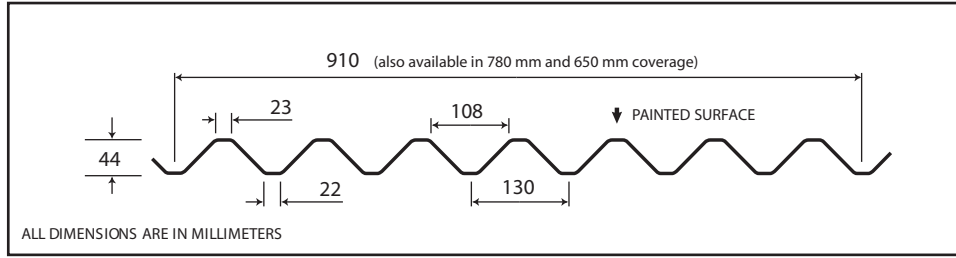




Cladding Specifications for MatrixAir™ Solar Air Heating Collector - Metric 38134-A



Section Properties

(Per Metre of Width)

Base Steel Thickness (mm)	Mass Z275 (kg/m ²)	Yield Stress (MPa)	Section Modulus (x 10 ³ mm ³)		Deflection Moment of Inertia Mid Span (x 10 ⁶ mm ⁴)	Specified Web Crippling Data (kN)			
			MidSpan	Support		End P _{e1}	End P _{e2}	Interior P _{i1}	Interior P _{i2}
0.457	5.06	230	6.34	6.33	0.142	0.761	0.190	1.54	0.262
0.610	6.66	230	8.47	8.47	0.189	1.45	0.362	2.90	0.494
0.762	8.25	230	10.5	10.5	0.236	2.37	0.592	4.71	0.801
0.914	9.85	230	12.6	12.6	0.282	3.52	0.881	6.97	1.18
1.22	13.0	230	16.6	16.6	0.375	6.55	1.64	12.9	2.19

Notes:

- Steel conforms to ASTM A653M.
- Section properties are in accordance with CSA-S136-07.
- Values in row "S" are based on strength.
- Values in row "D" are based on a deflection limit of 1/180 of the span.

5. Web crippling not included in strength values. See example calculation in notes to designer.

6. Contact the sales department for stocked colours and gauges.

7. The load table contained on this data sheet was prepared by Dr. R.M. Schuster P.Eng Professor Emeritus of Structural Engineering, University of Waterloo, Ontario, Canada.

Live Load Factor = 1.4; Importance Factor (I_{w-SLS}) = 0.75; Importance Factor (I_{w-ULS}) = 1.0

Load Table

Maximum Specified Uniformly Distributed Loads in kPa

Span (mm)		1-Span Base Steel Thickness (mm)					2-Span Base Steel Thickness (mm)					3-Span Base Steel Thickness (mm)				
		0.457	0.610	0.762	0.914	1.22	0.457	0.610	0.762	0.914	1.22	0.457	0.610	0.762	0.914	1.22
1200	S	5.20	6.96	8.65	10.3	13.6	5.20	6.96	8.65	10.3	13.6	6.50	8.70	10.8	12.9	17.0
	D	9.48	12.6	15.8	18.9	25.1	22.8	30.3	37.8	45.3	60.2	17.9	23.9	29.8	35.7	47.4
1400	S	3.82	5.11	6.36	7.59	10.0	3.82	5.11	6.36	7.59	10.0	4.77	6.39	7.95	9.49	12.5
	D	5.97	7.95	9.92	11.9	15.8	14.3	19.1	23.8	28.5	37.9	11.3	15.0	18.7	22.5	29.8
1500	S	3.33	4.45	5.54	6.61	8.72	3.33	4.45	5.54	6.61	8.72	4.16	5.57	6.92	8.26	10.9
	D	4.85	6.46	8.06	9.66	12.8	11.7	15.5	19.4	23.2	30.8	9.17	12.2	15.2	18.3	24.3
1600	S	2.93	3.91	4.87	5.81	7.67	2.92	3.91	4.87	5.81	7.67	3.66	4.89	6.08	7.26	9.59
	D	4.00	5.32	6.64	7.96	10.6	9.60	12.8	16.0	19.1	25.4	7.56	10.1	12.6	15.0	20.0
1800	S	2.31	3.09	3.85	4.59	6.06	2.31	3.09	3.85	4.59	6.06	2.89	3.87	4.81	5.74	7.57
	D	2.81	3.74	4.67	5.59	7.43	6.74	8.97	11.2	13.4	17.8	5.31	7.07	8.82	10.6	14.0
2000	S	1.87	2.50	3.11	3.72	4.91	1.87	2.50	3.11	3.72	4.91	2.34	3.13	3.89	4.65	6.13
	D	2.05	2.73	3.40	4.07	5.41	4.92	6.54	8.16	9.78	13.00	3.87	5.15	6.43	7.70	10.2
2200	S	1.55	2.07	2.57	3.07	4.06	1.55	2.07	2.57	3.07	4.06	1.93	2.59	3.22	3.84	5.07
	D	1.54	2.05	2.56	3.06	4.07	3.69	4.92	6.13	7.35	9.76	2.91	3.87	4.83	5.79	7.69
2400	S	1.30	1.74	2.16	2.58	3.41	1.30	1.74	2.16	2.58	3.41	1.62	2.17	2.70	3.23	4.26
	D	1.19	1.58	1.97	2.36	3.13	2.84	3.79	4.72	5.66	7.52	2.24	2.98	3.72	4.46	5.92
2500	S	1.20	1.60	1.99	2.38	3.14	1.20	1.60	1.99	2.38	3.14	1.50	2.00	2.49	2.97	3.93
	D	1.05	1.40	1.74	2.09	2.77	2.52	3.35	4.18	5.01	6.65	1.98	2.64	3.29	3.94	5.24
2600	S	1.11	1.48	1.84	2.20	2.90	1.11	1.48	1.84	2.20	2.90	1.38	1.85	2.30	2.75	3.63
	D	0.93	1.24	1.55	1.85	2.46	2.24	2.98	3.72	4.45	5.91	1.76	2.35	2.93	3.51	4.66
2800	S	0.96	1.28	1.59	1.90	2.50	0.95	1.28	1.59	1.90	2.50	1.19	1.60	1.99	2.37	3.13
	D	0.75	0.99	1.24	1.49	1.97	1.79	2.38	2.98	3.56	4.74	1.41	1.88	2.34	2.81	3.73