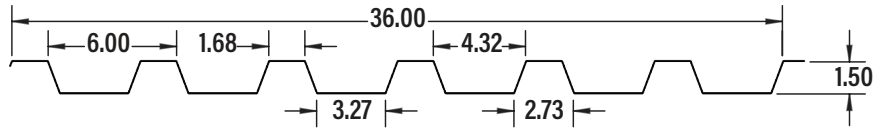




WF-636 INVERTED ROOF



All dimensions are in inches

SECTION PROPERTIES (PER FOOT OF WIDTH)										
IMPERIAL	Base Steel Thickness (in.)	Weight G90 (psf)	Yield Stress (ksi)	Sec. Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
				Midspan	Support		P _{e1} End (lb)	P _{e2} End (lb)	P _{i1} Interior (lb)	P _{i2} Interior (lb)
				(in ³)	(in ³)					
	0.018	1.06	33	0.0958	0.0917	0.103	58.5	14.6	105	17.8
	0.024	1.39	33	0.141	0.138	0.143	110	27.5	199	33.8
0.030	1.72	33	0.189	0.185	0.180	178	44.6	325	55.2	

Live load factor = 1.5; Importance factor = 0.90; Importance Category = 1.0

MAXIMUM UNIFORMLY DISTRIBUTED SPECIFIED LOADS (PSF)																
SPAN LENGTH (ft)		1-SPAN					2-SPAN					3-SPAN				
		BASE STEEL THICKNESS (in.)					BASE STEEL THICKNESS (in.)					BASE STEEL THICKNESS (in.)				
		0.018	0.024	0.030			0.018	0.024	0.030			0.018	0.024	0.030		
4.0	S	79	116	156			76	114	153			95	142	191		
	D	156	217	273			376	521	655			296	410	516		
4.5	S	62	92	123			60	90	121			75	113	151		
	D	110	153	192			264	366	460			208	288	362		
5.0	S	51	74	100			48	73	98			61	91	122		
	D	80	111	140			192	267	335			151	210	264		
5.5	S	42	61	82			40	60	81			50	75	101		
	D	60	84	105			144	200	252			114	158	198		
6.0	S	35	52	69			34	51	68			42	63	85		
	D	46	64	81			111	154	194			88	122	153		
6.5	S	30	44	59			29	43	58			36	54	72		
	D	36	51	64			88	121	153			69	96	120		
7.0	S	26	38	51			25	37	50			31	47	62		
	D	29	41	51			70	97	122			55	77	96		
7.5	S	22	33	44			22	32	43			27	41	54		
	D	24	33	41			57	79	99			45	62	78		
8.0	S	20	29	39			19	28	38			24	36	48		
	D	20	27	34			47	65	82			37	51	64		
8.5	S	18	26	34			17	25	34			21	32	42		
	D	16	23	28			39	54	68			31	43	54		
9.0	S	16	23	31			15	23	30			19	28	38		
	D	14	19	24			33	46	57			26	36	45		
9.5	S	14	21	28			13	20	27			17	25	34		
	D	12	16	20			28	39	49			22	31	38		
10.0	S	13	19	25			12	18	24			15	23	31		
	D	10	14	17			24	33	42			19	26	33		
10.5	S	11	17	23			11	17	22			14	21	28		
	D	9	12	15			21	29	36			16	23	29		
11.0	S	10	15	21			10	15	20			13	19	25		
	D	8	10	13			18	25	31			14	20	25		

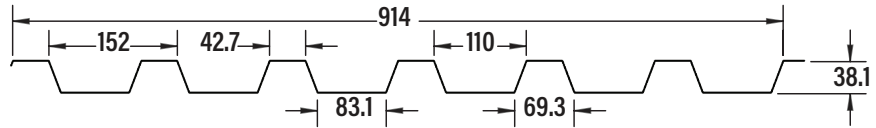
Notes:

- Based on ASTM A 653 structural steel. Coating can also be AZ50.
- Values in row "S" are based on strength.
- Values in row "D" are based on deflection of L/180.
- For L/240, multiply values in row "D" by 0.75.
- Web crippling not included in strength calculations. See Example.
- Limit States Design principles were used in accordance with CSA S136-16.
- Prepared by Dr. R.M. Schuster, P. Eng., Distinguished Professor Emeritus, University of Waterloo.





WF-636 INVERTED ROOF



All dimensions are in millimeters

SECTION PROPERTIES (PER METRE OF WIDTH)										
METRIC	Base Steel Thickness (mm)	Mass Z275 (kg/m ²)	Yield Stress (MPa)	Sec. Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
				Midspan	Support		P _{e1} End (kN)	P _{e2} End (kN)	P _{i1} Interior (kN)	P _{i2} Interior (kN)
				(x10 ³ mm ³)	(x10 ³ mm ³)					
	0.457	5.16	230	5.14	4.92	0.141	0.863	0.216	1.54	0.262
	0.610	6.79	230	7.55	7.41	0.196	1.62	0.405	2.93	0.499
	0.762	8.42	230	10.1	9.95	0.246	2.63	0.658	4.79	0.814

Live load factor = 1.5; Importance factor = 0.90; Importance Category = 1.0

MAXIMUM UNIFORMLY DISTRIBUTED SPECIFIED LOADS (kPa)																
SPAN LENGTH (mm)		1-SPAN					2-SPAN					3-SPAN				
		BASE STEEL THICKNESS (mm)					BASE STEEL THICKNESS (mm)					BASE STEEL THICKNESS (mm)				
		0.457	0.610	0.762			0.457	0.610	0.762			0.457	0.610	0.762		
1200	S	3.94	5.78	7.76			3.77	5.68	7.62			4.71	7.10	9.53		
	D	7.85	10.9	13.7			18.8	26.2	32.9			14.8	20.6	25.9		
1400	S	2.90	4.25	5.70			2.77	4.17	5.60			3.46	5.22	7.00		
	D	4.94	6.86	8.63			11.9	16.5	20.7			9.34	13.0	16.3		
1600	S	2.22	3.25	4.37			2.12	3.20	4.29			2.65	3.99	5.36		
	D	3.31	4.60	5.78			7.95	11.0	13.9			6.26	8.69	10.9		
1800	S	1.75	2.57	3.45			1.68	2.52	3.39			2.10	3.16	4.24		
	D	2.33	3.23	4.06			5.58	7.75	9.74			4.40	6.10	7.67		
2000	S	1.42	2.08	2.79			1.36	2.05	2.74			1.70	2.56	3.43		
	D	1.70	2.35	2.96			4.07	5.65	7.10			3.21	4.45	5.59		
2200	S	1.17	1.72	2.31			1.12	1.69	2.27			1.40	2.11	2.84		
	D	1.27	1.77	2.22			3.06	4.24	5.33			2.41	3.34	4.20		
2400	S	0.99	1.45	1.94			0.94	1.42	1.91			1.18	1.78	2.38		
	D	0.98	1.36	1.71			2.36	3.27	4.11			1.85	2.57	3.24		
2600	S	0.84	1.23	1.65			0.80	1.21	1.62			1.00	1.51	2.03		
	D	0.77	1.07	1.35			1.85	2.57	3.23			1.46	2.03	2.55		
2800	S	0.72	1.06	1.43			0.69	1.04	1.40			0.87	1.30	1.75		
	D	0.62	0.86	1.08			1.48	2.06	2.59			1.17	1.62	2.04		
3000	S	0.63	0.93	1.24			0.60	0.91	1.22			0.75	1.14	1.52		
	D	0.50	0.70	0.88			1.21	1.67	2.10			0.95	1.32	1.66		
3200	S	0.55	0.81	1.09			0.53	0.80	1.07			0.66	1.00	1.34		
	D	0.41	0.57	0.72			0.99	1.38	1.73			0.78	1.09	1.37		
3400	S	0.49	0.72	0.97			0.47	0.71	0.95			0.59	0.88	1.19		
	D	0.35	0.48	0.60			0.83	1.15	1.45			0.65	0.91	1.14		
3600	S	0.44	0.64	0.86			0.42	0.63	0.85			0.52	0.79	1.06		
	D	0.29	0.40	0.51			0.70	0.97	1.2			0.55	0.76	0.96		
3800	S	0.39	0.58	0.77			0.38	0.57	0.76			0.47	0.71	0.95		
	D	0.25	0.34	0.43			0.59	0.82	1.04			0.47	0.65	0.82		
4000	S	0.35	0.52	0.70			0.34	0.51	0.69			0.42	0.64	0.86		
	D	0.21	0.29	0.37			0.51	0.71	0.89			0.40	0.56	0.70		

- Notes:**
- 1 Based on ASTM A 653M structural steel. Coating can also be AZM150.
 - 2 Values in row "S" are based on strength.
 - 3 Values in row "D" are based on deflection of L/180.
 - 4 For L/240, multiply values in row "D" by 0.75.
 - 5 Web crippling not included in strength calculations. See Example.
 - 6 Limit States Design principles were used in accordance with CSA S136-16.
 - 7 Prepared by Dr. R.M. Schuster, P. Eng., Distinguished Professor Emeritus, University of Waterloo.

