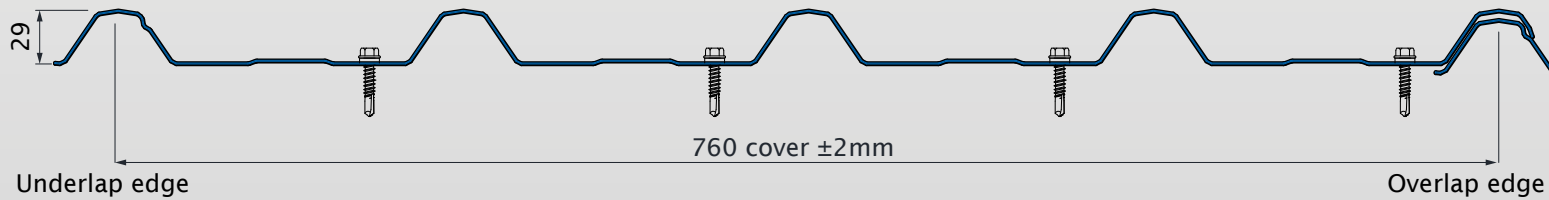


SUPERDEK WALL CLADDING PERFORMANCE IN CYCLONIC REGION C

0.42mm / 0.48mm BMT G550 AZ150

JULY 2015



Design Criteria

The following criteria was used in the development of the tables:
 Region C with design return period of 500 years.
 $V_w = F_{c66m/s}$ (strength limit state), with $F_c = 1.05$
 $M_x/M_y/M_z = 1.00$
 $K_{cat} = K_{cl} = 0.90$

Maximum Allowable Spans (mm)

Terrain Category	KI	Pz (kPa)	3 m Maximum Average Roof Height						5 m Maximum Average Roof Height						10 m Maximum Average Roof Height							
			0.42mm BMT			0.48mm BMT			0.42mm BMT			0.48mm BMT			0.42mm BMT			0.48mm BMT				
			Single	End	Internal	Single	End	Internal	Single	End	Internal	Single	End	Internal	Single	End	Internal	Single	End	Internal		
1.0	1.0	3.43	1110	1110	1170	1310	1310	1380	3.86	1030	1030	1090	1220	1220	1290	4.39	940	940	1010	1120	1120	1190
	1.5	4.26	970	970	1030	1150	1150	1220	4.79	880	880	950	1050	1050	1120	5.45	790	790	850	950	950	1020
	2.0	5.08	840	840	900	1000	1000	1080	5.72	750	750	820	900	900	980	6.51	640	640	720	790	790	870
	3.0	6.74	620	620	690	760	760	840	7.58	550	550	600	650	650	730	8.62	500	500	540	560	560	610
1.5	1.0	3.16	1160	1160	1220	1370	1370	1430	3.36	1120	1120	1180	1320	1320	1390	3.93	1020	1020	1080	1210	1210	1280
	1.5	3.92	1020	1020	1080	1210	1210	1280	4.17	980	980	1040	1160	1160	1230	4.88	870	870	930	1040	1040	1110
	2.0	4.68	900	900	960	1070	1070	1140	4.98	850	850	920	1020	1020	1090	5.83	730	730	800	890	890	960
	3.0	6.20	680	680	750	830	830	910	6.60	630	630	710	780	780	860	7.72	540	540	590	630	630	720
2.0	1.0	2.90	1220	1220	1270	1430	1430	1490	2.90	1220	1220	1270	1430	1430	1490	3.50	1100	1100	1150	1300	1300	1360
	1.5	3.60	1080	1080	1140	1280	1280	1340	3.60	1080	1080	1140	1280	1280	1340	4.34	950	950	1010	1130	1130	1200
	2.0	4.30	960	960	1020	1140	1140	1210	4.30	960	960	1020	1140	1140	1210	5.19	820	820	890	990	990	1060
	3.0	5.69	750	750	820	910	910	980	5.69	750	750	820	910	910	980	6.87	600	600	670	740	740	820
2.5	1.0	2.65	1270	1270	1320	1500	1500	1560	2.65	1270	1270	1320	1500	1500	1560	2.96	1200	1200	1260	1420	1420	1480
	1.5	3.29	1140	1140	1190	1340	1340	1410	3.29	1140	1140	1190	1340	1340	1410	3.68	1070	1070	1120	1260	1260	1320
	2.0	3.93	1020	1020	1080	1210	1210	1280	3.93	1020	1020	1080	1210	1210	1280	4.39	940	940	1010	1120	1120	1190
	3.0	5.20	820	820	890	990	990	1060	5.20	820	820	890	990	990	1060	5.82	730	730	800	890	890	970
3.0	1.0	2.41	1320	1320	1380	1560	1560	1620	2.41	1320	1320	1380	1560	1560	1620	2.41	1320	1320	1380	1560	1560	1620
	1.5	2.99	1200	1200	1250	1410	1410	1470	2.99	1200	1200	1250	1410	1410	1470	2.99	1200	1200	1250	1410	1410	1470
	2.0	3.57	1080	1080	1140	1280	1280	1350	3.57	1080	1080	1140	1280	1280	1350	3.57	1080	1080	1140	1280	1280	1350
	3.0	4.73	890	890	950	1060	1060	1130	4.73	890	890	950	1060	1060	1130	4.73	890	890	950	1060	1060	1130

Note: For walling applications a local pressure of KI=3.0 is only applicable on buildings with an average roof height which exceeds the buildings shortest horizontal plan dimension.

Fixing Recommendations

Superdek sheets should be laid into the prevailing wind. They should be fixed within the recommended support spacings. For spans exceeding 1200mm, side lap fixing at midspan using an 8 x 15mm self drilling stitch screw with seal or a 3.2mm sealed blind rivet is recommended (maximum 600mm centres). This provides a weather proof seal and secures the overlap.

Maintenance Requirements

The performance of Superdek over time depends on its correct application and maintenance. Maintenance should be performed as often as is required to remove any dirt, salt and pollutants. Where Superdek is used in severely corrosive environments, cleaning should be performed more often. It is important that screws have the same life expectancy as the Superdek cladding you have specified. Packs of Superdek should always be kept dry and stored above ground level on site. If the sheets have become wet, they should be separated, wiped and placed in the open to dry. Refer to the Stratco "Selection, Use and Maintenance" brochure for more detailed information about the correct use and maintenance of this product.

Fastener Details		
Steel	Minimum 0.75mm (BMT)	M6 x 25mm self drilling screw with neoprene washer, fixed to every pan.
Timber	Hardwood F11/JD2 or stronger	Minimum 12 gauge timber screws with minimum 35mm embedment depth
	Softwood F5/JD4 or stronger	Minimum 12 gauge timber screws with minimum 35mm embedment depth.

Note: All screws shall be minimum Class 4.

Span (mm)	Design Pressures - Strength Limit State Capacity (kPa)					
	0.42mm BMT			0.48mm BMT		
	Single	End	Internal	Single	End	Internal
400	11.50	11.50	12.58	13.14	13.14	14.37
600	6.90	6.90	7.55	8.00	8.00	8.75
900	4.71	4.71	5.15	5.78	5.78	6.32
1200	3.00	3.00	3.28	4.00	4.00	4.37
1500	1.78	1.78	1.95	2.65	2.65	2.90
1800	1.05	1.05	1.14	1.73	1.73	1.90
2100	0.80	0.80	0.87	1.25	1.25	1.37

Height (m)	Terrain/Height Multiplier (Mz,cat)				
	1.0	1.5	2.0	2.5	3.0
≤ 3.0	0.99	0.95	0.91	0.87	0.83
≤ 5.0	1.05	0.98	0.91	0.87	0.83
≤ 10.0	1.12	1.06	1	0.92	0.83

Pressure Coefficients:

Internal $C_{pi} = +0.7$
 External $C_{pe} = -0.65$

Limitations

- Design pressures and maximum allowable spans are based on four fasteners per sheet per support.
- The maximum allowable spans have considered serviceability requirements with an annual probability of exceedance of 1:25.
- When fixing over insulation, screw length shall be increased to ensure sufficient penetration of the fastener.
- Maximum allowable overhang is 200mm for wall cladding.
- For variations in design criteria, refer AS/NZS 1170.2:2011 Wind Actions for evaluation of pressure, P_z

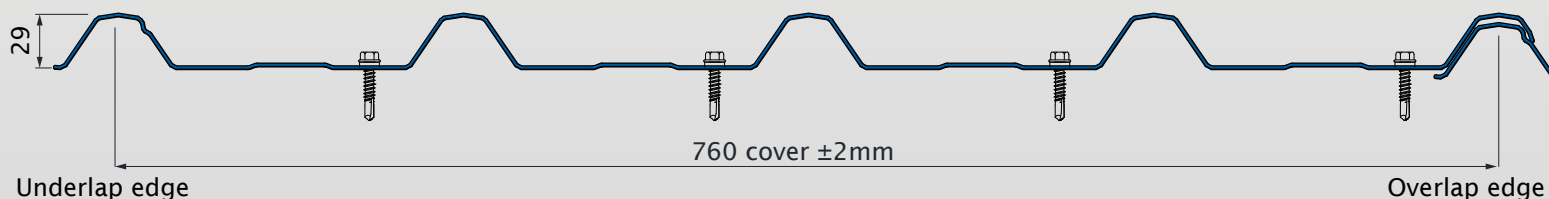
Notes

- Cyclonic Fatigue Testing in accordance with AS4040.3, Methods of testing sheet roof and wall cladding, Method 3: Resistance to wind pressure for cyclonic regions.
- Design Criteria are determined in accordance with AS/NZS 1170.2:2011 Wind Actions.

SUPERDEK WALL CLADDING PERFORMANCE IN CYCLONIC REGION D

0.42mm / 0.48mm BMT G550 AZ150

JULY 2015



Design Criteria

The following criteria was used in the development of the tables:
Region D with design return period of 500 years.
 $V_d = F_d 80\text{m/s}$ (strength limit state), with $F_d = 1.1$
 $M_y/M_x/M_z = 1.00$
 $K_{c,e} = K_{c,i} = 0.90$

Maximum Allowable Spans (mm)

Terrain Category	KI	Pz (kPa)	3 m Maximum Average Roof Height						5 m Maximum Average Roof Height						10 m Maximum Average Roof Height							
			0.42mm BMT			0.48mm BMT			0.42mm BMT			0.48mm BMT			0.42mm BMT			0.48mm BMT				
			Single	End	Internal	Single	End	Internal	Single	End	Internal	Single	End	Internal	Single	End	Internal	Single	End	Internal		
1.0	1.0	5.53	770	770	840	930	930	1010	6.22	680	680	750	830	830	910	7.08	580	580	650	710	710	790
	1.5	6.87	600	600	670	740	740	820	7.72	540	540	590	630	630	710	8.79	490	490	540	550	550	600
	2.0	8.20	520	520	570	580	580	660	9.22	470	470	520	530	530	580	10.49	420	420	470	480	480	520
	3.0	10.86	410	410	450	460	460	510	12.22	-	-	-	420	420	460	13.90	-	-	-	-	-	-
1.5	1.0	5.09	840	840	900	1000	1000	1080	5.42	790	790	860	950	950	1020	6.34	670	670	740	810	810	890
	1.5	6.32	670	670	740	820	820	900	6.73	620	620	690	760	760	840	7.87	540	540	590	610	610	700
	2.0	7.55	550	550	610	650	650	740	8.03	530	530	580	590	590	680	9.40	460	460	510	520	520	570
	3.0	10.00	440	440	480	490	490	540	10.64	420	420	460	470	470	510	12.45	-	-	-	410	410	450
2.0	1.0	4.67	900	900	960	1070	1070	1140	4.67	900	900	960	1070	1070	1140	5.65	760	760	830	920	920	990
	1.5	5.80	740	740	810	890	890	970	5.80	740	740	810	890	890	970	7.00	590	590	660	720	720	800
	2.0	6.93	590	590	670	730	730	810	6.93	590	590	670	730	730	810	8.36	510	510	560	570	570	640
	3.0	9.18	470	470	520	530	530	580	9.18	470	470	520	530	530	580	11.08	410	410	450	450	450	500
2.5	1.0	4.27	960	960	1030	1140	1140	1210	4.27	960	960	1030	1140	1140	1210	4.78	880	880	950	1060	1060	1130
	1.5	5.30	810	810	870	970	970	1040	5.30	810	810	870	970	970	1040	5.93	720	720	790	870	870	950
	2.0	6.33	670	670	740	820	820	890	6.33	670	670	740	820	820	890	7.08	580	580	650	710	710	800
	3.0	8.39	510	510	560	570	570	640	8.39	510	510	560	570	570	640	9.38	460	460	510	520	520	570
3.0	1.0	3.89	1030	1030	1090	1220	1220	1280	3.89	1030	1030	1090	1220	1220	1280	3.89	1030	1030	1090	1220	1220	1280
	1.5	4.83	880	880	940	1050	1050	1120	4.83	880	880	940	1050	1050	1120	4.83	880	880	940	1050	1050	1120
	2.0	5.76	740	740	810	900	900	970	5.76	740	740	810	900	900	970	5.76	740	740	810	900	900	970
	3.0	7.63	550	550	600	640	640	730	7.63	550	550	600	640	640	730	7.63	550	550	600	640	640	730

Note: For walling applications a local pressure of KI=3.0 is only applicable on buildings with an average roof height which exceeds the buildings shortest horizontal plan dimension.

Fixing Recommendations

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Note: All screws shall be minimum Class 4.

Design Pressures - Strength Limit State Capacity (kPa)

Span (mm)	0.42mm BMT			0.48mm BMT		
	Single	End	Internal	Single	End	Internal
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1200	3.00	3.00	3.28	4.00	4.00	4.37
1500	1.78	1.78	1.95	2.65	2.65	2.90
1800	1.05	1.05	1.14	1.73	1.73	1.90
2100	0.80	0.80	0.87	1.25	1.25	1.37

Height (m)	Terrain/Height Multiplier (Mz,cat)				
	1.0	1.5	2.0	2.5	3.0
≤ 3.0	0.99	0.95	0.91	0.87	0.83
≤ 5.0	1.05	0.98	0.91	0.87	0.83
≤ 10.0	1.12	1.06	1	0.92	0.83

Pressure Coefficients:

Internal $C_{pi} = +0.7$
External $C_{pe} = -0.65$

Limitations

- Design pressures and maximum allowable spans are based on four fasteners per sheet per support.
- The maximum allowable spans have considered serviceability requirements with an annual probability of exceedance of 1:25.
- When fixing over insulation, screw length shall be increased to ensure sufficient penetration of the fastener.
- Maximum allowable overhang is 200mm for wall cladding.
- For variations in design criteria, refer AS/NZS 1170.2:2011 Wind Actions for evaluation of pressure, P_z

Notes

- Cyclonic Fatigue Testing in accordance with AS4040.3, Methods of testing sheet roof and wall cladding, Method 3: Resistance to wind pressure for cyclonic regions.
- Design Criteria are determined in accordance with AS/NZS 1170.2:2011 Wind Actions.