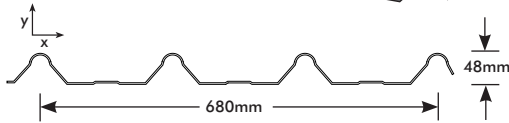
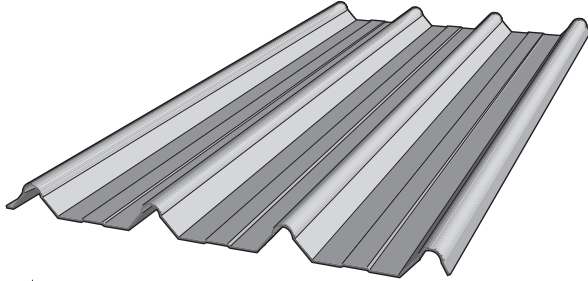


2.7 HiRib™ 680



HiRib™ 680 Material Specifications					
Property		0.42 BMT	0.48 BMT	0.55 BMT	Notes
Total Coated Thickness		0.47	0.53		TCT
Mass / Unit Length (kg/m)	ZINCALUME®	3.30	3.77		1000 / (m/Tonne)
	COLORBOND®	3.36	3.84		
Mass / Unit Area (kg/m ²)	ZINCALUME®	4.34	4.96		1000 / (m Mass/profile width)
	COLORBOND®	4.42	5.05		
2 nd moment of area about principal axis (10 ³ mm ⁴)	I _x	124	142	163	
	I _y	20090	22960	26300	
Section modulus about principal axis (10 ³ mm ³)	Z _x	4	4	5	
	Z _y	52	60	68	
Warping Constant (10 ⁹ mm ⁶)	I _w	7	8	9	
Torsion Constant (mm ⁴)	J	23	35	52	
Minimum Yield Strength		G550			Base Steel Designation
Coating Class		AZ150			Minimum Coating g/m ² of Zinc - Aluminium
Coverage (mm)		680			
Tolerance		Sheet Length ±7mm Cover Width ±4mm			
Thermal Expansion		2.9mm average per 5m at 50° C change			

Table 2.7.A HiRib™ 680 Material Specifications

- HiRib 680 is manufactured to AS 1397 and AS 2728 Cat. 3. It is to be installed in accordance with AS 1445, AS 1562, and HB39.
- The sectional properties are theoretical values per sheet width. These properties are gross values only.

Rainfall Capacity

For further information, please refer to sections 4.2 "Rainfall Intensity" and 4.3 "Water Carrying Capacity and Rainwater Run-Off".

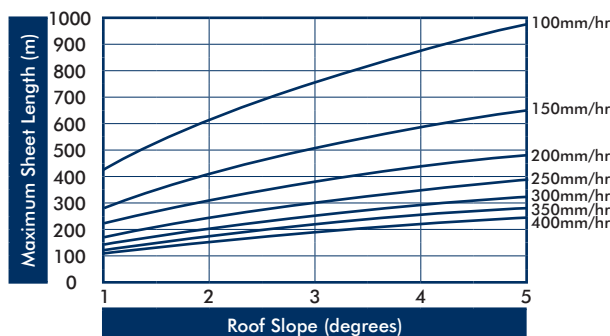


Figure 2.7.A HiRib™ 680 Rainfall Capacity

Note: Minimum recommended slope is 1°. Sheet lengths greater than 24m are not recommended due to thermal expansion and contraction.

HiRib™ 680 Maximum Sheet Length (m)							
Roof Slope (degrees)	Rainfall Capacity (mm/hr)						
	100	150	200	250	300	350	400
1	439	293	219	176	146	125	110
2	621	414	310	248	207	177	155
3	760	507	380	304	253	217	190
4	878	585	439	351	293	251	219
5	981	654	491	393	327	280	245

Table 2.7.B HiRib™ 680 700 Maximum Sheet Length

Non Cyclonic Load Capacity Tables

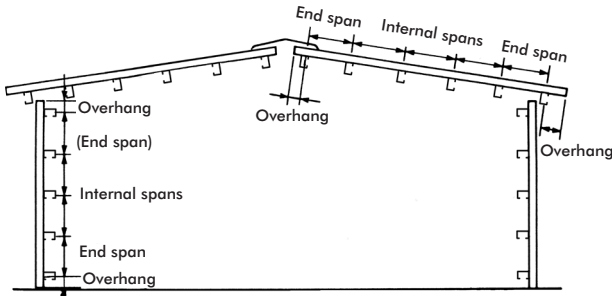


Figure 2.7.B End Spans, Internal Spans and Overhangs

HiRib™ 680 Load Capacity (kPa) - Limit State Design Crest Fixing - Non Cyclonic				
Span (mm)	0.42 BMT			
	End Span		Internal Span	
	Serviceability	Strength	Serviceability	Strength
600	7.01	9.23	-	-
750	5.19	6.83	7.35	9.67
900	3.76	4.94	5.61	7.38
1050	2.72	3.56	4.21	5.53
1200	2.06	2.69	3.14	4.11
1350	1.80	2.34	2.39	3.13
1500	1.68	2.18	2.10	2.58
1800	-	-	2.02	2.46

Table 2.7.C HiRib™ 680 Crest Fixing Wind Load Capacity - Limit State Design (kPa) - Non Cyclonic

Non Cyclonic Load Spans

Maximum Recommended Span* (mm) HiRib® 680 Non Cyclonic		
Span Type	0.42 BMT	
	Roof	Wall
Single Span	3500	2500
End Span	2800	3300
Internal Span	3400	4000
Unstiffened Overhang	250	-
Stiffened Overhang	500	300

Table 2.7.D HiRib® 680 Recommended Span - Non Cyclonic

HiRib™ 680 Load Capacity (kPa) - Limit State Design Valley Fixing - Non Cyclonic												
Span (mm)	0.42 BMT						0.48 BMT					
	Single Span		End Span		Internal Span		Single Span		End Span		Internal Span	
	Service-ability	Strength	Service-ability	Strength	Service-ability	Strength	Service-ability	Strength	Service-ability	Strength	Service-ability	Strength
600	-	-	8.79	14.51	-	-	-	-	-	-	-	-
900	-	-	6.19	9.77	6.50	11.47	-	-	7.01	9.74	-	-
1200	-	-	4.16	6.35	4.76	8.05	-	-	5.23	6.87	5.95	9.74
1500	3.46	4.52	2.71	4.25	3.61	5.63	4.65	6.09	3.36	4.40	4.75	6.87
1800	2.69	3.45	2.55	3.33	3.05	4.21	3.41	4.78	3.16	4.13	3.36	4.40
2100	1.86	2.50	2.01	2.60	2.55	3.33	2.28	3.44	2.57	3.35	3.16	4.13
2400	1.21	2.30	1.54	1.99	2.01	2.60	1.86	2.41	1.96	2.54	2.57	3.35
2700	1.05	2.17	1.38	1.79	-	-	1.13	2.24	1.71	2.23	-	-
3000	0.75	2.07	1.3	1.68	-	-	0.80	2.12	1.60	2.14	-	-
3300	0.56	1.87	1.22	1.57	-	-	0.58	1.97	1.53	2.07	-	-
3600	0.45	1.65	-	-	-	-	0.50	1.72	-	-	-	-
3900	0.36	1.39	-	-	-	-	0.46	1.45	-	-	-	-

Table 2.7.E HiRib™ 680 Valley Fixing Wind Load Capacity - Limit State Design (kPa) - Non Cyclonic

Cyclonic Load Span Tables - Region C

HiRib™ 680 Maximum Allowable Roof Spans* (mm) Cyclonic - for Building Height ≤ 5.0m													
Terrain Category	Roof Area Notation & Uplift (kPa)**	0.42 BMT				0.48 BMT				0.55 BMT			
		Single Span	Double Span	Multiple Span		Single Span	Double Span	Multiple Span		Single Span	Double Span	Multiple Span	
				End Span	Internal Span			End Span	Internal Span			End Span	Internal Span
1 & 2	D - 4.18	1660	1430	1350	1680	1850	1580	1350	1680	1660	1620	1360	1700
	F - 5.35	1500	1150	1330	1290	1650	1180	1090	1370	1490	1270	1070	1350
	G - 6.53	1370	940	N/A	N/A	1490	830	860	1100	1380	970	740	970
2.5	D - 3.54	1760	1720	1480	1850	2010	1820	1500	1870	1890	1830	1510	1880
	F - 4.54	1610	1330	1260	1570	1780	1450	1270	1580	1600	1510	1280	1590
	G - 5.54	1480	1110	960	1210	1620	1130	1050	1330	1470	1220	1020	1290

Table 2.7.F HiRib™ 680 Maximum Allowable Roof Spans (mm) Cyclonic - Building Height ≤ 5.0m

HiRib™ 680 Maximum Allowable Roof Spans* (mm) Cyclonic - for 5.0m < Building Height ≤ 10.0m													
Terrain Category	Roof Area Notation & Uplift (kPa)**	0.42 BMT				0.48 BMT				0.55 BMT			
		Single Span	Double Span	Multiple Span		Single Span	Double Span	Multiple Span		Single Span	Double Span	Multiple Span	
				End Span	Internal Span			End Span	Internal Span			End Span	Internal Span
1 & 2	D - 4.63	1600	1310	1240	1540	1760	1420	1250	1560	1590	1480	1250	1570
	F - 5.93	1430	1040	800	1030	1570	1010	970	1230	1430	1120	910	1160
	G - 7.23	1300	840	N/A	N/A	1410	N/A	N/A	950	1320	810	N/A	N/A
2.5	D - 4.13	1670	1450	1360	1690	1860	1600	1360	1700	1670	1630	1370	1710
	F - 5.30	1510	1160	1050	1310	1650	1200	1100	1390	1500	1280	1080	1360
	G - 6.46	1380	950	N/A	N/A	1500	850	870	1110	1380	990	760	990

Table 2.7.G HiRib™ 680 Maximum Allowable Roof Spans (mm) Cyclonic - 5.0m < Building Height ≤ 10.0m

Note: Values in bold are estimates based upon second power polynomial trend lines fitted to the test data.
N/A signifies values beyond the reliable range of trend lines.

Design Parameters*

Max. Roof Pitch < 10

$P_{a,r} = 1:500$

$V_r = 66$ m/sec

$M_d = 1.00$

$F_c = 1.05$

$M_s = 1.00$

$M_t = 1.00$

$C_{p,i} = 0.70$

$C_{p,e} = -0.90$

$K_L = 2$ for Area G and 1.5 for Area F local pressure factors

** Pressure is total ultimate value.

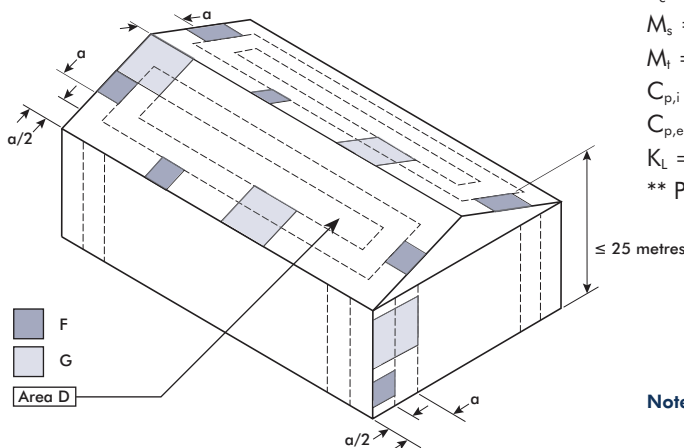


Figure 2.7.C Local Pressure Factors

Note: The value of 'a' is the minimum of 0.2 breadth, 0.2 width or 0.2 height.
Local pressure factors are not applicable at the ridge where the roof pitch is less than 10°.

HiRib™ 680 Wind Load Capacity - Limit State Design (kPa) Cyclonic												
Span (mm)	0.42 BMT				0.48 BMT				0.55 BMT			
	Single Span	Double Span	Multiple Span		Single Span	Double Span	Multiple Span		Single Span	Double Span	Multiple Span	
			End Span	Internal Span			End Span	Internal Span			End Span	Internal Span
900	11.83	6.81	5.71	-	-	-	6.30	-	14.63	6.84	5.98	-
1200	8.22	5.09	4.78	5.57	9.46	5.30	4.81	6.30	8.95	5.63	4.84	5.82
1500	5.37	3.95	3.44	4.77	6.47	4.40	3.56	4.85	5.31	4.56	3.58	4.85
1800	3.29	3.47	1.70	3.72	4.43	3.60	2.22	3.77	3.71	3.63	2.19	3.84
2100	-	-	-	2.44	3.32	2.89	-	2.84	-	-	-	2.78

Table 2.7.H HiRib™ 680 Wind Load Capacity - Limit State Design (kPa) - Cyclonic

Pierce Fastening

Fasteners must be selected to match the life expectancy of the cladding material. Recommendations from fastener manufacturers should be sought.

Only fasteners complying with AS 3566:2002 and those that are compatible with the roofing material should be used for its fastening.

HiRib™ 680 Pierce Fixing - Non Cyclonic			
Fixing Supports	Crest Fixing	Valley Fixing	Side Lap Fixing
Steel 1.0 to 3.5mm	12-14x75mm Metal Tek's hexagon head with seal	10-16x16mm Metal Tek's hexagon head with seal	10-16x16mm hexagon head Tek's screws with seal
Timber Hardwood	14-10x90mm Type 17 hexagon head with seal	12-11x25mm Type 17 hexagon head with seal	
Timber Softwood	14-10x100mm Type 17 hexagon head with seal	12-11x40mm Type 17 hexagon head with seal	
Metal Battens (0.55 to 1.0mm)	14-10x75mm Type 17 hexagon head with seal	15-15x25mm Metal Batten Tek's hexagon head with seal	

Table 2.7.I HiRib™ 680 Pierce Fixing - Non Cyclonic

HiRib™ 680 Installation procedure

For installation procedures see section 4.7 "Typical Pierce Fix Installation Guide". For general handling instructions refer to section 5.0 'Maintenance and Care'.

Crest and Valley Fasteners locations

Either four Crest or four Valley Fixings.

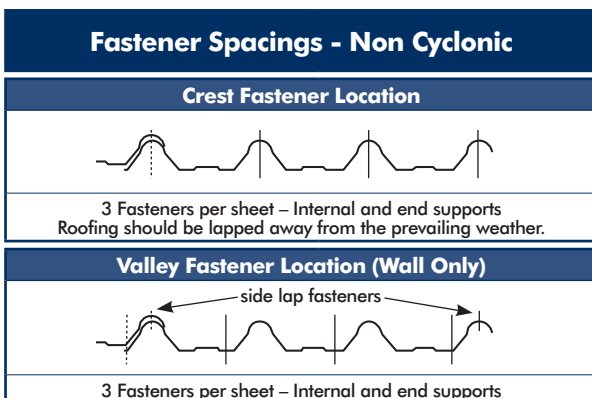


Table 2.7.J HiRib™ 680 Fastener Spacings - Non Cyclonic

Side Lap Fastening

It may be necessary to use side lap fasteners to maintain a weatherproof side lap. One or more fasteners are recommended **when using HiRib at maximum spans, for walling cladding**. Lap fasteners are also required alongside each valley fastener.

Notes: All fasteners used externally should be fitted with an EPDM seal (washer).
Do not use punches to form fastener holes.
HiRib Cyclonic uses 14-10x75 hex screws with a cyclonic plate seal.

Turning of Roof Sheeting Ends

Refer to section 4.8 "Flashings, Cappings & Ends of Sheets".