WESTMAN STEEL
STATEMENTS IN STEEL™

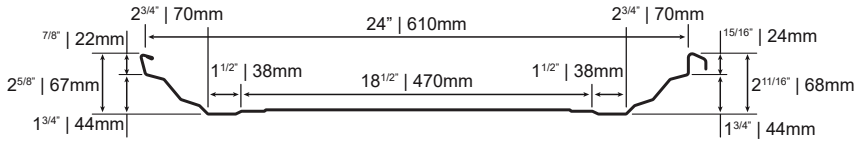
Imperial | Load Table
SSR24 Roof Profile

05.28.21

westmansteel.com

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 1/240th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-16.

LIMIT STATES DESIGN



SECTION PROPERTIES | Per Foot of Width

Base Steel Thickness (in.)	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)	Pi2 Interior (lb)
0.0240	1.26	50	0.0997	0.0864	0.179				
0.0300	1.56	50	0.126	0.109	0.227				

LLF = 1.50; IMPF = 0.90; NORMAL OCCUPANCY = 1.0

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

Span Length (ft)		1-Span Base Steel Thickness (in.)						2-Span Base Steel Thickness (in.)						3-Span Base Steel Thickness (in.)					
		0.0240	0.0300					0.0240	0.0300					0.0240	0.0300				
Y.S.* (ksi)		50	50					50	50					50	50				
3.0	S	220	278					191	241					239	302				
3.0	D	482	611					1157	1466					911	1154				
3.5	S	161	204					140	177					175	221				
3.5	D	303	385					728	923					574	727				
4.0	S	123	156					107	135					134	169				
4.0	D	203	258					488	618					384	487				
4.5	S	97	123					84	106					105	133				
4.5	D	143	181					343	434					270	342				
5.0	S	78	99					68	86					85	108				
5.0	D	104	132					250	317					197	249				
5.5	S	65	82					56	71					70	89				
5.5	D	78	99					188	238					148	187				
6.0	S	54	68					47	59					59	74				
6.0	D	60	76					145	183					114	144				
6.5	S	46	58					40	50					50	63				
6.5	D	47	60					114	144					90	114				
7.0	S	39	50					34	43					43	54				
7.0	D	38	48					91	115					72	91				
7.5	S	34	43					29	37					37	47				
7.5	D	31	39					74	94					58	74				

* Y.S. = Yield Stress

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Metric | Load Table
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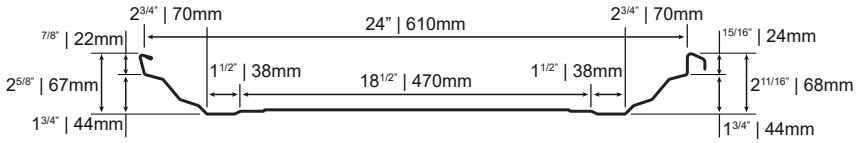
3. Values in row “D” are based on deflection of 1/240th span.
4. Web crippling not included in strength calculation. See example.
5. Limit States Design principles were used in accordance with CSA Standard S136-16.

LIMIT STATES DESIGN



SECTION PROPERTIES | Per Metre of Width

Base Steel Thickness (mm)	Mass [Z275] (kg/m²)	Yield Stress (MPa)	Section Modulus		Deflection Moment of Inertia	Specified Web Crippling Data			
			Midspan (x10³ mm³)	Support (x10³ mm³)	(x10⁶ mm⁴)	Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi2 Interior (kN)
0.610	5.91	345	5.36	4.65	0.244				
0.762	7.35	345	6.76	5.87	0.310				

LLF = 1.50; IMPF = 0.90; 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					0.610	0.762					0.610	0.762				
Y.S.* (MPa)		345	345					345	345					345	345				
1.0	S	8.82	11.1					7.64	9.65					9.56	12.1				
1.0	D	17.6	22.4					42.3	53.7					33.3	42.3				
1.2	S	6.10	7.70					5.28	6.68					6.62	8.36				
1.2	D	10.2	12.9					24.5	31.1					19.3	24.5				
1.4	S	4.47	5.64					3.87	4.89					4.85	6.13				
1.4	D	6.43	8.15					15.4	19.6					12.2	15.4				
1.5	S	3.89	4.90					3.36	4.25					4.22	5.33				
1.5	D	5.23	6.63					12.6	15.9					9.88	12.5				
1.6	S	3.41	4.30					2.95	3.72					3.70	4.67				
1.6	D	4.31	5.46					10.3	13.1					8.14	10.3				
1.8	S	2.68	3.38					2.32	2.93					2.91	3.68				
1.8	D	3.03	3.83					7.26	9.20					5.72	7.25				
2.0	S	2.16	2.73					1.87	2.36					2.35	2.97				
2.0	D	2.21	2.80					5.29	6.71					4.17	5.28				

* Y.S. = Yield Stress

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