.18	LLAM 31.8 x 3.2
616	Sd/Rd	0.00	0.01	0.16	0.18	LLAM 31.8 x 3.2
617	Sd/Rd	0.01	0.04	0.71	0.75	LLAM 31.8 x 3.2
618	Sd/Rd	0.00	0.01	0.16	0.18	LLAM 31.8 x 3.2
619	Sd/Rd	0.22	0	0	0.22	LLAM 25.4 x 3.2
620	Sd/Rd	0.47	0	0	0.47	LLAM 25.4 x 3.2
621	Sd/Rd	0.4	0	0	0.4	LLAM 25.4 x 3.2
622	Sd/Rd	0.47	0	0	0.47	LLAM 25.4 x 3.2
623	Sd/Rd	0.39	0	0	0.39	LLAM 25.4 x 3.2
624	Sd/Rd	0.44	0	0	0.44	LLAM 25.4 x 3.2
625	Sd/Rd	0.28	0	0	0.28	LLAM 25.4 x 3.2
626	Sd/Rd	0.44	0	0	0.44	LLAM 25.4 x 3.2
627	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
628	Sd/Rd	0.63	0	0	0.63	LLAM 25.4 x 3.2
629	Sd/Rd	0.33	0	0	0.33	LLAM 25.4 x 3.2
630	Sd/Rd	0.01	0.02	0.17	0.19	LLAM 31.8 x 3.2
631	Sd/Rd	0.13	0.00	0.04	0.13	LLAM 31.8 x 3.2
632	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
633	Sd/Rd	0.3	0	0	0.3	LLAM 25.4 x 3.2
634	Sd/Rd	0.17	0	0	0.17	LLAM 25.4 x 3.2
635	Sd/Rd	0.01	0.00	0.03	0.05	LLAM 31.8 x 3.2
636	Sd/Rd	0.02	0.02	0.16	0.19	LLAM 31.8 x 3.2
637	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2
638	Sd/Rd	0.08	0	0	0.08	LLAM 25.4 x 3.2
639	Sd/Rd	0.06	0	0	0.06	LLAM 25.4 x 3.2
640	Sd/Rd	0.01	0.02	0.14	0.16	LLAM 31.8 x 3.2
641	Sd/Rd	0.01	0.00	0.04	0.06	LLAM 31.8 x 3.2
642	Sd/Rd	0.02	0	0	0.02	LLAM 25.4 x 3.2

643	Sd/Rd	0.29	0	0	0.29	LLAM 25.4 x 3.2
644	Sd/Rd	0.54	0	0	0.54	LLAM 25.4 x 3.2
645	Sd/Rd	0.01	0.02	0.15	0.16	LLAM 31.8 x 3.2
646	Sd/Rd	0.02	0.00	0.04	0.07	LLAM 31.8 x 3.2
647	Sd/Rd	0.00	0.02	0.15	0.15	LLAM 50.8 x 3.2
648	Sd/Rd	0.01	0	0.00	0.16	LLAM 50.8 x 3.2
649	Sd/Rd	0.02	0.00	0.08	0.11	LLAM 50.8 x 3.2
650	Sd/Rd	0.03	0.00	0.02	0.24	LLAM 50.8 x 3.2
651	Sd/Rd	0.04	0.01	0.13	0.27	LLLM 22.2 x 3.2 x 100
652	Sd/Rd	0.01	0.01	0.07	0.24	LLLM 22.2 x 3.2 x 100
653	Sd/Rd	0.04	0	0	0.04	LLLM 22.2 x 3.2 x 100
654	Sd/Rd	0.03	0	0	0.03	LLLM 22.2 x 3.2 x 100
655	Sd/Rd	0.05	0.01	0.1	0.31	LLLM 22.2 x 3.2 x 100
656	Sd/Rd	0.19	0	0	0.19	LLLM 22.2 x 3.2 x 100
657	Sd/Rd	0.15	0	0	0.15	LLLM 22.2 x 3.2 x 100
658	Sd/Rd	0.01	0.01	0.13	0.14	[100 x 40 x 2.65
659	Sd/Rd	0.00	0.01	0.09	0.12	[100 x 40 x 2.65
660	Sd/Rd	0	0.01	0.07	0.11	[100 x 40 x 2.65
661	Sd/Rd	0.07	0	0.00	0.16	[100 x 40 x 2.65
662	Sd/Rd	0.17	0	0.00	0.25	[100 x 40 x 2.65
663	Sd/Rd	0.1	0	0.01	0.19	[100 x 40 x 2.65
664	Sd/Rd	0.02	0.00	0.1	0.14	[100 x 40 x 2.65
665	Sd/Rd	0.01	0.01	0.13	0.15	[100 x 40 x 2.65
666	Sd/Rd	0.01	0.01	0.01	0.02	[100 x 40 x 2.65
667	Sd/Rd	0.01	0.01	0.02	0.04	[100 x 40 x 2.65
668	Sd/Rd	0.01	0.02	0.03	0.06	[100 x 40 x 2.65
669	Sd/Rd	0.00	0.01	0.02	0.04	[100 x 40 x 2.65
670	Sd/Rd	0.01	0.01	0.08	0.27	LLAM 50.8 x 3.2
671	Sd/Rd	0.03	0.00	0.07	0.13	LLAM 50.8 x 3.2
672	Sd/Rd	0.00	0.00	0.04	0.18	LLLM 22.2 x 3.2 x 100
673	Sd/Rd	0.01	0.01	0.13	0.42	LLLM 22.2 x 3.2 x 100
674	Sd/Rd	0.03	0.01	0.1	0.24	LLLM 22.2 x 3.2 x 100
675	Sd/Rd	0.01	0	0	0.14	[] 100x40x2.65x80
676	Sd/Rd	0.00	0	0	0.14	[] 100x40x2.65x80
677	Sd/Rd	0.11	0	0	0.11	LLLM 22.2 x 3.2 x 100

678	Sd/Rd	0.1	0	0	0.1	LLLM 22.2 x 3.2 x 100
679	Sd/Rd	0.05	0	0	0.05	LLLM 22.2 x 3.2 x 100
680	Sd/Rd	0.04	0	0	0.04	LLLM 22.2 x 3.2 x 100
681	Sd/Rd	0.25	0	0	0.25	LLLM 22.2 x 3.2 x 100
682	Sd/Rd	0.26	0	0	0.26	LLLM 22.2 x 3.2 x 100
683	Sd/Rd	0.07	0	0	0.07	LLLM 22.2 x 3.2 x 100
684	Sd/Rd	0.12	0	0	0.12	LLLM 22.2 x 3.2 x 100
685	Sd/Rd	0.04	0	0	0.04	LLLM 22.2 x 3.2 x 100
686	Sd/Rd	0.06	0	0	0.06	LLLM 22.2 x 3.2 x 100
687	Sd/Rd	0.03	0.01	0.05	0.08	[100 x 40 x 2.65
688	Sd/Rd	0.1	0.01	0.04	0.15	[100 x 40 x 2.65
689	Sd/Rd	0.16	0.01	0.04	0.21	[100 x 40 x 2.65
690	Sd/Rd	0.42	0.01	0.04	0.46	[100 x 40 x 2.65
691	Sd/Rd	0.14	0.05	0.11	0.26	[100 x 40 x 2.65
692	Sd/Rd	0.28	0	0.00	0.38	[100 x 40 x 2.65
693	Sd/Rd	0.2	0	0.00	0.22	[100 x 40 x 2.65
694	Sd/Rd	0.1	0	0.01	0.12	[100 x 40 x 2.65
695	Sd/Rd	0.00	0	0.02	0.1	[100 x 40 x 2.65
696	Sd/Rd	0.04	0	0.02	0.14	[100 x 40 x 2.65
697	Sd/Rd	0	0.02	0.11	0.11	[100 x 40 x 2.65
698	Sd/Rd	0.05	0	0	0.31	[100 x 40 x 2.65
699	Sd/Rd	0.03	0.09	0.05	0.09	[100 x 40 x 2.65
700	Sd/Rd	0.01	0	0	0.13	[] 100x40x2.65x80
701	Sd/Rd	0.00	0	0	0.13	[] 100x40x2.65x80
702	Sd/Rd	0.11	0	0	0.11	LLLM 22.2 x 3.2 x 100
703	Sd/Rd	0.11	0	0	0.11	LLLM 22.2 x 3.2 x 100
704	Sd/Rd	0.05	0	0	0.05	LLLM 22.2 x 3.2 x 100
705	Sd/Rd	0.04	0	0	0.04	LLLM 22.2 x 3.2 x 100
706	Sd/Rd	0.26	0	0	0.26	LLLM 22.2 x 3.2 x 100
707	Sd/Rd	0.26	0	0	0.26	LLLM 22.2 x 3.2 x 100
708	Sd/Rd	0.08	0	0	0.08	LLLM 22.2 x 3.2 x 100
709	Sd/Rd	0.13	0	0	0.13	LLLM 22.2 x 3.2 x 100
710	Sd/Rd	0.03	0	0	0.03	LLLM 22.2 x 3.2 x 100
711	Sd/Rd	0.06	0	0	0.06	LLLM 22.2 x 3.2 x 100
712	Sd/Rd	0.03	0.01	0.05	0.08	[100 x 40 x 2.65
713	Sd/Rd	0.1	0.01	0.04	0.15	[100 x 40 x 2.65

714	Sd/Rd	0.17	0.01	0.04	0.21	[100 x 40 x 2.65
715	Sd/Rd	0.43	0.01	0.04	0.48	[100 x 40 x 2.65
716	Sd/Rd	0.15	0.05	0.11	0.27	[100 x 40 x 2.65
717	Sd/Rd	0.3	0	0.00	0.4	[100 x 40 x 2.65
718	Sd/Rd	0.21	0	0.00	0.23	[100 x 40 x 2.65
719	Sd/Rd	0.11	0	0.00	0.13	[100 x 40 x 2.65
720	Sd/Rd	0.01	0	0.01	0.09	[100 x 40 x 2.65
721	Sd/Rd	0.04	0	0.01	0.12	[100 x 40 x 2.65
722	Sd/Rd	0	0.03	0.11	0.11	[100 x 40 x 2.65
723	Sd/Rd	0.05	0	0	0.29	[100 x 40 x 2.65
724	Sd/Rd	0.03	0.08	0.05	0.08	[100 x 40 x 2.65
725	Sd/Rd	0.00	0.03	0.42	0.45	[100 x 40 x 2.65
726	Sd/Rd	0	0.03	0.42	0.44	[100 x 40 x 2.65
727	Sd/Rd	0.00	0.04	0.51	0.53	[100 x 40 x 2.65
728	Sd/Rd	0.02	0.07	0.93	0.96	[100 x 40 x 2.65
729	Sd/Rd	0.01	0.07	0.93	0.95	[100 x 40 x 2.65
730	Sd/Rd	0.01	0.07	0.93	0.94	[100 x 40 x 2.65
731	Sd/Rd	0.00	0.04	0.49	0.52	[100 x 40 x 2.65
732	Sd/Rd	0.00	0.04	0.49	0.49	[100 x 40 x 2.65
733	Sd/Rd	0.00	0.04	0.49	0.5	[100 x 40 x 2.65
734	Sd/Rd	0.01	0.01	0.15	0.47	LLAM 50.8 x 3.2
735	Sd/Rd	0.01	0.00	0.09	0.14	LLAM 50.8 x 3.2
736	Sd/Rd	0.01	0	0	7.23E-3	LLAM 25.4 x 3.2
737	Sd/Rd	0.02	0.03	0.14	0.16	[100 x 40 x 2.65
738	Sd/Rd	0.03	0.02	0.13	0.49	LLAM 50.8 x 3.2
739	Sd/Rd	0.04	0.01	0.13	0.44	LLAM 50.8 x 3.2
740	Sd/Rd	0.00	0.03	0.42	0.43	[100 x 40 x 2.65
741	Sd/Rd	0	0.03	0.42	0.42	[100 x 40 x 2.65
742	Sd/Rd	0.00	0.04	0.51	0.52	[100 x 40 x 2.65
743	Sd/Rd	0.02	0.07	0.93	0.95	[100 x 40 x 2.65
744	Sd/Rd	0.01	0.07	0.93	0.95	[100 x 40 x 2.65
745	Sd/Rd	0.00	0.07	0.93	0.94	[100 x 40 x 2.65
746	Sd/Rd	0.00	0.04	0.49	0.5	[100 x 40 x 2.65
747	Sd/Rd	0.00	0.04	0.49	0.5	[100 x 40 x 2.65
748	Sd/Rd	0.00	0.04	0.49	0.5	[100 x 40 x 2.65

10. MARQUISE 2

10.1. Cargas Consideradas

-Carga permanente (P) Peso próprio (Pp) (Gerado automático pelo software)	
-(P) Peso próprio das telhas metálicas, instalações	15,00 kgf/m ²
-(P) Peso próprio do ACM e acessórios	20,00 kgf/m ²
-(SC) Sobrecarga de utilização	25,00 kgf/m ²

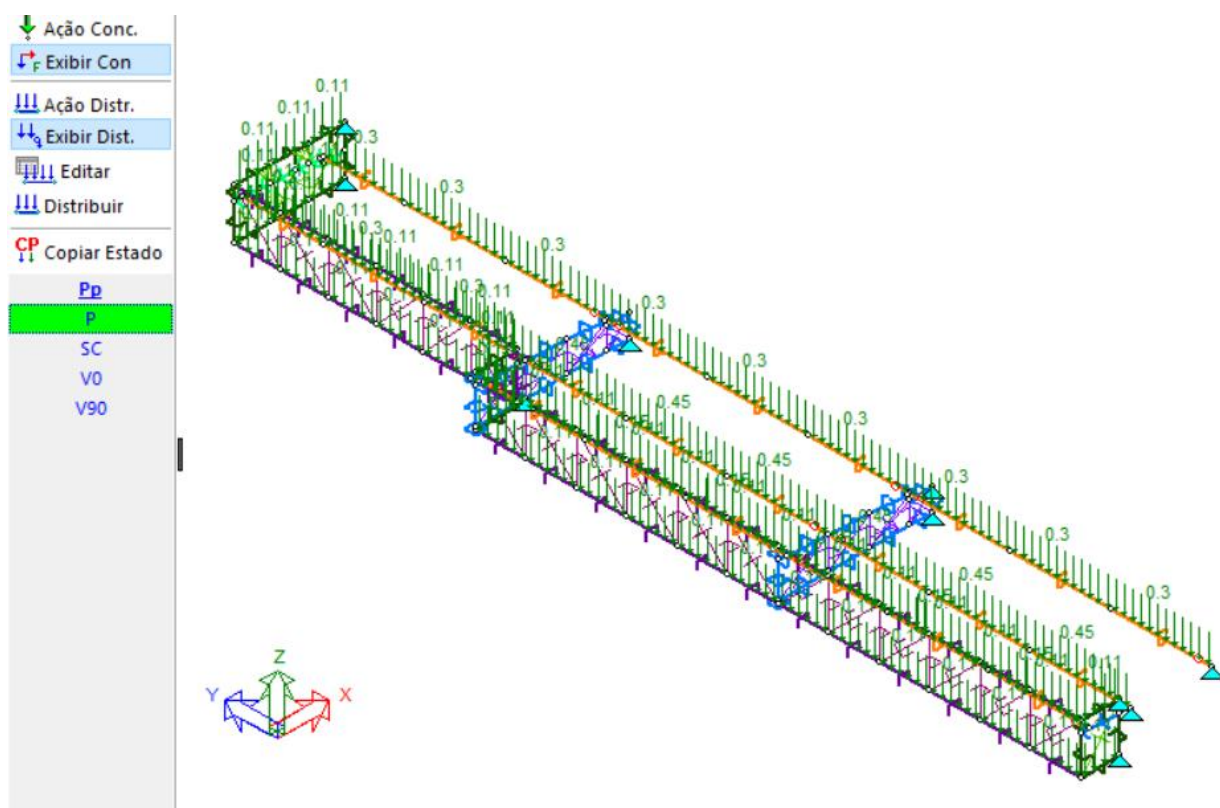
10.1.1. Sobrecarga de Vento

Ciclone	Velocidade Básica	50,00 m/s
Fator S1 = 1		
Fator S2 = 0,761	Categoria IV Classe A	
Fator S3 = 1,10	Grupo 1	
CPI	-0,3 => 0	
Vk=41,84Ms	Pressão de obstrução = 107,30 kgf/m ²	

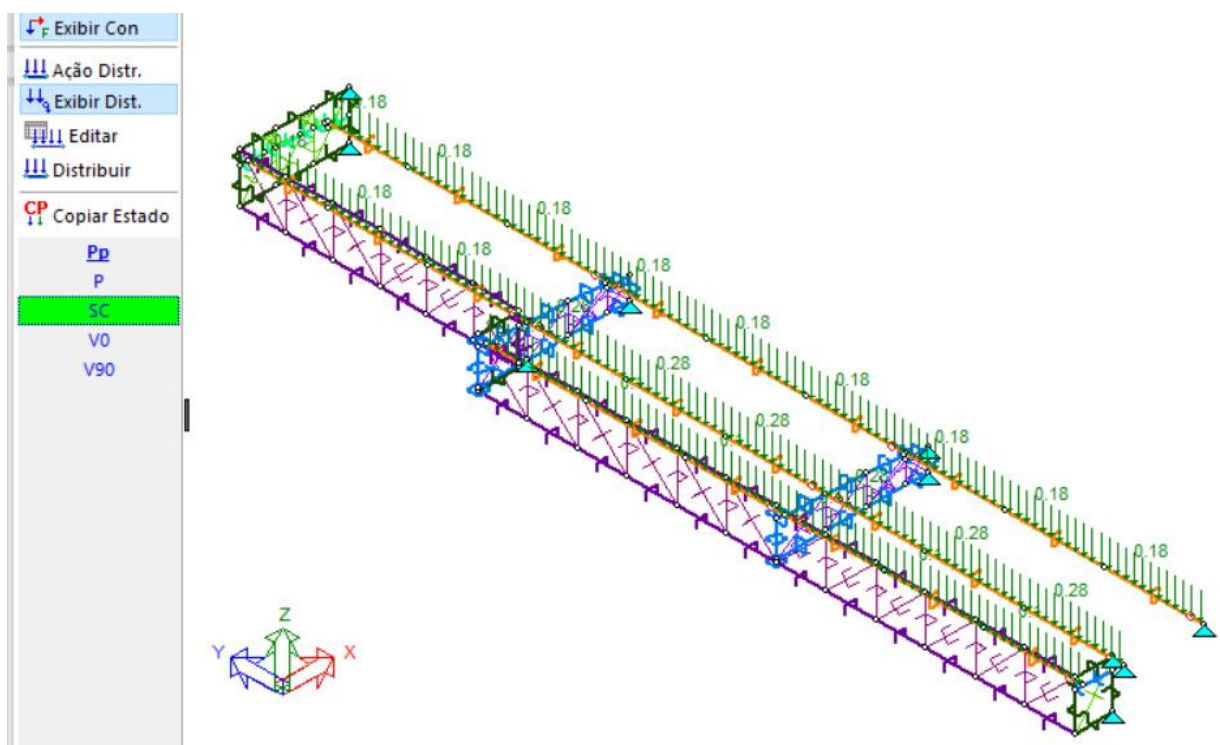
10.2. -(Vxx) Sobrecarga de Vento :Ciclone Combinações de Cálculo

COMBINAÇÃO 1	1,25Pp+1,40P+1,50 SC
COMBINAÇÃO 2	1,0Pp+1,0P+1,4 V0
COMBINAÇÃO 3	1,0Pp+1,0P+1,4 V90

10.3. Lançamento das cargas



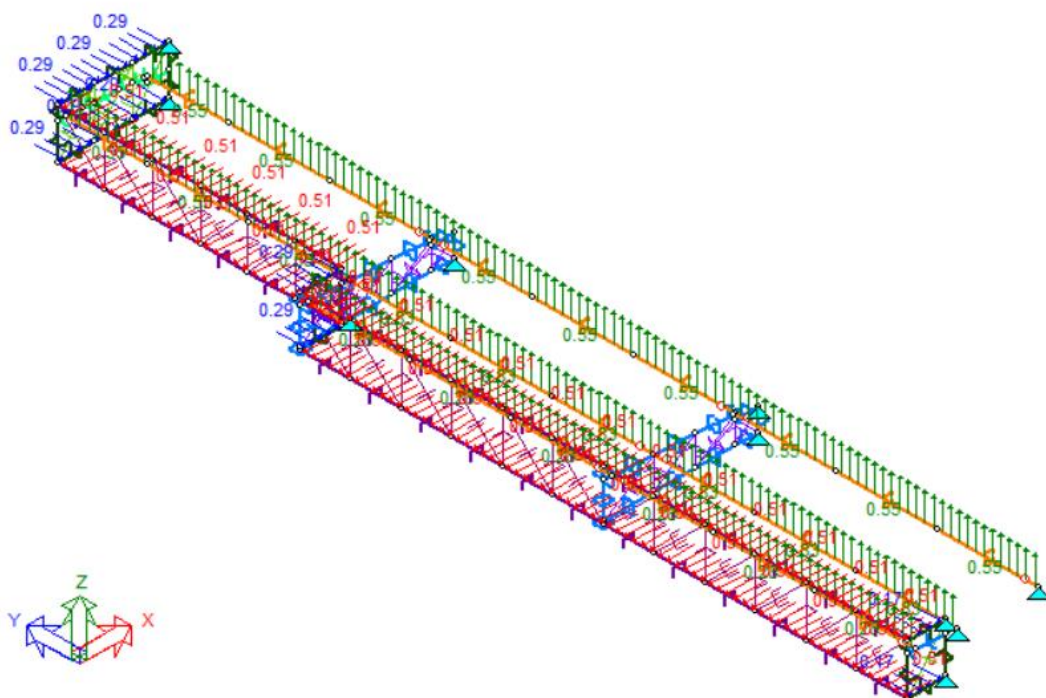
Carga Permanente (kgf)



Sobrecarga de cobertura (kgf)

↓ Ação Conc.
↕ Exibir Con
||| Ação Distr.
↕ Exibir Dist.
||| Editar
||| Distribuir
CP Copiar Estado

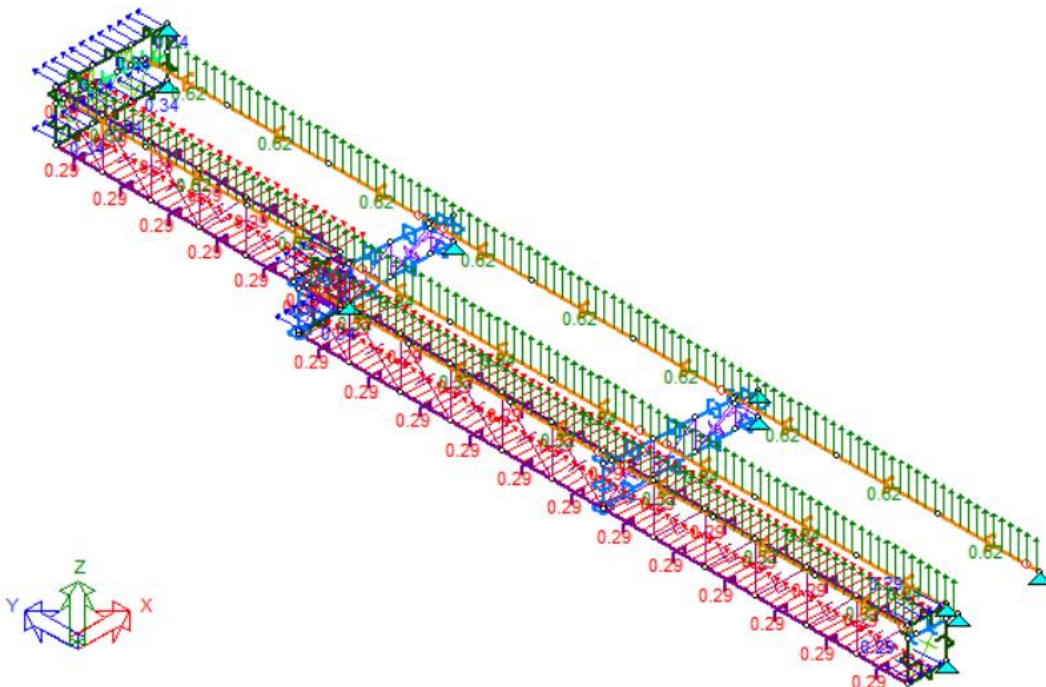
Pd
P
SC
VO
V90



Vento 0 (kgf)

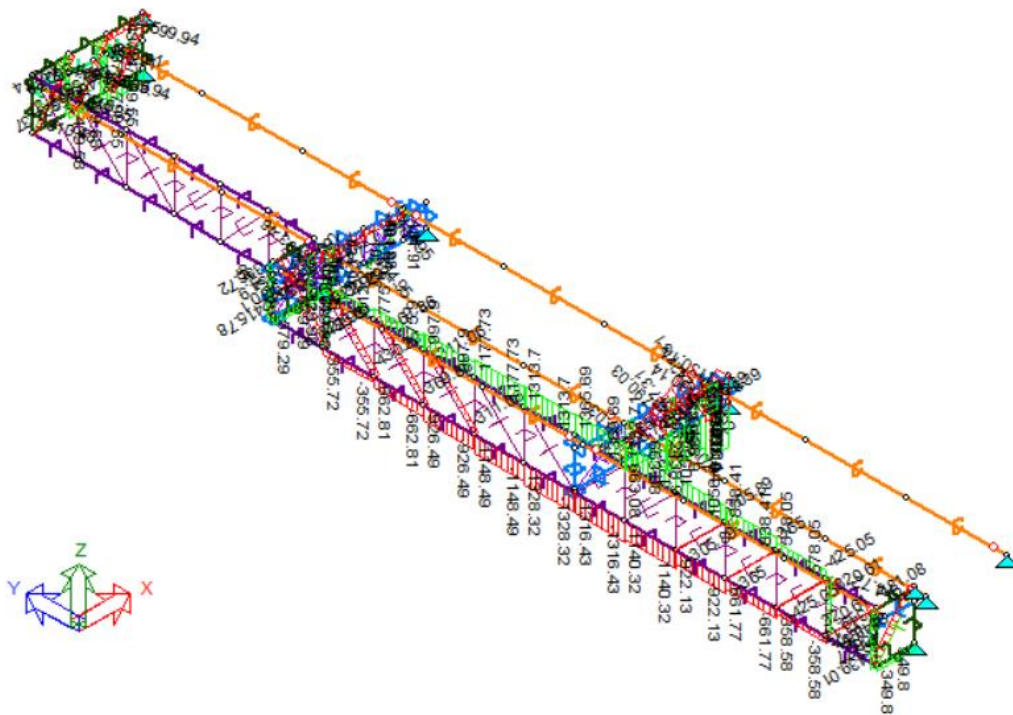
||| Ação Distr.
↕ Exibir Dist.
||| Editar
||| Distribuir
CP Copiar Estado

Pd
P
SC
VO
V90

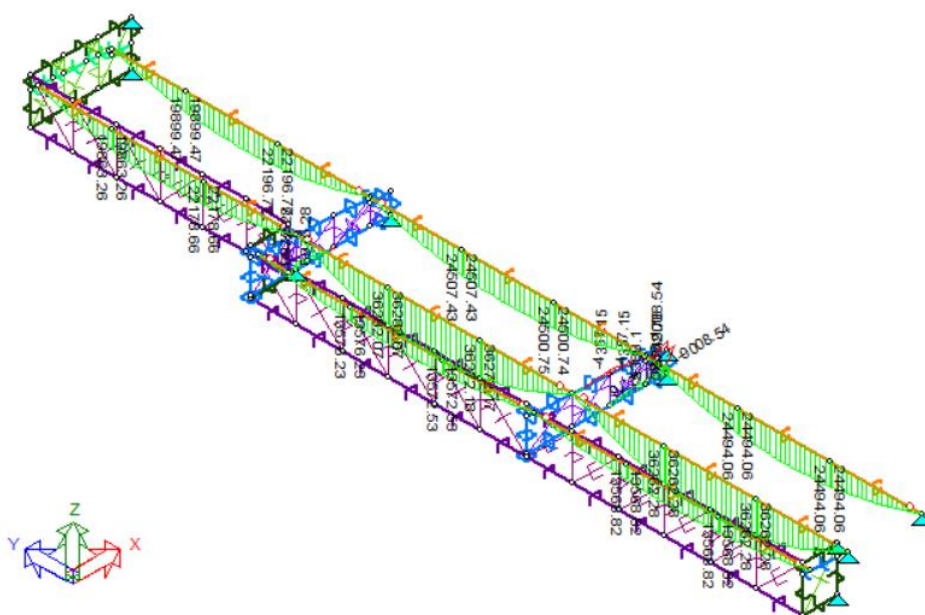
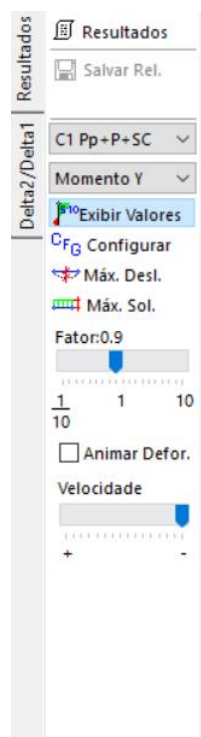


Vento 90 (kgf)

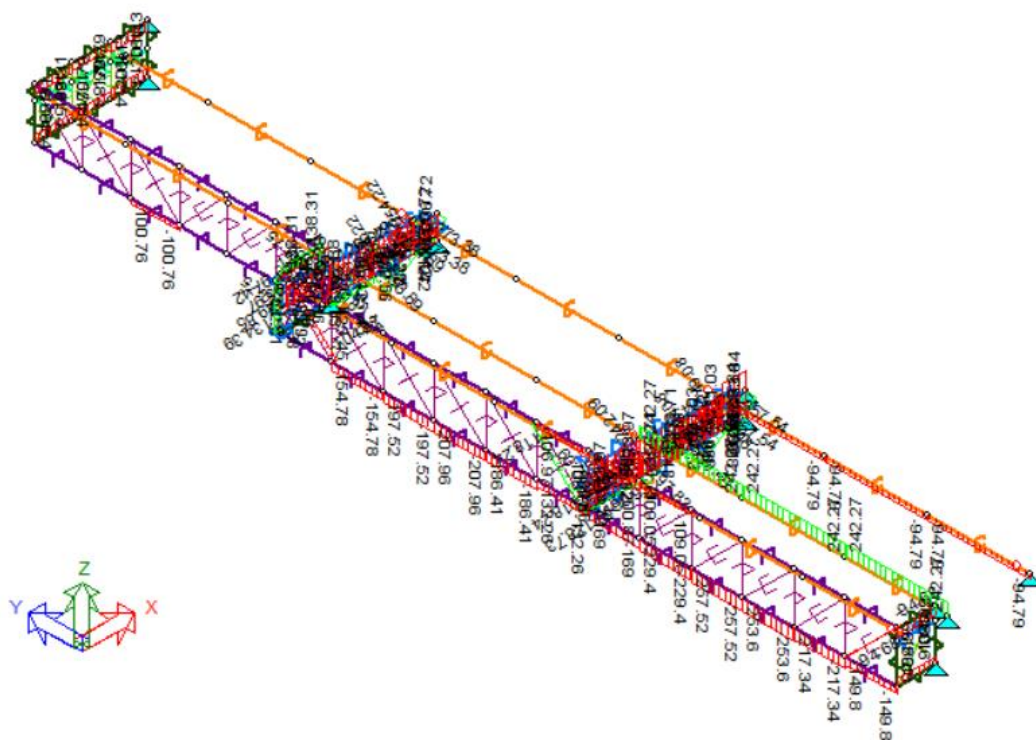
10.4. Resultados – Casos mais desfavoráveis



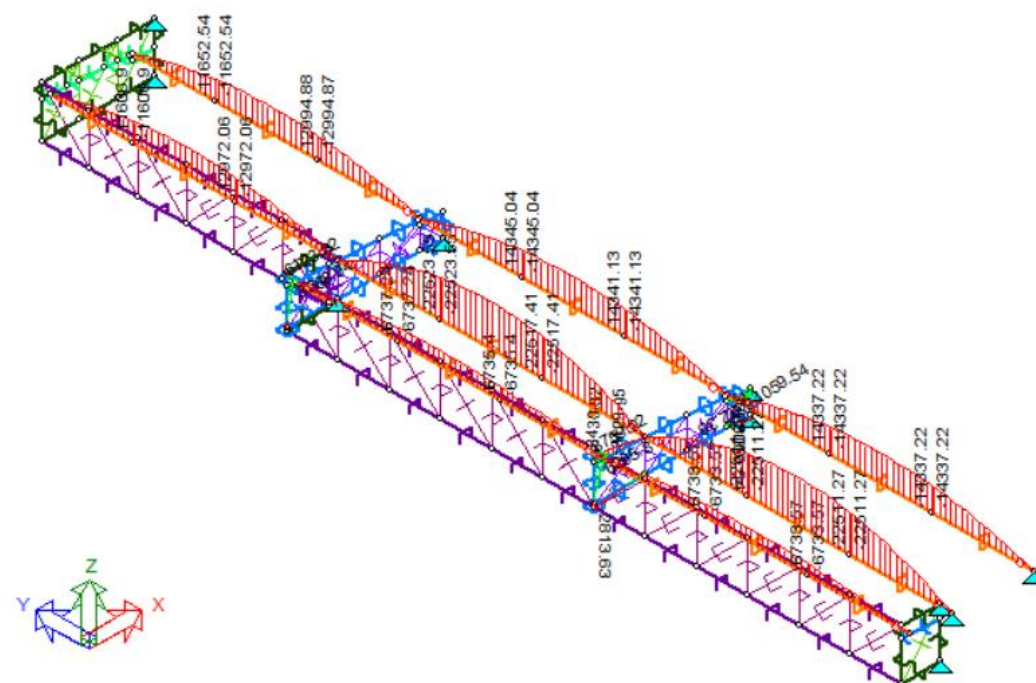
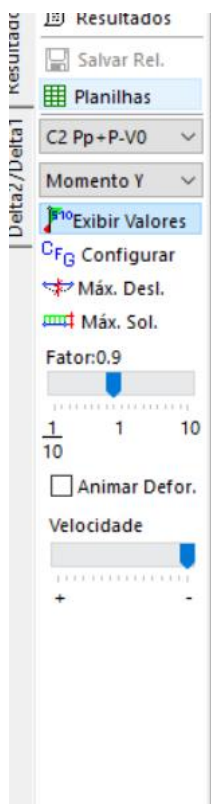
Esforço Normal (kgf) – Combinação 1



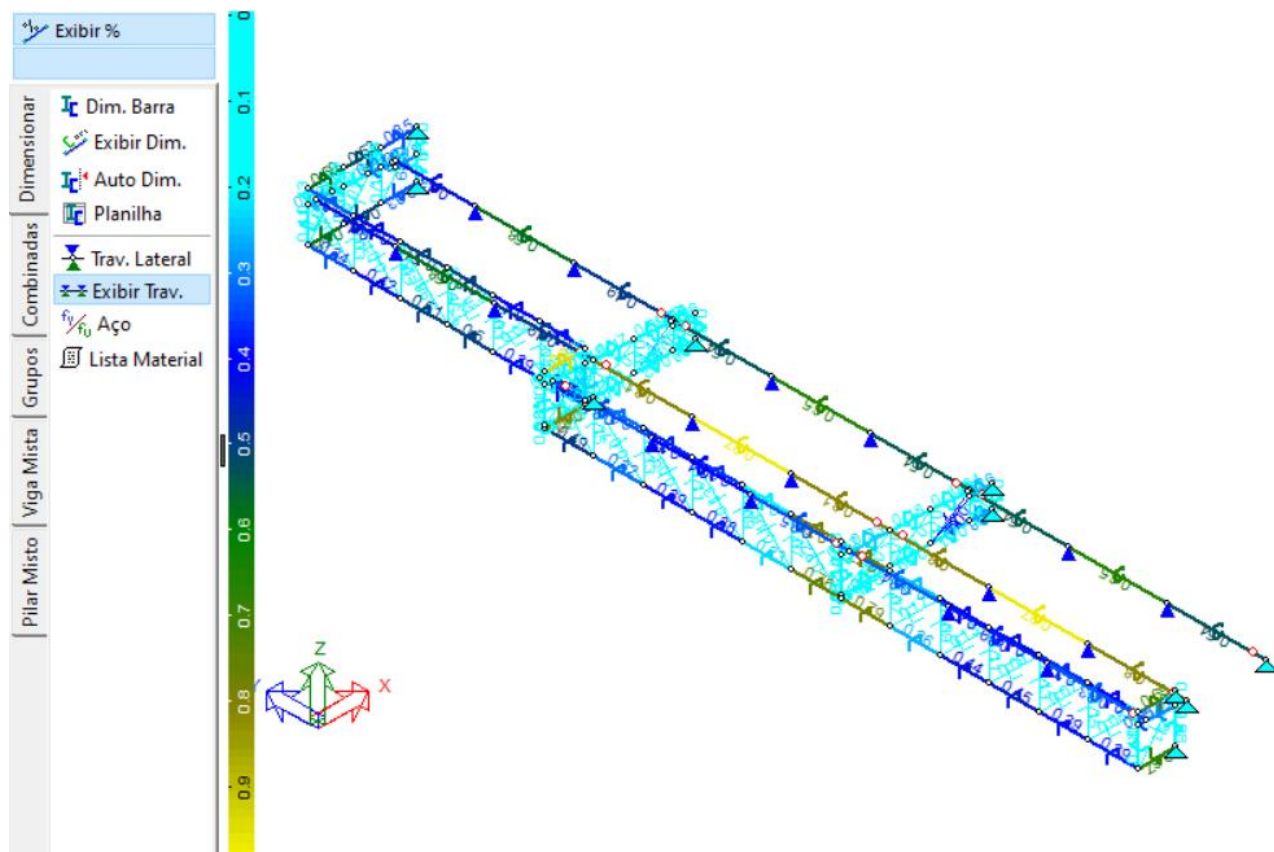
Momento Fletor (kgf.cm) – Combinação 1



Esforço Normal (kgf) – Combinação 2



Momento Fletor (kgf.cm) – Combinação 2



Resultado $Sd/Rd < 1$ Todas as barras atendem ao cálculo

Barra		Normal	Cortante Z	Momento Y	Eq. Int. Max.	Dimensionamento
1	Sd/Rd	0.1	0	0	0.1	LLLM 22.2 x 3.2 x 100
2	Sd/Rd	0.19	0	0	0.19	LLLM 22.2 x 3.2 x 100
3	Sd/Rd	0.15	0	0	0.15	LLLM 22.2 x 3.2 x 100
4	Sd/Rd	0.17	0	0	0.17	LLLM 22.2 x 3.2 x 100
5	Sd/Rd	0.37	0	0	0.37	LLLM 22.2 x 3.2 x 100
6	Sd/Rd	0.15	0	0	0.15	LLLM 22.2 x 3.2 x 100
7	Sd/Rd	0.04	0	0	0.04	LLLM 22.2 x 3.2 x 100
8	Sd/Rd	0.1	0	0	0.1	LLLM 22.2 x 3.2 x 100
9	Sd/Rd	0.01	0.07	0.04	0.07	[] 100 x 40 x 2.65 x 80
10	Sd/Rd	0.21	0	0	0.21	LLLM 22.2 x 3.2 x 100
11	Sd/Rd	0.07	0	0	0.07	LLLM 22.2 x 3.2 x 100
12	Sd/Rd	0.17	0	0	0.17	LLLM 22.2 x 3.2 x 100
13	Sd/Rd	0.09	0	0	0.09	LLLM 22.2 x 3.2 x 100
14	Sd/Rd	0.13	0	0	0.13	LLLM 22.2 x 3.2 x 100
15	Sd/Rd	0.11	0	0	0.11	LLLM 22.2 x 3.2 x 100

16	Sd/Rd	0.09	0	0	0.09	LLM 22.2 x 3.2 x 100
17	Sd/Rd	0.13	0	0	0.13	LLM 22.2 x 3.2 x 100
18	Sd/Rd	0.07	0	0	0.07	LLM 22.2 x 3.2 x 100
19	Sd/Rd	0.15	0	0	0.15	LLM 22.2 x 3.2 x 100
20	Sd/Rd	0.08	0	0	0.08	LLM 22.2 x 3.2 x 100
21	Sd/Rd	0.22	0	0	0.22	LLM 22.2 x 3.2 x 100
22	Sd/Rd	0.07	0	0	0.07	LLM 22.2 x 3.2 x 100
23	Sd/Rd	0.18	0	0	0.18	LLM 22.2 x 3.2 x 100
24	Sd/Rd	0.09	0	0	0.09	LLM 22.2 x 3.2 x 100
25	Sd/Rd	0.13	0	0	0.13	LLM 22.2 x 3.2 x 100
26	Sd/Rd	0.11	0	0	0.11	LLM 22.2 x 3.2 x 100
27	Sd/Rd	0.09	0	0	0.09	LLM 22.2 x 3.2 x 100
28	Sd/Rd	0.13	0	0	0.13	LLM 22.2 x 3.2 x 100
29	Sd/Rd	0.07	0	0	0.07	LLM 22.2 x 3.2 x 100
30	Sd/Rd	0.15	0	0	0.15	LLM 22.2 x 3.2 x 100
31	Sd/Rd	0.08	0	0	0.08	LLM 22.2 x 3.2 x 100
32	Sd/Rd	0.00	0.04	0.02	0.13	[100 x 40 x 2.65
33	Sd/Rd	0.01	0	0	8.54E-3	LLM 22.2 x 3.2 x 100
34	Sd/Rd	0.01	0	0	7.7E-3	LLM 22.2 x 3.2 x 100
35	Sd/Rd	0.03	0	0	0.03	LLM 22.2 x 3.2 x 100
36	Sd/Rd	0.02	0	0	0.02	LLM 22.2 x 3.2 x 100
37	Sd/Rd	0.04	0	0	0.04	LLM 22.2 x 3.2 x 100
38	Sd/Rd	0.03	0	0	0.03	LLM 22.2 x 3.2 x 100
39	Sd/Rd	0.01	0	0	5.98E-3	LLM 22.2 x 3.2 x 100
40	Sd/Rd	0.02	0	0	0.02	LLM 22.2 x 3.2 x 100
41	Sd/Rd	0.01	0	0	0.01	LLM 22.2 x 3.2 x 100
42	Sd/Rd	0.03	0	0	0.03	LLM 22.2 x 3.2 x 100
43	Sd/Rd	0.02	0	0	0.02	LLM 22.2 x 3.2 x 100
44	Sd/Rd	0.00	0.03	0.13	0.26	LLAM 50.8 x 3.2
45	Sd/Rd	0.00	0.03	0.22	0.24	LLAM 50.8 x 3.2
46	Sd/Rd	0.01	0.00	0.03	0.05	LLAM 50.8 x 3.2
47	Sd/Rd	0.00	0.05	0.29	0.31	LLAM 50.8 x 3.2
48	Sd/Rd	0.00	0.05	0.28	0.31	LLAM 50.8 x 3.2
49	Sd/Rd	0.02	0	0.28	0.29	LLAM 50.8 x 3.2
50	Sd/Rd	0	0.03	0.28	0.28	LLAM 50.8 x 3.2

51	Sd/Rd	0.02	0.01	0.55	0.59	[75 x 40 x 2.25
52	Sd/Rd	0.02	0.03	0.48	0.53	[75 x 40 x 2.25
53	Sd/Rd	0.03	0.04	0.3	0.35	[75 x 40 x 2.25
54	Sd/Rd	0.00	0	0	0.14	[75 x 40 x 2.25
55	Sd/Rd	0.01	0	0.00	0.17	[75 x 40 x 2.25
56	Sd/Rd	0.03	0.04	0.3	0.33	[75 x 40 x 2.25
57	Sd/Rd	0.02	0.03	0.48	0.51	[75 x 40 x 2.25
58	Sd/Rd	0.02	0.01	0.55	0.58	[75 x 40 x 2.25
59	Sd/Rd	0.02	0.01	0.02	0.13	[75 x 40 x 2.25
60	Sd/Rd	0.05	0	0	0.05	LLLM 22.2 x 3.2 x 100
61	Sd/Rd	0.09	0	0	0.09	LLLM 22.2 x 3.2 x 100
62	Sd/Rd	0.07	0	0	0.07	LLLM 22.2 x 3.2 x 100
63	Sd/Rd	0.12	0	0	0.12	LLLM 22.2 x 3.2 x 100
64	Sd/Rd	0.07	0	0	0.07	LLLM 22.2 x 3.2 x 100
65	Sd/Rd	0.07	0	0	0.07	LLLM 22.2 x 3.2 x 100
66	Sd/Rd	0.06	0	0	0.06	LLLM 22.2 x 3.2 x 100
67	Sd/Rd	0.05	0	0	0.05	LLLM 22.2 x 3.2 x 100
68	Sd/Rd	0.1	0	0	0.1	LLLM 22.2 x 3.2 x 100
69	Sd/Rd	0.01	0.05	0.36	0.41	[100 x 40 x 2.65
70	Sd/Rd	0.00	0.03	0.34	0.37	[100 x 40 x 2.65
71	Sd/Rd	0.00	0.01	0.4	0.42	[100 x 40 x 2.65
72	Sd/Rd	0.00	0.03	0.39	0.41	[100 x 40 x 2.65
73	Sd/Rd	0.01	0.05	0.22	0.26	[100 x 40 x 2.65
74	Sd/Rd	0.02	0.07	0.72	0.77	[100 x 40 x 2.65
75	Sd/Rd	0.01	0.07	0.72	0.78	[100 x 40 x 2.65
76	Sd/Rd	0.00	0.04	0.19	0.22	[100 x 40 x 2.65
77	Sd/Rd	0.00	0.02	0.34	0.37	[100 x 40 x 2.65
78	Sd/Rd	0.01	0.02	0.35	0.38	[100 x 40 x 2.65
79	Sd/Rd	0.01	0.04	0.28	0.31	[100 x 40 x 2.65
80	Sd/Rd	0	0.06	0.45	0.47	[100 x 40 x 2.65
81	Sd/Rd	0.01	0.06	0.45	0.49	[100 x 40 x 2.65
82	Sd/Rd	0.02	0.04	0.28	0.32	[100 x 40 x 2.65
83	Sd/Rd	0.02	0.02	0.35	0.39	[100 x 40 x 2.65
84	Sd/Rd	0.02	0.02	0.34	0.38	[100 x 40 x 2.65
85	Sd/Rd	0.02	0.04	0.19	0.23	[100 x 40 x 2.65
86	Sd/Rd	0.01	0.07	0.73	0.76	[100 x 40 x 2.65

87	Sd/Rd	0.02	0.07	0.73	0.79	[100 x 40 x 2.65
88	Sd/Rd	0.02	0.05	0.22	0.26	[100 x 40 x 2.65
89	Sd/Rd	0.03	0.03	0.39	0.44	[100 x 40 x 2.65
90	Sd/Rd	0.02	0.01	0.4	0.45	[100 x 40 x 2.65
91	Sd/Rd	0.02	0.03	0.35	0.39	[100 x 40 x 2.65
92	Sd/Rd	0.01	0.05	0.35	0.39	[100 x 40 x 2.65
93	Sd/Rd	0.00	0.06	0.37	0.4	[100 x 40 x 2.65
94	Sd/Rd	0.00	0.04	0.38	0.4	[100 x 40 x 2.65
95	Sd/Rd	0.01	0.02	0.48	0.5	[100 x 40 x 2.65
96	Sd/Rd	0.01	0.02	0.48	0.51	[100 x 40 x 2.65
97	Sd/Rd	0.01	0.04	0.4	0.43	[100 x 40 x 2.65
98	Sd/Rd	0.00	0.06	0.3	0.33	[100 x 40 x 2.65
99	Sd/Rd	0.00	0.06	0.3	0.34	[100 x 40 x 2.65
100	Sd/Rd	0.01	0.04	0.4	0.42	[100 x 40 x 2.65
101	Sd/Rd	0.01	0.02	0.48	0.51	[100 x 40 x 2.65
102	Sd/Rd	0.01	0.02	0.48	0.5	[100 x 40 x 2.65
103	Sd/Rd	0.00	0.04	0.37	0.39	[100 x 40 x 2.65
104	Sd/Rd	0.01	0.06	0.38	0.42	[100 x 40 x 2.65
105	Sd/Rd	0.02	0.08	0.65	0.69	[75 x 40 x 2.25
106	Sd/Rd	0.00	0.00	0.01	0.06	[75 x 40 x 2.25
107	Sd/Rd	0.00	0.00	0.02	0.08	[75 x 40 x 2.25
108	Sd/Rd	0.02	0.08	0.64	0.67	[75 x 40 x 2.25
109	Sd/Rd	0.06	0.03	0.07	0.17	[75 x 40 x 2.25
110	Sd/Rd	0.03	0.01	0.06	0.12	[] 100 x 40 x 2.65 x 80
111	Sd/Rd	0.03	0.01	0.06	0.23	[] 100 x 40 x 2.65 x 80
112	Sd/Rd	0.04	0.00	0.01	0.18	[] 100 x 40 x 2.65 x 80
113	Sd/Rd	0.03	0.01	0.00	0.04	[] 100 x 40 x 2.65 x 80
114	Sd/Rd	0.03	0.01	0.08	0.11	[] 100 x 40 x 2.65 x 80
115	Sd/Rd	0	0.06	0.16	0.16	[] 100 x 40 x 2.65 x 80
116	Sd/Rd	0.16	0.01	0.12	0.28	[] 100 x 40 x 2.65 x 80
117	Sd/Rd	0.12	0.01	0.09	0.21	[] 100 x 40 x 2.65 x 80
118	Sd/Rd	0.04	0.01	0.05	0.09	[] 100 x 40 x 2.65 x 80
119	Sd/Rd	0.01	0.01	0.05	0.06	[] 100 x 40 x 2.65 x 80
120	Sd/Rd	0	0.02	0.11	0.14	[] 100 x 40 x 2.65 x 80
121	Sd/Rd	0.4	0	0	0.4	LLM 22.2 x 3.2 x 100
122	Sd/Rd	0.1	0.04	0.16	0.26	[] 100 x 40 x 2.65 x 80

123	Sd/Rd	0.00	0.04	0.14	0.35	LLAM 50.8 x 3.2
124	Sd/Rd	0.00	0.01	0.14	0.29	LLAM 50.8 x 3.2
125	Sd/Rd	0	0.07	0.15	0.18	[] 100 x 40 x 2.65 x 80
126	Sd/Rd	0.09	0	0	0.09	LLLM 22.2 x 3.2 x 100
127	Sd/Rd	0.07	0	0	0.07	LLLM 22.2 x 3.2 x 100
128	Sd/Rd	0.18	0	0	0.18	LLLM 22.2 x 3.2 x 100
129	Sd/Rd	0.03	0	0	0.03	LLLM 22.2 x 3.2 x 100
130	Sd/Rd	0.25	0	0	0.25	LLLM 22.2 x 3.2 x 100
131	Sd/Rd	0.14	0	0	0.14	LLLM 22.2 x 3.2 x 100
132	Sd/Rd	0.12	0	0	0.12	LLLM 22.2 x 3.2 x 100
133	Sd/Rd	0.00	0.01	0.04	0.09	[] 100 x 40 x 2.65 x 80
134	Sd/Rd	0.02	0.01	0.04	0.2	[] 100 x 40 x 2.65 x 80
135	Sd/Rd	0.03	0.00	0.02	0.17	[] 100 x 40 x 2.65 x 80
136	Sd/Rd	0.02	0	0	0.03	[] 100 x 40 x 2.65 x 80
137	Sd/Rd	0.02	0.00	0.01	0.09	[] 100 x 40 x 2.65 x 80
138	Sd/Rd	0.01	0.02	0.04	0.05	[] 100 x 40 x 2.65 x 80
139	Sd/Rd	0.01	0.02	0.04	0.08	[] 100 x 40 x 2.65 x 80
140	Sd/Rd	0	0.00	0.04	0.12	[] 100 x 40 x 2.65 x 80
141	Sd/Rd	0.01	0.00	0.02	0.16	[] 100 x 40 x 2.65 x 80
142	Sd/Rd	0	0.01	0.03	0.1	[] 100 x 40 x 2.65 x 80
143	Sd/Rd	0.02	0.01	0.03	0.1	[] 100 x 40 x 2.65 x 80
144	Sd/Rd	0.06	0	0	0.06	LLLM 22.2 x 3.2 x 100
145	Sd/Rd	0.02	0.01	0.04	0.06	[] 100 x 40 x 2.65 x 80
146	Sd/Rd	0.03	0.02	0.81	0.95	[75 x 40 x 2.25
147	Sd/Rd	0.00	0.02	0.8	0.82	[75 x 40 x 2.25
148	Sd/Rd	0.03	0.09	0.12	0.19	[] 100 x 40 x 2.65 x 80
149	Sd/Rd	0.03	0.02	0.02	0.19	[] 100 x 40 x 2.65 x 80
150	Sd/Rd	0	0.03	0.02	0.03	[] 100 x 40 x 2.65 x 80
151	Sd/Rd	0.01	0.05	0.11	0.14	[] 100 x 40 x 2.65 x 80
152	Sd/Rd	0.02	0	0	0.02	LLLM 22.2 x 3.2 x 100
153	Sd/Rd	0.09	0.01	0.07	0.18	[75 x 40 x 2.25
154	Sd/Rd	0.04	0	0.01	0.11	[75 x 40 x 2.25
155	Sd/Rd	0.04	0.03	0.3	0.35	UENR 127 x 50 x 17 x 2.25
156	Sd/Rd	0.01	0.08	0.8	0.81	UENR 127 x 50 x 17 x 2.25
157	Sd/Rd	0	0.06	0.54	0.54	UENR 127 x 50 x 17 x 2.25

158	Sd/Rd	0	0.05	0.49	0.49	UENR 127 x 50 x 17 x 2.25
159	Sd/Rd	0	0.05	0.49	0.49	UENR 127 x 50 x 17 x 2.25
160	Sd/Rd	0.02	0.03	0.3	0.33	UENR 127 x 50 x 17 x 2.25
161	Sd/Rd	0.01	0.08	0.79	0.8	UENR 127 x 50 x 17 x 2.25
162	Sd/Rd	0	0.06	0.54	0.54	UENR 127 x 50 x 17 x 2.25
163	Sd/Rd	0.04	0.01	0.36	0.4	UENR 127 x 50 x 17 x 2.25
164	Sd/Rd	0.04	0.03	0.3	0.34	UENR 127 x 50 x 17 x 2.25
165	Sd/Rd	0.01	0.03	0.96	0.97	UENR 127 x 50 x 17 x 2.25
166	Sd/Rd	0.01	0.08	0.8	0.81	UENR 127 x 50 x 17 x 2.25
167	Sd/Rd	0	0.02	0.65	0.65	UENR 127 x 50 x 17 x 2.25
168	Sd/Rd	0	0.06	0.54	0.54	UENR 127 x 50 x 17 x 2.25
169	Sd/Rd	0	0.02	0.57	0.58	UENR 127 x 50 x 17 x 2.25
170	Sd/Rd	0	0.05	0.42	0.44	UENR 127 x 50 x 17 x 2.25
171	Sd/Rd	0	0.02	0.57	0.58	UENR 127 x 50 x 17 x 2.25
172	Sd/Rd	0	0.05	0.42	0.43	UENR 127 x 50 x 17 x 2.25
173	Sd/Rd	0.02	0.01	0.36	0.39	UENR 127 x 50 x 17 x 2.25
174	Sd/Rd	0.02	0.03	0.3	0.34	UENR 127 x 50 x 17 x 2.25
175	Sd/Rd	0.01	0.03	0.96	0.97	UENR 127 x 50 x 17 x 2.25
176	Sd/Rd	0.01	0.08	0.79	0.8	UENR 127 x 50 x 17 x 2.25
177	Sd/Rd	0	0.02	0.65	0.65	UENR 127 x 50 x 17 x 2.25
178	Sd/Rd	0	0.06	0.54	0.54	UENR 127 x 50 x 17 x 2.25
179	Sd/Rd	0.01	0.01	0.11	0.12	LLAM 50.8 x 3.2
180	Sd/Rd	0	0.03	0.29	0.31	LLAM 50.8 x 3.2
181	Sd/Rd	0.17	0	0	0.17	LLLM 22.2 x 3.2 x 100
182	Sd/Rd	0.01	0.01	0.02	0.15	[100 x 40 x 2.65
183	Sd/Rd	0.07	0.01	0.04	0.24	[100 x 40 x 2.65
184	Sd/Rd	0.06	0	0	0.06	LLLM 22.2 x 3.2 x 100

PROPRIETÁRIO:
SECRETARIA DO ESTADO DA SAÚDE -SESA