

General - Presented in the load tables are maximum uniformly distributed specified loads.

Steel - Conforms to ASTM A653/A653M or A792/A792M. Grade 33/230; Yield stress 33 ksi/230 MPa and tensile stress 45 ksi/310 MPa. Grade 50 /345; Yield stress 50 ksi/345 MPa and tensile stress 65 ksi/450 MPa; Grade 80 /550; Yield stress 80 ksi/550 MPa and tensile stress 82 ksi/565 MPa.

Finishes - A25/ZF75, G90/Z275 or AZ50/AZM150. For heavier metallic coatings, refer to ASTM A653/A653M or A792/A792M.

Load Tables - The following information regarding the determination of the specified wind and snow loads is contained in the 2010 Edition of the National Building Code of Canada (NBCC). Importance factors are applied to both strength (ULS) and serviceability/deflection (SLS) limit state design considerations. A lower load factor for wind of 1.4, instead of 1.5 for live and snow loads, is now being used. This lower load factor for wind somewhat offsets the higher wind loads (1 in 50 year return) that are now listed in the NBCC by geographic location. The importance category of the end use of the building/structure must also be recognized, such as Normal or Low.

All of this will impact how the load tables are to be used. In an effort to help the design professional with the load tables, the information below was taken directly from Division B, Part 4 (Structural Design) of the NBCC.

Specified Wind Load

$$W = I_w [q C_e C_g C_p] \quad [1]$$

Importance Category	Importance Factor, I_w	
	ULS	SLS
Low	0.8	0.75
Normal	1.0	0.75
High	1.15	0.75
Post-Disaster	1.25	0.75

Specified Snow Load

$$S = I_s [S_s (C_b C_w C_s C_a) + S_f] \quad [2]$$

Importance Category	Importance Factor, I_s	
	ULS	SLS
Low	0.8	0.9
Normal	1.0	0.9
High	1.15	0.9
Post-Disaster	1.25	0.9

The importance factors, I_w and I_s , have been incorporated in the load tables, as well as the importance category. The parameters in the boxed-in portion of Equations [1] and [2] must be determined by the design professional in accordance with the NBCC.

Strength - The maximum uniformly distributed specified load based on strength in the load table must be equal to or greater than the **specified live load**.

Serviceability (Deflection) - The maximum uniformly distributed specified load based on deflection in the load table must be equal to or greater than the **specified live load**. The effective moment of inertia for deflection determination was calculated at an assumed specified live load stress of $0.6F_y$.

EXAMPLE (Use of Load Table)

Ultra Span Wall (Normal Importance Category)

Given: (Metric units)

(LLF = 1.4 and $I_w = 0.75$)

~ Deck thickness, $t = 0.762$ mm

~ Double span continuous, $L = 2.6$ m each span

~ Bearing length, $N = 50$ mm

~ L/240 deflection limit

~ Wind live load, $LL = 1.5$ kPa

The live load is the value of the boxed-in portion of the specified wind load expression [1].

Solution:

Strength "S"

1) Specified wind live load = 1.5 kPa

2) Maximum specified load (from Load Table)

Is **1.65 kPa**

Since **1.65 > 1.5** ∴ **OK**

3) Check web crippling ($N = 50$ mm)

a) End reaction = $0.375(1.5)2.6 = \mathbf{1.46 \text{ kN/m}}$

(from section property table)

$$P_e = P_{e1} + P_{e2} [N/t]^{1/2}$$

$$= 2.78 + 0.695[50/0.762]^{1/2} = \mathbf{8.41 \text{ kN/m}}$$

Since **8.41 > 1.46** ∴ **OK**

b) Interior reaction = $1.25(1.5)2.6 = \mathbf{4.88 \text{ kN/m}}$

(from section property table)

$$P_i = P_{i1} + P_{i2} [N/t]^{1/2}$$

$$= 5.29 + 0.900[50/0.762]^{1/2} = \mathbf{12.6 \text{ kN/m}}$$

Since **12.6 > 4.88** ∴ **OK**

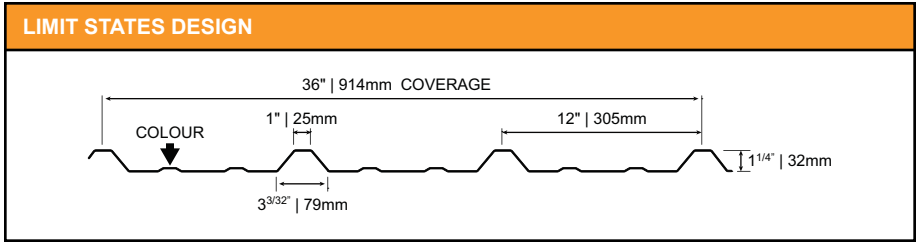
Deflection "D"

From table L/180 = **3.26 kPa**

For L/240, multiply 3.26 by 180/240 = **2.45 kPa**

Since **2.45 > 1.5** ∴ **OK**

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



SECTION PROPERTIES | Per Foot of Width

Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0135	0.72	50	0.0268	0.0219	0.0309	20.7	5.17	40.2	6.84
0.0180	0.94	33	0.0406	0.0343	0.0435	25.9	6.47	50.2	8.53
0.0180	0.94	50	0.0385	0.0326	0.0430	39.2	9.80	76.0	12.9
0.0180	0.94	80	0.0376	0.0315	0.0426	46.6	11.7	90.4	15.4
0.0240	1.23	33	0.0571	0.0476	0.0579	48.6	12.2	93.8	16.0
0.0300	1.53	33	0.0710	0.0613	0.0722	78.7	19.7	152	25.8

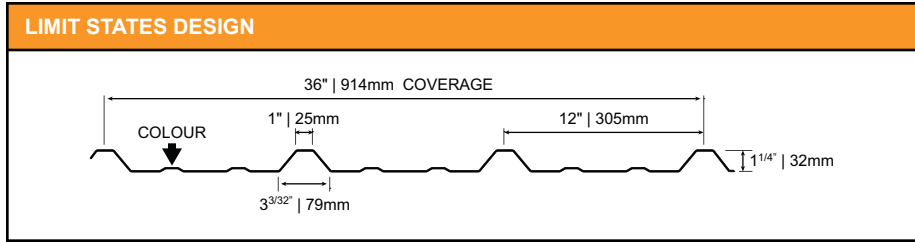
LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE | Maximum Uniformly Distributed Specified Loads (psf).

Span Length (ft)		1-Span Base Steel Thickness (inches)					2-Span Base Steel Thickness (inches)					3-Span Base Steel Thickness (inches)							
		0.0135	0.0180	0.0180	0.0240	0.0300	0.0135	0.0180	0.0180	0.0240	0.0300	0.0135	0.0180	0.0180	0.0240	0.0300			
	Y.S.* (ksi)	50	33	50	80	33	50	33	50	80	33	33	50	33	50	80	33	33	
2.0	S	144	144	206	239	202	251	117	121	175	201	168	217	147	152	219	251	210	271
2.0	D	450	632	626	620	842	1050	1080	1517	1502	1487	2020	2521	850	1195	1183	1171	1591	1985
2.5	S	92	92	132	153	129	161	75	78	112	128	108	139	94	97	140	161	135	173
2.5	D	230	324	320	317	431	538	553	777	769	761	1034	1291	435	612	606	600	814	1017
3.0	S	64	64	92	106	90	112	52	54	78	89	75	96	65	67	97	111	93	120
3.0	D	133	187	185	184	249	311	320	449	445	441	598	747	252	354	351	347	471	588
3.5	S	47	47	67	78	66	82	38	40	57	66	55	71	48	50	71	82	69	88
3.5	D	84	118	117	116	157	196	201	283	280	277	377	470	159	223	221	218	297	370
4.0	S	36	36	51	60	50	63	29	30	44	50	42	54	37	38	55	63	53	68
4.0	D	56	79	78	77	105	131	135	190	188	186	252	315	106	149	148	146	199	248
4.5	S	28	28	41	47	40	50	23	24	35	40	33	43	29	30	43	50	42	53
4.5	D	39	55	55	54	74	92	95	133	132	131	177	221	75	105	104	103	140	174
5.0	S	23	23	33	38	32	40	19	19	28	32	27	35	23	24	35	40	34	43
5.0	D	29	40	40	40	54	67	69	97	96	95	129	161	54	76	76	75	102	127
5.5	S	19	19	27	32	27	33	16	16	23	27	22	29	19	20	29	33	28	36
5.5	D	22	30	30	30	40	51	52	73	72	71	97	121	41	57	57	56	76	95
6.0	S	16	16	23	27	22	28	13	13	19	22	19	24	16	17	24	28	23	30
6.0	D	17	23	23	23	31	39	40	56	56	55	75	93	31	44	44	43	59	74
6.5	S	14	14	20	23	19	24	11	11	17	19	16	21	14	14	21	24	20	26
6.5	D	13	18	18	18	25	31	31	44	44	43	59	73	25	35	34	34	46	58
7.0	S	12	12	17	20	16	20	10	10	14	16	14	18	12	12	18	20	17	22
7.0	D	10	15	15	14	20	25	25	35	35	35	47	59	20	28	28	27	37	46
7.5	S	10	10	15	17	14	18	8	9	12	14	12	15	10	11	16	18	15	19
7.5	D	9	12	12	12	16	20	20	29	28	28	38	48	16	23	22	22	30	38
8.0	S	9	9	13	15	13	16	7	8	11	13	11	14	9	9	14	16	13	17
8.0	D	7	10	10	10	13	16	17	24	23	23	32	39	13	19	18	18	25	31

* Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



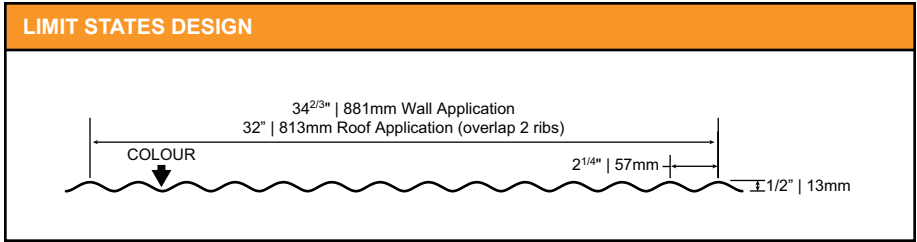
SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.343	3.51	345	1.44	1.18	0.0423	0.302	0.075	0.587	0.100
0.457	4.59	230	2.18	1.85	0.0594	0.382	0.095	0.740	0.126
0.457	4.59	345	2.07	1.76	0.0588	0.573	0.143	1.11	0.189
0.457	4.59	550	2.02	1.69	0.0582	0.685	0.171	1.33	0.226
0.610	6.02	230	3.07	2.56	0.0790	0.717	0.179	1.38	0.235
0.762	7.46	230	3.82	3.29	0.0987	1.16	0.290	2.24	0.380

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).																			
Span Length (m)		1-Span Base Steel Thickness (mm)					2-Span Base Steel Thickness (mm)					3-Span Base Steel Thickness (mm)							
		0.343	0.457	0.457	0.610	0.762	0.343	0.457	0.457	0.610	0.762	0.343	0.457	0.457	0.610	0.762			
YS* (MPa)		345	230	345	550	230	345	230	345	550	230	345	230	345	550	230	345		
1.0	S	2.56	2.58	3.67	4.28	3.63	4.52	2.09	2.18	3.11	3.59	3.02	3.89	2.61	2.73	3.89	4.48	3.78	4.87
1.0	D	4.88	6.86	6.79	6.72	9.13	11.4	11.7	16.5	16.3	16.1	21.9	27.4	9.22	13.0	12.8	12.7	17.3	21.5
1.2	S	1.77	1.79	2.55	2.97	2.52	3.14	1.45	1.52	2.16	2.49	2.10	2.70	1.82	1.89	2.70	3.11	2.62	3.38
1.2	D	2.82	3.97	3.93	3.89	5.28	6.59	6.78	9.52	9.43	9.33	12.7	15.8	5.34	7.50	7.42	7.35	10.0	12.5
1.4	S	1.30	1.32	1.87	2.19	1.85	2.30	1.07	1.11	1.59	1.83	1.54	1.99	1.33	1.39	1.99	2.29	1.93	2.48
1.4	D	1.78	2.50	2.47	2.45	3.33	4.15	4.27	6.00	5.94	5.87	7.98	10.0	3.36	4.72	4.68	4.63	6.29	7.85
1.6	S	1.00	1.01	1.43	1.67	1.42	1.76	0.82	0.85	1.22	1.40	1.18	1.52	1.02	1.07	1.52	1.75	1.48	1.90
1.6	D	1.19	1.67	1.66	1.64	2.23	2.78	2.86	4.02	3.98	3.94	5.35	6.68	2.25	3.16	3.13	3.10	4.41	5.26
1.8	S	0.79	0.80	1.13	1.32	1.12	1.39	0.65	0.67	0.96	1.11	0.93	1.20	0.81	0.84	1.20	1.38	1.17	1.50
1.8	D	0.84	1.18	1.16	1.15	1.57	1.95	2.01	2.82	2.79	2.76	3.76	4.69	1.58	2.22	2.20	2.18	2.96	3.69
2.0	S	0.64	0.64	0.92	1.07	0.91	1.13	0.52	0.55	0.78	0.90	0.76	0.97	0.65	0.68	0.97	1.12	0.94	1.22
2.0	D	0.61	0.86	0.85	0.84	1.14	1.42	1.46	2.06	2.04	2.02	2.74	3.42	1.15	1.62	1.60	1.59	2.16	2.69
2.2	S	0.53	0.53	0.76	0.88	0.75	0.93	0.43	0.45	0.64	0.74	0.62	0.80	0.54	0.56	0.80	0.93	0.78	1.01
2.2	D	0.46	0.64	0.64	0.63	0.86	1.07	1.10	1.55	1.53	1.51	2.06	2.57	0.87	1.22	1.20	1.19	1.62	2.02
2.4	S	0.44	0.45	0.64	0.74	0.63	0.78	0.36	0.38	0.54	0.62	0.52	0.68	0.45	0.47	0.68	0.78	0.66	0.84
2.4	D	0.35	0.50	0.49	0.49	0.66	0.82	0.85	1.19	1.18	1.17	1.58	1.98	0.67	0.94	0.93	0.92	1.25	1.56
2.6	S	0.38	0.38	0.54	0.63	0.54	0.67	0.31	0.32	0.46	0.53	0.45	0.58	0.39	0.40	0.58	0.66	0.56	0.72
2.6	D	0.28	0.39	0.39	0.38	0.52	0.65	0.67	0.94	0.93	0.92	1.25	1.56	0.52	0.74	0.73	0.72	0.98	1.23
2.8	S	0.33	0.33	0.47	0.55	0.46	0.58	0.27	0.28	0.40	0.46	0.39	0.50	0.33	0.35	0.50	0.57	0.48	0.62
2.8	D	0.22	0.31	0.31	0.31	0.42	0.52	0.53	0.75	0.74	0.73	1.00	1.25	0.42	0.59	0.58	0.58	0.79	0.98
3.0	S	0.28	0.29	0.41	0.48	0.40	0.50	0.23	0.24	0.35	0.40	0.34	0.43	0.29	0.30	0.43	0.50	0.42	0.54
3.0	D	0.18	0.25	0.25	0.25	0.34	0.42	0.43	0.61	0.60	0.60	0.81	1.01	0.34	0.48	0.48	0.47	0.64	0.80

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



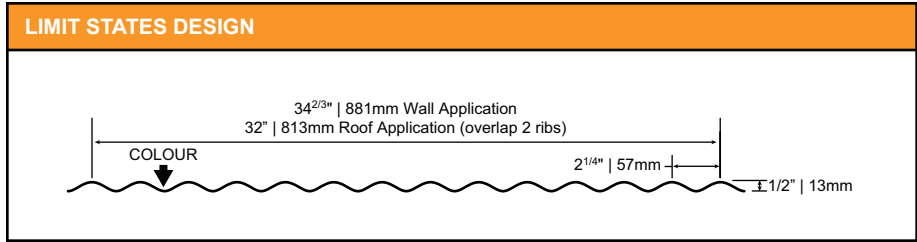
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0135	0.65	80	0.0180	0.0180	0.00451				
0.0180	0.85	33	0.0235	0.0235	0.00587				
0.0180	0.85	50	0.0235	0.0235	0.00587				
0.0240	1.11	33	0.0304	0.0304	0.00759				

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).															
Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)					
		0.0135	0.0180	0.0180	0.0240	0.0135	0.0180	0.0180	0.0240	0.0135	0.0180	0.0180	0.0240		
Y.S.* (ksi)		80	33	50	33	80	33	50	33	80	33	50	33		
1.5	S	206	148	224	191	206	148	224	191	258	185	280	239		
1.5	D	155	202	202	262	373	486	486	628	294	383	383	494		
2.0	S	116	83	126	107	116	83	126	107	145	104	157	134		
2.0	D	66	85	85	110	157	205	205	265	124	161	161	209		
2.5	S	74	53	81	69	74	53	81	69	93	66	101	86		
2.5	D	34	44	44	57	81	105	105	136	63	83	83	107		
3.0	S	52	37	56	48	52	37	56	48	64	46	70	60		
3.0	D	19	25	25	33	47	61	61	78	37	48	48	62		
3.5	S	38	27	41	35	38	27	41	35	47	34	51	44		
3.5	D	12	16	16	21	29	38	38	49	23	30	30	39		
4.0	S		21	31	27	29	21	31	27	36	26	39	34		
4.0	D		11	11	14	20	26	26	33	15	20	20	26		
4.5	S					23	16	25	21	29	21	31	27		
4.5	D					14	18	18	23	11	14	14	18		
5.0	S					19	13	20	17		17	25	21		
5.0	D					10	13	13	17		10	10	13		
5.5	S								14				18		
5.5	D								13				10		
6.0	S														
6.0	D														

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



SECTION PROPERTIES | Per Metre of Width

Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.343	3.17	550	0.970	0.970	0.0062				
0.457	4.13	230	1.26	1.26	0.0080				
0.457	4.13	345	1.26	1.26	0.0080				
0.610	5.42	230	1.63	1.63	0.0104				

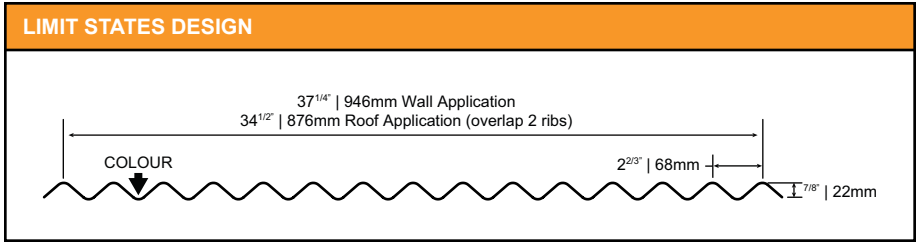
LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE | Maximum Uniformly Distributed Specified Loads (kPa).

Span Length (m)		1-Span Base Steel Thickness (mm)				2-Span Base Steel Thickness (mm)				3-Span Base Steel Thickness (mm)			
		0.343	0.457	0.457	0.610	0.343	0.457	0.457	0.610	0.343	0.457	0.457	0.610
YS* (MPa)		550	230	345	230	550	230	345	230	550	230	345	230
0.5	S	8.23	5.98	8.97	7.72	8.23	5.98	8.97	7.72	10.3	7.47	11.2	9.65
0.5	D	5.69	7.41	7.41	9.58	13.7	17.8	17.8	23.0	10.8	14.0	14.0	18.1
0.6	S	5.71	4.15	6.23	5.36	5.71	4.15	6.23	5.36	7.14	5.19	7.78	6.70
0.6	D	3.29	4.29	4.29	5.54	7.90	10.3	10.3	13.3	6.22	8.11	8.11	10.5
0.8	S	3.21	2.33	3.50	3.02	3.21	2.33	3.50	3.02	4.02	2.92	4.38	3.77
0.8	D	1.39	1.81	1.81	2.34	3.33	4.34	4.34	5.61	2.63	3.42	3.42	4.42
1.0	S	2.06	1.49	2.24	1.93	2.06	1.49	2.24	1.93	2.57	1.87	2.80	2.41
1.0	D	0.71	0.93	0.93	1.20	1.71	2.22	2.22	2.87	1.34	1.75	1.75	2.26
1.2	S		1.04	1.56	1.34	1.43	1.04	1.56	1.34	1.79	1.30	1.95	1.68
1.2	D		0.54	0.54	0.69	0.99	1.29	1.29	1.66	0.78	1.01	1.01	1.31
1.4	S					1.05	0.76	1.14	0.99		0.95	1.43	1.23
1.4	D					0.62	0.81	0.81	1.05		0.64	0.64	0.82
1.6	S						0.58	0.88	0.75				0.94
1.6	D						0.54	0.54	0.70				0.55
1.8	S												
1.8	D												

* Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



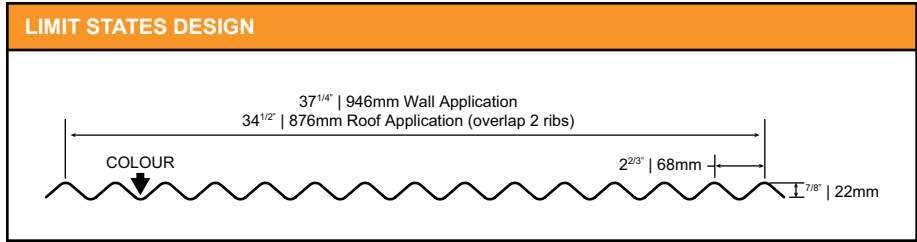
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0135	0.74	80	0.0404	0.0404	0.0177				
0.0180	0.97	33	0.0531	0.0531	0.0232				
0.0180	0.97	50	0.0531	0.0531	0.0232				
0.0240	1.27	33	0.0697	0.0697	0.0305				
0.0300	1.58	33	0.0856	0.0856	0.0375				

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).																
Span Length (ft)		1-Span Base Steel Thickness (inches)					2-Span Base Steel Thickness (inches)					3-Span Base Steel Thickness (inches)				
		0.0135	0.0180	0.0180	0.0240	0.0300	0.0135	0.0180	0.0180	0.0240	0.0300	0.0135	0.0180	0.0180	0.0240	0.0300
Y.S.* (ksi)		80	33	50	33	33	80	33	50	33	33	80	33	50	33	33
2.0	S	259	188	285	246	303	259	188	285	246	303	324	235	356	308	378
2.0	D	257	338	338	443	545	616	811	811	1064	1307	485	639	639	838	1029
2.5	S	166	120	182	158	194	166	120	182	158	194	208	150	228	197	242
2.5	D	131	173	173	227	279	315	415	415	545	669	248	327	327	429	527
3.0	S	115	84	127	109	135	115	84	127	109	135	144	104	158	137	168
3.0	D	76	100	100	131	161	183	240	240	315	387	144	189	189	248	305
3.5	S	85	61	93	80	99	85	61	93	80	99	106	77	116	101	124
3.5	D	48	63	63	83	102	115	151	151	198	244	91	119	119	156	192
4.0	S	65	47	71	62	76	65	47	71	62	76	81	59	89	77	95
4.0	D	32	42	42	55	68	77	101	101	133	163	61	80	80	105	129
4.5	S	51	37	56	49	60	51	37	56	49	60	64	46	70	61	75
4.5	D	23	30	30	39	48	54	71	71	93	115	43	56	56	74	90
5.0	S	42	30	46	39	48	42	30	46	39	48	52	38	57	49	61
5.0	D	16	22	22	28	35	39	52	52	68	84	31	41	41	54	66
5.5	S	34	25	38	33	40	34	25	38	33	40	43	31	47	41	50
5.5	D	12	16	16	21	26	30	39	39	51	63	23	31	31	40	49
6.0	S		21	32	27	34	29	21	32	27	34	36	26	40	34	42
6.0	D		13	13	16	20	23	30	30	39	48	18	24	24	31	38
6.5	S				23	29	25	18	27	23	29	31	22	34	29	36
6.5	D				13	16	18	24	24	31	38	14	19	19	24	30
7.0	S				20	25	21	15	23	20	25	26	19	29	25	31
7.0	D				10	13	14	19	19	25	30	11	15	15	20	24
7.5	S					22	18	13	20	18	22		17	25	22	27
7.5	D					10	12	15	15	20	25		12	12	16	20
8.0	S							12	18	15	19				19	24
8.0	D							13	13	17	20				13	16

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



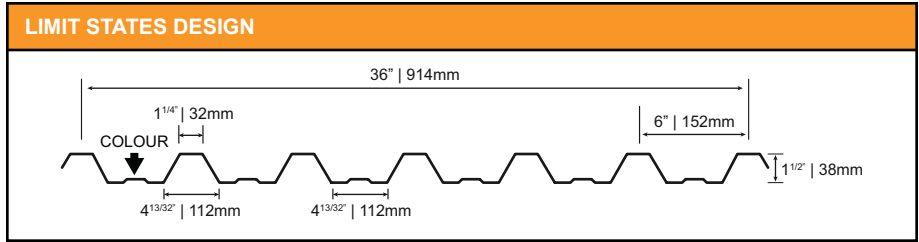
SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.343	3.61	550	2.17	2.17	0.0241				
0.457	4.72	230	2.86	2.86	0.0317				
0.457	4.72	345	2.86	2.86	0.0317				
0.610	6.21	230	3.75	3.75	0.0416				
0.762	7.69	230	4.60	4.60	0.0512				

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).																
Span Length (m)		1-Span Base Steel Thickness (mm)					2-Span Base Steel Thickness (mm)					3-Span Base Steel Thickness (mm)				
		0.343	0.457	0.457	0.610	0.762	0.343	0.457	0.457	0.610	0.762	0.343	0.457	0.457	0.610	0.762
YS* (MPa)		550	230	345	230	230	550	230	345	230	230	550	230	345	230	230
1.0	S	4.60	3.38	5.07	4.43	5.45	4.60	3.38	5.07	4.43	5.45	5.75	4.22	6.34	5.54	6.81
1.0	D	2.78	3.67	3.67	4.81	5.91	6.68	8.80	8.80	11.5	14.2	5.26	6.93	6.93	9.09	11.2
1.2	S	3.20	2.35	3.52	3.08	3.78	3.20	2.35	3.52	3.08	3.78	4.00	2.93	4.40	3.85	4.73
1.2	D	1.61	2.12	2.12	2.78	3.42	3.87	5.09	5.09	6.68	8.21	3.05	4.01	4.01	5.26	6.46
1.4	S	2.35	1.72	2.59	2.26	2.78	2.35	1.72	2.59	2.26	2.78	2.94	2.16	3.23	2.83	3.47
1.4	D	1.01	1.34	1.34	1.75	2.15	2.44	3.21	3.21	4.20	5.17	1.92	2.53	2.53	3.31	4.07
1.6	S	1.80	1.32	1.98	1.73	2.13	1.80	1.32	1.98	1.73	2.13	2.25	1.65	2.48	2.16	2.66
1.6	D	0.68	0.90	0.90	1.17	1.44	1.63	2.15	2.15	2.82	3.46	1.28	1.69	1.69	2.22	2.73
1.8	S		1.04	1.56	1.37	1.68	1.42	1.04	1.56	1.37	1.68	1.78	1.30	1.96	1.71	2.10
1.8	D		0.63	0.63	0.82	1.01	1.15	1.51	1.51	1.98	2.43	0.90	1.19	1.19	1.56	1.91
2.0	S				1.11	1.36	1.15	0.84	1.27	1.11	1.36	1.44	1.06	1.58	1.38	1.70
2.0	D				0.60	0.74	0.84	1.10	1.10	1.44	1.77	0.66	0.87	0.87	1.14	1.40
2.2	S					1.13	0.95	0.70	1.05	0.92	1.13		0.87	1.31	1.14	1.41
2.2	D					0.55	0.63	0.83	0.83	1.08	1.33		0.65	0.65	0.85	1.05
2.4	S							0.59	0.88	0.77	0.95		0.73	1.10	0.96	1.18
2.4	D							0.64	0.64	0.83	1.03		0.50	0.50	0.66	0.81
2.6	S								0.75	0.66	0.81				0.82	1.01
2.6	D								0.50	0.66	0.81				0.52	0.64
2.8	S									0.57	0.69					0.87
2.8	D									0.53	0.65					0.51

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



SECTION PROPERTIES | Per Foot of Width

Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0180	1.04	33	0.0942	0.0892	0.0988	58.0	14.5	113	19.1
0.0180	1.04	50	0.0886	0.0822	0.0961	87.9	22.0	171	29.0
0.0240	1.36	33	0.136	0.129	0.133	109	27.3	211	35.8

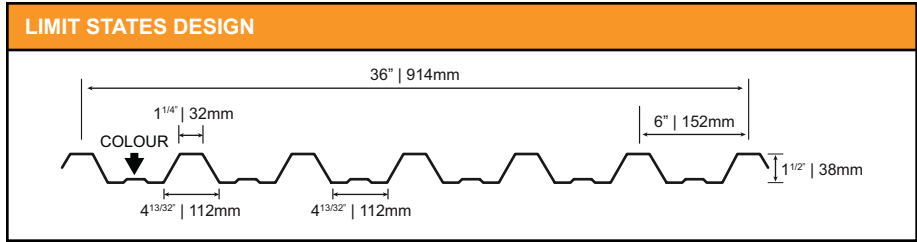
LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE | Maximum Uniformly Distributed Specified Loads (psf).

Span Length (ft)		1-Span Base Steel Thickness (inches)			2-Span Base Steel Thickness (inches)			3-Span Base Steel Thickness (inches)						
		0.0180	0.0180	0.0240	0.0180	0.0180	0.0240	0.0180	0.0180	0.0240				
Y.S.* (ksi)		33	50	33										
3.0	S	148	211	214										
3.0	D	426	414	573										
3.5	S	109	155	157										
3.5	D	268	261	361										
4.0	S	83	119	120										
4.0	D	180	175	242										
4.5	S	66	94	95										
4.5	D	126	123	170										
5.0	S	53	76	77										
5.0	D	92	89	124										
5.5	S	44	63	64										
5.5	D	69	67	93										
6.0	S	37	53	54										
6.0	D	53	52	72										
6.5	S	32	45	46										
6.5	D	42	41	56										
7.0	S	27	39	39										
7.0	D	34	33	45										
7.5	S	24	34	34										
7.5	D	27	26	37										
8.0	S	21	30	30										
8.0	D	22	22	30										
8.5	S	18	26	27										
8.5	D	19	18	25										
9.0	S	16	23	24										
9.0	D	16	15	21										
9.5	S	15	21	21										
9.5	D	13	13	18										
10.0	S	13	19	19										
10.0	D	11	11	15										

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



SECTION PROPERTIES | Per Metre of Width

Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.457	5.06	230	5.06	4.78	0.135	0.856	0.214	1.66	0.282
0.457	5.06	345	4.76	4.42	0.131	1.28	0.321	2.49	0.423
0.610	6.66	230	7.32	6.93	0.182	1.61	0.402	3.11	0.529

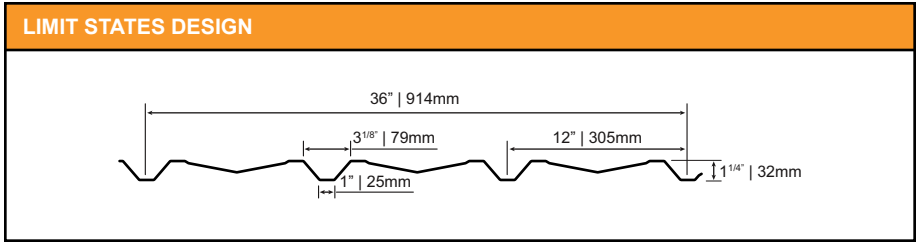
LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE | Maximum Uniformly Distributed Specified Loads (kPa).

Span Length (m)		1-Span Base Steel Thickness (mm)			2-Span Base Steel Thickness (mm)			3-Span Base Steel Thickness (mm)		
		0.457	0.457	0.610	0.457	0.457	0.610	0.457	0.457	0.610
YS* (MPa)		230	345	230	230	345	230	230	345	230
1.0	S	5.98	8.45	8.65	5.66	7.84	8.20	7.07	9.80	10.3
1.0	D	15.6	15.2	21.0	37.4	36.4	50.3	29.4	28.6	39.6
1.2	S	4.15	5.87	6.01	3.93	5.44	5.69	4.91	6.80	7.12
1.2	D	9.01	8.77	12.1	21.6	21.0	29.1	17.0	16.6	22.9
1.4	S	3.05	4.31	4.41	2.89	4.00	4.18	3.61	5.00	5.23
1.4	D	5.67	5.52	7.64	13.6	13.3	18.3	10.7	10.4	14.4
1.6	S	2.34	3.30	3.38	2.21	3.06	3.20	2.76	3.83	4.00
1.6	D	3.80	3.70	5.12	9.12	8.88	12.3	7.18	6.99	9.67
1.8	S	1.85	2.61	2.67	1.75	2.42	2.53	2.18	3.02	3.16
1.8	D	2.67	2.60	3.60	6.41	6.24	8.63	5.05	4.91	6.79
2.0	S	1.50	2.11	2.16	1.41	1.96	2.05	1.77	2.45	2.56
2.0	D	1.95	1.89	2.62	4.67	4.55	6.29	3.68	3.58	4.95
2.2	S	1.24	1.75	1.79	1.17	1.62	1.69	1.46	2.02	2.12
2.2	D	1.46	1.42	1.97	3.51	3.42	4.73	2.76	2.69	3.72
2.4	S	1.04	1.47	1.50	0.98	1.36	1.42	1.23	1.70	1.78
2.4	D	1.13	1.10	1.52	2.70	2.63	3.64	2.13	2.07	2.87
2.6	S	0.89	1.25	1.28	0.84	1.16	1.21	1.05	1.45	1.52
2.6	D	0.89	0.86	1.19	2.13	2.07	2.86	1.67	1.63	2.25
2.8	S	0.76	1.08	1.10	0.72	1.00	1.05	0.90	1.25	1.31
2.8	D	0.71	0.69	0.96	1.70	1.66	2.29	1.34	1.30	1.81
3.0	S	0.66	0.94	0.96	0.63	0.87	0.91	0.79	1.09	1.14
3.0	D	0.58	0.56	0.78	1.38	1.35	1.86	1.09	1.06	1.47
3.2	S	0.58	0.83	0.85	0.55	0.77	0.80	0.69	0.96	1.00
3.2	D	0.48	0.46	0.64	1.14	1.11	1.54	0.90	0.87	1.21
3.4	S	0.52	0.73	0.75	0.49	0.68	0.71	0.61	0.85	0.89
3.4	D	0.40	0.39	0.53	0.95	0.93	1.28	0.75	0.73	1.01

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



SECTION PROPERTIES | Per Foot of Width

Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0180	0.94	33	0.0344	0.0405	0.0264	25.9	6.5	52.0	8.83
0.0180	0.94	50	0.0324	0.0382	0.0242	39.2	9.8	78.7	13.4
0.0180	0.94	80	0.0312	0.0373	0.0233	47.1	11.8	94.5	16.1
0.0240	1.23	33	0.0477	0.0574	0.0420	48.6	12.1	96.4	16.4

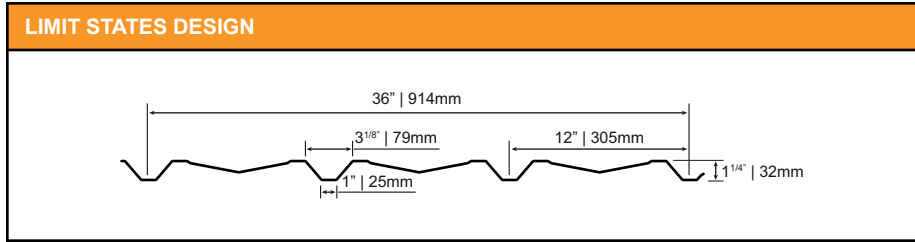
LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE | Maximum Uniformly Distributed Specified Loads (psf).

Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)									
		0.0180	0.0180	0.0180	0.0240	0.0180	0.0180	0.0180	0.0240	0.0180	0.0180	0.0180	0.0240						
Y.S.* (ksi)		33	50	80	33														
2.0	S	122	173	200	169					143	205	240	203			179	256	300	254
2.0	D	384	352	339	611					922	845	815	1466			726	665	642	1154
2.5	S	78	111	128	108					92	131	153	130			114	164	192	162
2.5	D	197	180	174	313					472	433	417	751			372	341	328	591
3.0	S	54	77	89	75					64	91	107	90			79	114	133	113
3.0	D	114	104	101	181					273	250	241	434			215	197	190	342
3.5	S	40	57	65	55					47	67	78	66			58	84	98	83
3.5	D	72	66	63	114					172	158	152	274			135	124	120	215
4.0	S	30	43	50	42					36	51	60	51			45	64	75	63
4.0	D	48	44	42	76					115	106	102	183			91	83	80	144
4.5	S	24	34	40	33					28	40	47	40			35	51	59	50
4.5	D	34	31	30	54					81	74	72	129			64	58	56	101
5.0	S	19	28	32	27					23	33	38	32			29	41	48	41
5.0	D	25	23	22	39					59	54	52	94			46	43	41	74
5.5	S	16	23	26	22					19	27	32	27			24	34	40	34
5.5	D	18	17	16	29					44	41	39	70			35	32	31	56
6.0	S	14	19	22	19					16	23	27	23			20	28	33	28
6.0	D	14	13	13	23					34	31	30	54			27	25	24	43

* Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



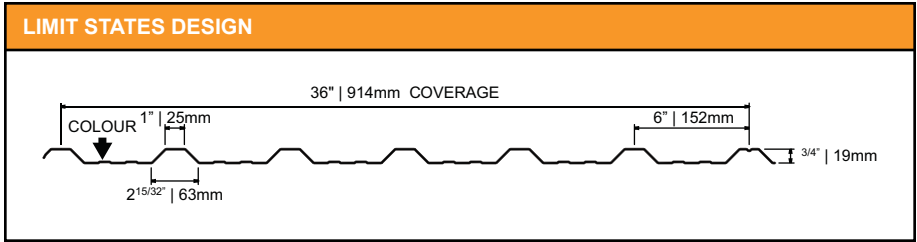
SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.457	4.59	230	1.85	2.17	0.0360	0.382	0.096	0.766	0.130
0.457	4.59	345	1.74	2.06	0.0331	0.573	0.143	1.15	0.195
0.457	4.59	550	1.68	2.01	0.0319	0.685	0.171	1.38	0.234
0.610	6.02	230	2.57	3.09	0.0572	0.716	0.179	1.42	0.242

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).													
Span Length (m)		1-Span Base Steel Thickness (mm)				2-Span Base Steel Thickness (mm)				3-Span Base Steel Thickness (mm)			
		0.457	0.457	0.457	0.610	0.457	0.457	0.610	0.457	0.457	0.457	0.610	
YS* (MPa)		230	345	550	230	230	345	550	230	230	345	550	230
0.6	S	6.08	8.58	9.88	8.43	7.14	10.1	11.8	10.2	8.92	12.7	14.8	12.7
0.6	D	19.2	17.7	17.1	30.6	46.2	42.4	40.9	73.4	36.4	33.4	32.2	57.8
0.8	S	3.42	4.82	5.56	4.74	4.01	5.70	6.65	5.71	5.02	7.12	8.31	7.14
0.8	D	8.12	7.45	7.20	12.9	19.5	17.9	17.3	31.0	15.3	14.1	13.6	24.4
1.0	S	2.19	3.09	3.56	3.03	2.57	3.65	4.26	3.65	3.21	4.56	5.32	4.57
1.0	D	4.16	3.82	3.68	6.61	9.97	9.16	8.84	15.9	7.85	7.21	6.96	12.5
1.2	S	1.52	2.14	2.47	2.11	1.78	2.53	2.96	2.54	2.23	3.17	3.69	3.17
1.2	D	2.40	2.21	2.13	3.83	5.77	5.30	5.12	9.18	4.54	4.17	4.03	7.23
1.4	S	1.12	1.58	1.81	1.55	1.31	1.86	2.17	1.86	1.64	2.33	2.71	2.33
1.4	D	1.51	1.39	1.34	2.41	3.63	3.34	3.22	5.78	2.86	2.63	2.54	4.55
1.6	S	0.85	1.21	1.39	1.19	1.00	1.42	1.66	1.43	1.25	1.78	2.08	1.78
1.6	D	1.01	0.93	0.90	1.61	2.43	2.24	2.16	3.87	1.92	1.76	1.70	3.05
1.8	S	0.68	0.95	1.10	0.94	0.79	1.13	1.31	1.13	0.99	1.41	1.64	1.41
1.8	D	0.71	0.65	0.63	1.13	1.71	1.57	1.52	2.72	1.35	1.24	1.19	2.14
2.0	S	0.55	0.77	0.89	0.76	0.64	0.91	1.06	0.91	0.80	1.14	1.33	1.14
2.0	D	0.52	0.48	0.46	0.83	1.25	1.15	1.11	1.98	0.98	0.90	0.87	1.56

* Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



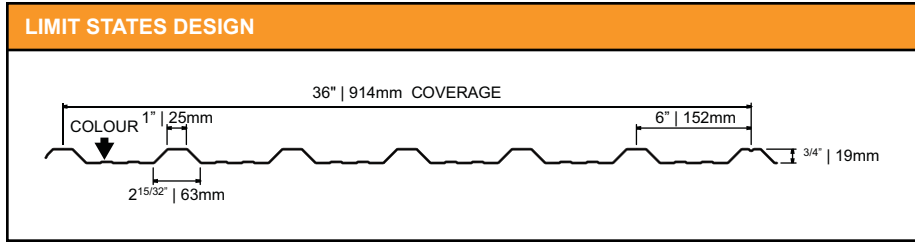
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0180	0.93	50	0.0347	0.0325	0.0211	77.8	19.5	148	25.2
0.0180	0.93	80	0.0336	0.0311	0.0208	93.3	23.3	178	30.2

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).													
Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)			
		0.0180	0.0180			0.0180	0.0180			0.0180	0.0180		
Y.S.* (ksi)		50	80			50	80			50	80		
2.0	S	186	216			174	200			218	250		
2.0	D	307	303			737	727			580	572		
2.5	S	119	138			112	128			139	160		
2.5	D	157	155			377	372			297	293		
3.0	S	83	96			77	89			97	111		
3.0	D	91	90			218	215			172	170		
3.5	S	61	70			57	65			71	82		
3.5	D	57	56			138	136			108	107		
4.0	S	46	54			44	50			54	63		
4.0	D	38	38			92	91			73	72		
4.5	S	37	43			34	40			43	49		
4.5	D	27	27			65	64			51	50		
5.0	S	30	35			28	32			35	40		
5.0	D	20	19			47	47			37	37		
5.5	S	25	29			23	26			29	33		
5.5	D	15	15			35	35			28	28		
6.0	S	21	24			19	22			24	28		
6.0	D	11	11			27	27			21	21		

* Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



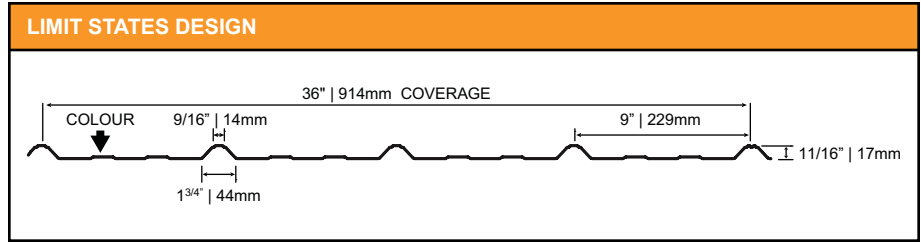
SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.457	4.56	345	1.86	1.75	0.0288	1.14	0.284	2.16	0.367
0.457	4.56	550	1.81	1.68	0.0284	1.36	0.340	2.58	0.439

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).													
Span Length (m)		1-Span Base Steel Thickness (mm)				2-Span Base Steel Thickness (mm)				3-Span Base Steel Thickness (mm)			
		0.457	0.457			0.457	0.457			0.457	0.457		
	Y.S.* (MPa)	345	550			345	550			345	550		
0.6	S	9.18	10.6			8.62	9.87			10.8	12.3		
0.6	D	15.4	15.2			37.0	36.5			29.1	28.7		
0.8	S	5.16	5.98			4.85	5.55			6.06	6.94		
0.8	D	6.50	6.42			15.6	15.4			12.3	12.1		
1.0	S	3.30	3.83			3.10	3.55			3.88	4.44		
1.0	D	3.33	3.28			7.99	7.88			6.29	6.21		
1.2	S	2.30	2.66			2.16	2.47			2.69	3.08		
1.2	D	1.93	1.90			4.63	4.56			3.64	3.59		
1.4	S	1.69	1.95			1.58	1.81			1.98	2.27		
1.4	D	1.21	1.20			2.91	2.87			2.29	2.26		
1.6	S	1.29	1.50			1.21	1.39			1.52	1.74		
1.6	D	0.81	0.80			1.95	1.92			1.54	1.52		
1.8	S	1.02	1.18			0.96	1.10			1.20	1.37		
1.8	D	0.57	0.56			1.37	1.35			1.08	1.06		
2.0	S	0.83	0.96			0.78	0.89			0.97	1.11		
2.0	D	0.42	0.41			1.00	0.99			0.79	0.78		

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



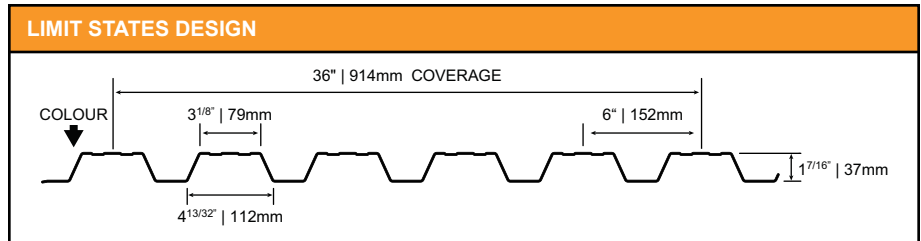
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0135	0.68	80	0.0120	0.0096	0.0069	35.0	8.74	65.0	11.1
0.0180	0.88	50	0.0161	0.0134	0.0092	54.3	13.6	101	17.2

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).													
Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)			
		0.0135	0.0180			0.0135	0.0180			0.0135	0.0180		
Y.S.* (ksi)		80	50			80	50			80	50		
1.5	S	137	153			109	128			137	160		
1.5	D	238	317			571	760			450	599		
2.0	S	77	86			61	72			77	90		
2.0	D	100	134			241	321			190	253		
2.5	S	49	55			39	46			49	58		
2.5	D	51	68			123	164			97	129		
3.0	S	34	38			27	32			34	40		
3.0	D	30	40			71	95			56	75		
3.5	S	25	28			20	23			25	29		
3.5	D	19	25			45	60			35	47		
4.0	S	19	22			15	18			19	22		
4.0	D	13	17			30	40			24	32		
4.5	S	15	17			12	14			15	18		
4.5	D	9	12			21	28			17	22		
5.0	S	12	14			10	12			12	14		
5.0	D	6	9			15	21			12	16		

* Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



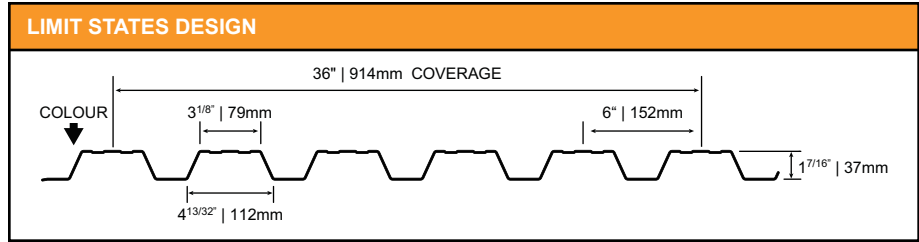
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0180	1.04	33	0.0847	0.0884	0.0754	62.1	15.5	119	20.2
0.0180	1.04	50	0.0778	0.0822	0.0707	94.1	23.5	180	30.5
0.0240	1.36	33	0.128	0.130	0.114	116	29.1	222	37.7
0.0300	1.69	33	0.175	0.176	0.152	188	47.1	359	61.0

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).																					
Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)											
		0.0180	0.0180	0.0240	0.0300	0.0180	0.0180	0.0240	0.0300	0.0135	0.0180	0.0240	0.0300								
Y.S.* (ksi)		33	50	33	33	33	50	33	33	33	50	33	33								
4.0	S	75	104	113	154					78	110	115	155			98	138	144	194		
4.0	D	137	128	207	276					329	308	497	662			259	243	391	521		
4.5	S	59	82	89	122					62	87	91	123			77	109	114	153		
4.5	D	96	90	145	194					231	217	349	465			182	171	275	366		
5.0	S	48	67	72	99					50	70	74	99			63	88	92	124		
5.0	D	70	66	106	141					168	158	254	339			133	124	200	267		
5.5	S	40	55	60	82					41	58	61	82			52	73	76	103		
5.5	D	53	49	80	106					126	119	191	255			100	93	151	200		
6.0	S	33	46	50	69					35	49	51	69			43	61	64	86		
6.0	D	41	38	61	82					97	91	147	196			77	72	116	154		
6.5	S	28	39	43	58					30	42	44	59			37	52	55	74		
6.5	D	32	30	48	64					77	72	116	154			60	57	91	121		
7.0	S	24	34	37	50					26	36	38	51			32	45	47	63		
7.0	D	26	24	39	51					61	58	93	123			48	45	73	97		
7.5	S	21	30	32	44					22	31	33	44			28	39	41	55		
7.5	D	21	19	31	42					50	47	75	100			39	37	59	79		
8.0	S	19	26	28	39					20	28	29	39			24	34	36	49		
8.0	D	17	16	26	34					41	39	62	83			32	30	49	65		
8.5	S	17	23	25	34					17	24	26	34			22	30	32	43		
8.5	D	14	13	22	29					34	32	52	69			27	25	41	54		
9.0	S	15	21	22	30					15	22	23	31			19	27	28	38		
9.0	D	12	11	18	24					29	27	44	58			23	21	34	46		
9.5	S	13	18	20	27					14	20	20	28			17	24	26	34		
9.5	D	10	10	15	21					25	23	37	49			19	18	29	39		
10.0	S	12	17	18	25					13	18	18	25			16	22	23	31		
10.0	D	9	8	13	18					21	20	32	42			17	16	25	33		

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



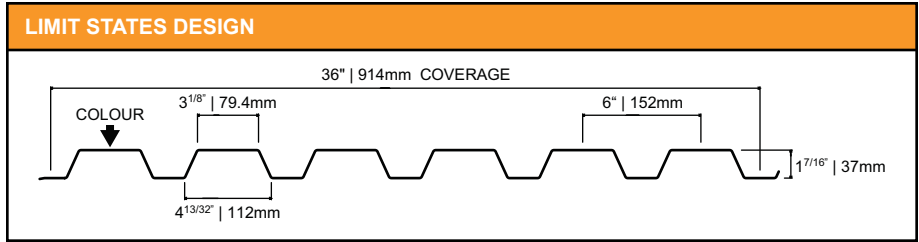
SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.457	5.06	230	4.54	4.74	0.103	0.916	0.229	1.75	0.297
0.457	5.06	345	4.18	4.42	0.0965	1.37	0.344	2.62	0.446
0.610	6.66	230	6.87	7.00	0.155	1.72	0.429	3.27	0.556
0.762	8.26	230	9.37	9.43	0.207	2.78	0.695	5.29	0.900

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).													
Span Length (m)		1-Span Base Steel Thickness (mm)				2-Span Base Steel Thickness (mm)				3-Span Base Steel Thickness (mm)			
		0.457	0.457	0.610	0.762	0.457	0.457	0.610	0.762	0.457	0.457	0.610	0.762
YS* (MPa)		230	345	230	230	230	345	230	230	230	345	230	230
1.0	S	5.37	7.42	8.13	11.1	5.61	7.84	8.28	11.2	7.01	9.80	10.4	14.0
1.0	D	11.9	11.2	17.9	23.9	28.5	26.8	43.1	57.3	22.4	21.1	33.9	45.2
1.2	S	3.73	5.15	5.64	7.70	3.90	5.45	5.75	7.75	4.87	6.81	7.18	9.68
1.2	D	6.87	6.45	10.4	13.8	16.5	15.5	24.9	33.2	13.0	12.2	19.6	26.1
1.4	S	2.74	3.78	4.15	5.66	2.86	4.00	4.22	5.69	3.58	5.00	5.28	7.12
1.4	D	4.32	4.06	6.54	8.71	10.4	9.75	15.7	20.9	8.17	7.68	12.4	16.5
1.6	S	2.10	2.90	3.17	4.33	2.19	3.06	3.23	4.36	2.74	3.83	4.04	5.45
1.6	D	2.90	2.72	4.38	5.83	6.95	6.53	10.5	14.0	5.47	5.14	8.28	11.0
1.8	S	1.66	2.29	2.51	3.42	1.73	2.42	2.55	3.44	2.16	3.03	3.19	4.30
1.8	D	2.03	1.91	3.08	4.10	4.88	4.59	7.38	9.83	3.85	3.61	5.81	7.74
2.0	S	1.34	1.85	2.03	2.77	1.40	1.96	2.07	2.79	1.75	2.45	2.59	3.49
2.0	D	1.48	1.39	2.24	2.99	3.56	3.34	5.38	7.17	2.80	2.63	4.24	5.64
2.2	S	1.11	1.53	1.68	2.29	1.16	1.62	1.71	2.31	1.45	2.03	2.14	2.88
2.2	D	1.11	1.05	1.68	2.24	2.67	2.51	4.04	5.39	2.11	1.98	3.18	4.24
2.4	S	0.93	1.29	1.41	1.92	0.97	1.36	1.44	1.94	1.22	1.70	1.80	2.42
2.4	D	0.86	0.81	1.30	1.73	2.06	1.94	3.11	4.15	1.62	1.52	2.45	3.27
2.6	S	0.79	1.10	1.20	1.64	0.83	1.16	1.22	1.65	1.04	1.45	1.53	2.06
2.6	D	0.68	0.63	1.02	1.36	1.62	1.52	2.45	3.26	1.28	1.20	1.93	2.57
2.8	S	0.69	0.95	1.04	1.41	0.72	1.00	1.06	1.42	0.89	1.25	1.32	1.78
2.8	D	0.54	0.51	0.82	1.09	1.30	1.22	1.96	2.61	1.02	0.96	1.54	2.06
3.0	S	0.60	0.82	0.90	1.23	0.62	0.87	0.92	1.24	0.78	1.09	1.15	1.55
3.0	D	0.44	0.41	0.66	0.88	1.05	0.99	1.59	2.12	0.83	0.78	1.26	1.67

* Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
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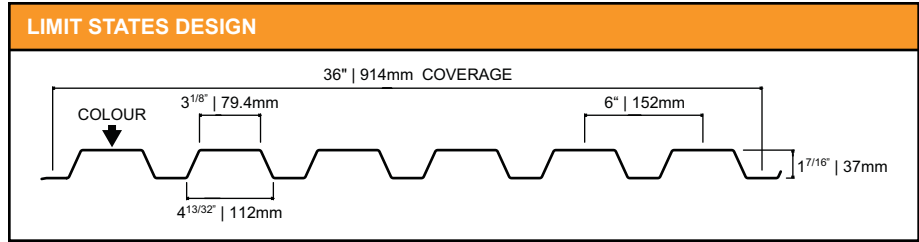
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0180	1.04	33	0.0847	0.0884	0.0754	62.1	15.5	119	20.2
0.0180	1.04	50	0.0778	0.0822	0.0707	94.1	23.5	180	30.5
0.0240	1.36	33	0.128	0.130	0.114	116	29.1	222	37.7
0.0300	1.69	33	0.175	0.176	0.152	188	47.1	359	61.0

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).															
Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)					
		0.0180	0.0180	0.0240	0.0300	0.0180	0.0180	0.0240	0.0300	0.0135	0.0180	0.0240	0.0300		
Y.S.* (ksi)		33	50	33	33	33	50	33	33			33	50	33	33
4.0	S	75	104	113	154	78	110	115	155			98	138	144	194
4.0	D	137	128	207	276	329	308	497	662			259	243	391	521
4.5	S	59	82	89	122	62	87	91	123			77	109	114	153
4.5	D	96	90	145	194	231	217	349	465			182	171	275	366
5.0	S	48	67	72	99	50	70	74	99			63	88	92	124
5.0	D	70	66	106	141	168	158	254	339			133	124	200	267
5.5	S	40	55	60	82	41	58	61	82			52	73	76	103
5.5	D	53	49	80	106	126	119	191	255			100	93	151	200
6.0	S	33	46	50	69	35	49	51	69			43	61	64	86
6.0	D	41	38	61	82	97	91	147	196			77	72	116	154
6.5	S	28	39	43	58	30	42	44	59			37	52	55	74
6.5	D	32	30	48	64	77	72	116	154			60	57	91	121
7.0	S	24	34	37	50	26	36	38	51			32	45	47	63
7.0	D	26	24	39	51	61	58	93	123			48	45	73	97
7.5	S	21	30	32	44	22	31	33	44			28	39	41	55
7.5	D	21	19	31	42	50	47	75	100			39	37	59	79
8.0	S	19	26	28	39	20	28	29	39			24	34	36	49
8.0	D	17	16	26	34	41	39	62	83			32	30	49	65
8.5	S	17	23	25	34	17	24	26	34			22	30	32	43
8.5	D	14	13	22	29	34	32	52	69			27	25	41	54
9.0	S	15	21	22	30	15	22	23	31			19	27	28	38
9.0	D	12	11	18	24	29	27	44	58			23	21	34	46
9.5	S	13	18	20	27	14	20	20	28			17	24	26	34
9.5	D	10	10	15	21	25	23	37	49			19	18	29	39
10.0	S	12	17	18	25	13	18	18	25			16	22	23	31
10.0	D	9	8	13	18	21	20	32	42			17	16	25	33

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



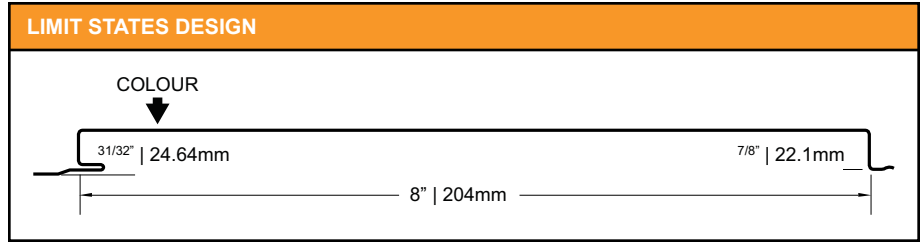
SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.457	5.06	230	4.54	4.74	0.103	0.916	0.229	1.75	0.297
0.457	5.06	345	4.18	4.42	0.0965	1.37	0.344	2.62	0.446
0.610	6.66	230	6.87	7.00	0.155	1.72	0.429	3.27	0.556
0.762	8.26	230	9.37	9.43	0.207	2.78	0.695	5.29	0.900

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).													
Span Length (m)		1-Span Base Steel Thickness (mm)				2-Span Base Steel Thickness (mm)				3-Span Base Steel Thickness (mm)			
		0.457	0.457	0.610	0.762	0.457	0.457	0.610	0.762	0.457	0.457	0.610	0.762
YS* (MPa)		230	345	230	230	230	345	230	230	230	345	230	230
1.0	S	5.37	7.42	8.13	11.1	5.61	7.84	8.28	11.2	7.01	9.80	10.4	14.0
1.0	D	11.9	11.2	17.9	23.9	28.5	26.8	43.1	57.3	22.4	21.1	33.9	45.2
1.2	S	3.73	5.15	5.64	7.70	3.90	5.45	5.75	7.75	4.87	6.81	7.18	9.68
1.2	D	6.87	6.45	10.4	13.8	16.5	15.5	24.9	33.2	13.0	12.2	19.6	26.1
1.4	S	2.74	3.78	4.15	5.66	2.86	4.00	4.22	5.69	3.58	5.00	5.28	7.12
1.4	D	4.32	4.06	6.54	8.71	10.4	9.75	15.7	20.9	8.17	7.68	12.4	16.5
1.6	S	2.10	2.90	3.17	4.33	2.19	3.06	3.23	4.36	2.74	3.83	4.04	5.45
1.6	D	2.90	2.72	4.38	5.83	6.95	6.53	10.5	14.0	5.47	5.14	8.28	11.0
1.8	S	1.66	2.29	2.51	3.42	1.73	2.42	2.55	3.44	2.16	3.03	3.19	4.30
1.8	D	2.03	1.91	3.08	4.10	4.88	4.59	7.38	9.83	3.85	3.61	5.81	7.74
2.0	S	1.34	1.85	2.03	2.77	1.40	1.96	2.07	2.79	1.75	2.45	2.59	3.49
2.0	D	1.48	1.39	2.24	2.99	3.56	3.34	5.38	7.17	2.80	2.63	4.24	5.64
2.2	S	1.11	1.53	1.68	2.29	1.16	1.62	1.71	2.31	1.45	2.03	2.14	2.88
2.2	D	1.11	1.05	1.68	2.24	2.67	2.51	4.04	5.39	2.11	1.98	3.18	4.24
2.4	S	0.93	1.29	1.41	1.92	0.97	1.36	1.44	1.94	1.22	1.70	1.80	2.42
2.4	D	0.86	0.81	1.30	1.73	2.06	1.94	3.11	4.15	1.62	1.52	2.45	3.27
2.6	S	0.79	1.10	1.20	1.64	0.83	1.16	1.22	1.65	1.04	1.45	1.53	2.06
2.6	D	0.68	0.63	1.02	1.36	1.62	1.52	2.45	3.26	1.28	1.20	1.93	2.57
2.8	S	0.69	0.95	1.04	1.41	0.72	1.00	1.06	1.42	0.89	1.25	1.32	1.78
2.8	D	0.54	0.51	0.82	1.09	1.30	1.22	1.96	2.61	1.02	0.96	1.54	2.06
3.0	S	0.60	0.82	0.90	1.23	0.62	0.87	0.92	1.24	0.78	1.09	1.15	1.55
3.0	D	0.44	0.41	0.66	0.88	1.05	0.99	1.59	2.12	0.83	0.78	1.26	1.67

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



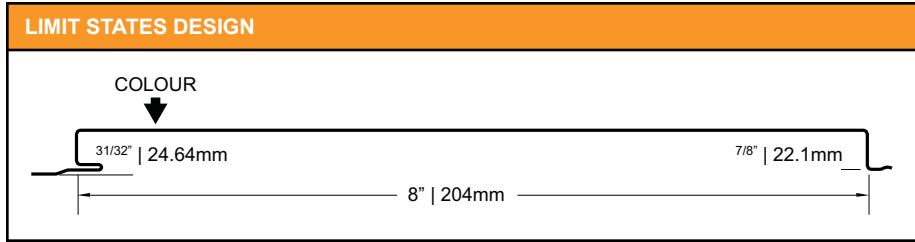
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0240	1.04	33	0.0351	0.0576	0.0200	139	34.8	257	43.7
0.0300	1.28	33	0.0503	0.0716	0.0272	223	55.8	413	70.2
0.0360	1.53	33	0.0676	0.0854	0.0350	327	81.8	607	103
0.0480	2.02	33	0.105	0.112	0.0534	597	149	1109	188

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).															
Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)					
		0.0240	0.0300	0.0360	0.0480	0.0240	0.0300	0.0360	0.0480	0.0240	0.0300	0.0360	0.0480		
Y.S.* (ksi)		33	33	33	33										
4.0	S	31	44	60	92					51	63	75	99		
4.0	D	36	49	64	97					87	119	153	233		
4.5	S	25	35	47	73					40	50	60	78		
4.5	D	26	35	45	68					61	83	107	164		
5.0	S	20	28	38	59					33	40	48	64		
5.0	D	19	25	33	50					45	61	78	119		
5.5	S	16	24	32	49					27	33	40	53		
5.5	D	14	19	24	37					34	46	59	90		
6.0	S	14	20	27	41					23	28	34	44		
6.0	D	11	15	19	29					26	35	45	69		
6.5	S		17	23	35					19	24	29	38		
6.5	D		12	15	23					20	28	36	54		
7.0	S			20	30					17	21	25	32		
7.0	D			12	18					16	22	28	43		
7.5	S				26					14	18	21	28		
7.5	D				15					13	18	23	35		
8.0	S				23					13	16	19	25		
8.0	D				12					11	15	19	29		

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



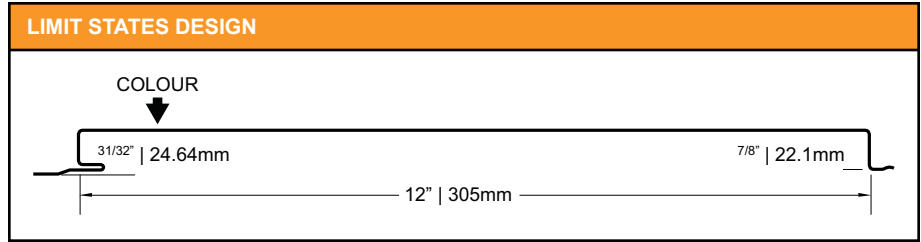
SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.610	4.79	230	1.88	3.10	0.0273	2.05	0.513	3.80	0.645
0.762	5.98	230	2.69	3.85	0.0370	3.29	0.823	6.09	1.04
0.914	7.18	230	3.62	4.59	0.0476	4.83	1.21	8.95	1.52
1.22	9.57	230	5.61	6.04	0.0727	8.81	2.20	16.4	2.78

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).													
Span Length (m)		1-Span Base Steel Thickness (mm)				2-Span Base Steel Thickness (mm)				3-Span Base Steel Thickness (mm)			
		0.610	0.762	0.914	1.22	0.610	0.762	0.914	1.22	0.610	0.762	0.914	1.22
YS* (MPa)		230	230	230	230	230	230	230	230	230	230	230	230
1.2	S	1.55	2.21	2.97	4.61	2.55	3.16	3.77	4.96	2.42	3.46	4.65	6.20
1.2	D	1.82	2.47	3.18	4.86	4.37	5.94	7.64	11.7	3.44	4.68	6.02	9.18
1.4	S	1.14	1.63	2.18	3.39	1.87	2.32	2.77	3.65	1.77	2.54	3.41	4.56
1.4	D	1.15	1.56	2.01	3.06	2.75	3.74	4.81	7.34	2.17	2.95	3.79	5.78
1.6	S	0.87	1.24	1.67	2.59	1.43	1.78	2.12	2.79	1.36	1.94	2.61	3.49
1.6	D	0.77	1.04	1.34	2.05	1.84	2.51	3.22	4.92	1.45	1.97	2.54	3.87
1.8	S	0.69	0.98	1.32	2.05	1.13	1.41	1.68	2.21	1.07	1.54	2.06	2.76
1.8	D	0.54	0.73	0.94	1.44	1.30	1.76	2.26	3.46	1.02	1.39	1.78	2.72
2.0	S		0.80	1.07	1.66	0.92	1.14	1.36	1.79	0.87	1.24	1.67	2.23
2.0	D		0.53	0.69	1.05	0.94	1.28	1.65	2.52	0.74	1.01	1.30	1.98
2.2	S			0.88	1.37	0.76	0.94	1.12	1.48	0.72	1.03	1.38	1.85
2.2	D			0.52	0.79	0.71	0.96	1.24	1.89	0.56	0.76	0.98	1.49
2.4	S				1.15	0.64	0.79	0.94	1.24		0.86	1.16	1.55
2.4	D				0.61	0.55	0.74	0.96	1.46		0.58	0.75	1.15
2.6	S						0.67	0.80	1.06			0.99	1.32
2.6	D						0.58	0.75	1.15			0.59	0.90
2.8	S							0.69	0.91				1.14
2.8	D							0.60	0.92				0.72

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



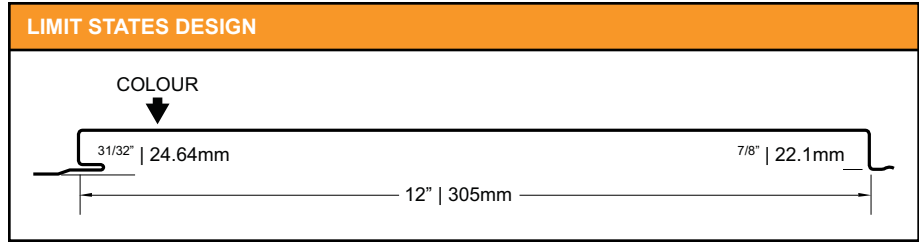
SECTION PROPERTIES Per Foot of Width									
Base Steel Thickness (inches)	Weight [G90] (psf)	Yield Stress (ksi)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
			Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi1 Interior (lb)
0.0240	1.36	33	0.0354	0.0585	0.0202	139	34.8	257	43.7
0.0300	1.69	33	0.0509	0.0727	0.0274	223	55.8	413	70.2
0.0360	2.02	33	0.0686	0.0867	0.0356	327	81.8	607	103
0.0480	2.67	33	0.105	0.114	0.0548	597	149	1109	188

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (psf).															
Span Length (ft)		1-Span Base Steel Thickness (inches)				2-Span Base Steel Thickness (inches)				3-Span Base Steel Thickness (inches)					
		0.0240	0.0300	0.0360	0.0480	0.0240	0.0300	0.0360	0.0480	0.0240	0.0300	0.0360	0.0480		
Y.S.* (ksi)		33	33	33	33	33	33	33	33	33	33	33	33	33	
4.0	S	31	45	61	93	52	64	77	101	49	70	95	126		
4.0	D	37	50	65	100	88	120	155	239	69	94	122	188		
4.5	S	25	36	48	73	41	51	61	80	39	56	75	100		
4.5	D	26	35	45	70	62	84	109	168	49	66	86	132		
5.0	S	20	29	39	59	33	41	49	65	31	45	61	81		
5.0	D	19	26	33	51	45	61	80	122	35	48	63	96		
5.5	S	17	24	32	49	27	34	41	53	26	37	50	67		
5.5	D	14	19	25	38	34	46	60	92	27	36	47	72		
6.0	S	14	20	27	41	23	29	34	45	22	31	42	56		
6.0	D	11	15	19	30	26	35	46	71	21	28	36	56		
6.5	S		17	23	35	20	24	29	38	19	27	36	48		
6.5	D		12	15	23	20	28	36	56	16	22	29	44		
7.0	S			20	30	17	21	25	33	16	23	31	41		
7.0	D			12	19	16	22	29	45	13	18	23	35		
7.5	S				26	15	18	22	29	14	20	27	36		
7.5	D				15	13	18	24	36	11	14	19	29		
8.0	S				23	13	16	19	25		18	24	32		
8.0	D				12	11	15	19	30		12	15	24		

*Y.S. = Yield Strength

1. Based on ASTM A 653 structural steel.
2. Values in row "S" are based on strength.
3. Values in row "D" are based on deflection of 1/180th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-12.



SECTION PROPERTIES Per Metre of Width									
Base Steel Thickness (mm)	Mass [Z275] (kg/m ²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
			Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi1 Interior (kN)
0.610	6.38	230	1.90	3.14	0.028	2.05	0.513	3.80	0.645
0.762	7.98	230	2.73	3.91	0.0374	3.29	0.823	6.09	1.04
0.914	9.57	230	3.67	4.66	0.0485	4.83	1.21	8.95	1.52
1.22	12.8	230	5.63	6.13	0.0746	8.81	2.20	16.4	2.78

LLF = 1.40; IMPF = 0.75; NORMAL OCCUPANCY = 1.0

LOAD TABLE Maximum Uniformly Distributed Specified Loads (kPa).																	
Span Length (m)		1-Span Base Steel Thickness (mm)				2-Span Base Steel Thickness (mm)				3-Span Base Steel Thickness (mm)							
		0.610	0.762	0.914	1.22	0.610	0.762	0.914	1.22	0.610	0.762	0.914	1.22				
YS* (MPa)		230	230	230	230	230	230	230	230	230	230	230	230				
1.2	S	1.56	2.24	3.02	4.63			2.58	3.21	3.83	5.04			2.44	3.50	4.72	6.30
1.2	D	1.84	2.50	3.24	4.99			4.41	6.00	7.78	12.0			3.47	4.72	6.12	9.42
1.4	S	1.15	1.65	2.22	3.40			1.90	2.36	2.81	3.70			1.79	2.57	3.46	4.63
1.4	D	1.16	1.57	2.04	3.14			2.77	3.78	4.90	7.53			2.18	2.97	3.86	5.93
1.6	S	0.88	1.26	1.70	2.60			1.45	1.81	2.15	2.83			1.37	1.97	2.65	3.54
1.6	D	0.77	1.05	1.37	2.10			1.86	2.53	3.28	5.05			1.46	1.99	2.58	3.98
1.8	S	0.69	1.00	1.34	2.06			1.15	1.43	1.70	2.24			1.08	1.55	2.10	2.80
1.8	D	0.54	0.74	0.96	1.48			1.31	1.78	2.30	3.55			1.03	1.40	1.81	2.79
2.0	S		0.81	1.09	1.67			0.93	1.16	1.38	1.81			0.88	1.26	1.70	2.27
2.0	D		0.54	0.70	1.08			0.95	1.30	1.68	2.58			0.75	1.02	1.32	2.04
2.2	S			0.90	1.38			0.77	0.95	1.14	1.50			0.73	1.04	1.40	1.87
2.2	D			0.53	0.81			0.71	0.97	1.26	1.94			0.56	0.77	0.99	1.53
2.4	S				1.16			0.65	0.80	0.96	1.26			0.87	1.18	1.57	
2.4	D				0.62			0.55	0.75	0.97	1.50			0.59	0.77	1.18	
2.6	S								0.68	0.82	1.07				1.00	1.34	
2.6	D								0.59	0.76	1.18				0.60	0.93	
2.8	S									0.70	0.93					1.16	
2.8	D									0.61	0.94					0.74	

*Y.S. = Yield Strength

