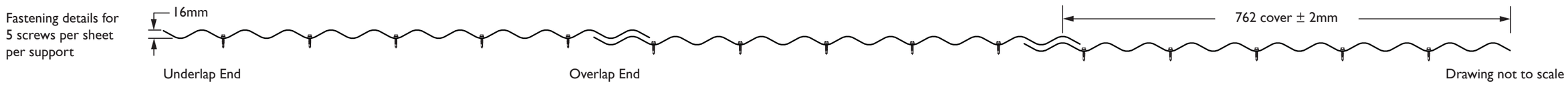
CGI WALL CLADDING

Region C

0.42mm / 0.48mm BMT G550 AZ150

August 2013

WALLING



Design Pressures - Strength Limit State Capacity (kPa)

Span (mm)	0.42mm BMT			0.48m BMT		
	Single	End	Internal	Single	End	Internal
600	6.80	6.80	7.44	7.50	7.50	8.20
900	5.23	5.23	5.71	5.74	5.74	6.27
1200	3.90	3.90	4.27	4.30	4.30	4.70
1500	2.83	2.83	3.09	3.19	3.19	3.49
1800	2.00	2.00	2.19	2.40	2.40	2.62

Fastener Details

Steel	**Minimum 0.75mm (BMT)**	Class 4 M6 x 25mm self drilling screw with neoprene washer, fixed to every second pan.
Timber	**Hardwood (F11)**	Class 4 minimum 12 gauge timber screws with minimum 35mm embedment depth.
	Softwood (F5)	Class 4 minimum 12 gauge timber screws with minimum 35mm embedment depth.

Maximum Allowable Spans (mm)

Terrain Category	KI	3m Maximum Height							5m Maximum Height							10m Maximum Height						
		Pz (kPa)	0.42mm BMT			0.48m BMT			Pz (kPa)	0.42mm BMT			0.48m BMT			Pz (kPa)	0.42mm BMT			0.48m 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	1320	1320	1400	1420	1420	1510	3.86	1210	1210	1290	1300	1300	1390	4.39	1080	1080	1170	1170	1170	1260
	1.5	4.26	1110	1110	1200	1210	1210	1300	4.79	990	990	1080	1090	1090	1180	5.45	850	850	950	950	950	1040
	2.0	5.08	920	920	1020	1020	1020	1120	5.72	800	800	890	900	900	990	6.51	650	650	750	760	760	860
	3.0	6.74	610	610	710	720	720	820	7.58	-	-	-	-	-	-	8.62	-	-	-	-	-	-
1.5	1.0	3.16	1390	1390	1470	1500	1500	1590	3.36	1340	1340	1420	1440	1440	1530	3.93	1190	1190	1270	1280	1280	1370
	1.5	3.92	1190	1190	1280	1290	1290	1380	4.17	1130	1130	1220	1230	1230	1320	4.88	970	970	1060	1070	1070	1160
	2.0	4.68	1010	1010	1100	1110	1110	1200	4.98	950	950	1040	1040	1040	1140	5.83	770	770	870	880	880	970
	3.0	6.20	700	700	800	810	810	910	6.60	630	630	730	740	740	840	7.72	-	-	-	-	-	-
2.0	1.0	2.90	1470	1470	1550	1590	1590	1680	2.90	1470	1470	1550	1590	1590	1680	3.50	1300	1300	1380	1400	1400	1490
	1.5	3.60	1270	1270	1360	1370	1370	1460	3.60	1270	1270	1360	1370	1370	1460	4.34	1090	1090	1180	1180	1180	1270
	2.0	4.30	1100	1100	1190	1200	1200	1290	4.30	1100	1100	1190	1200	1200	1290	5.19	900	900	1000	1000	1000	1100
	3.0	5.69	800	800	900	900	900	1000	5.69	800	800	900	900	900	1000	6.87	-	-	-	700	700	800
2.5	1.0	2.65	1550	1550	1630	1690	1690	1780	2.65	1550	1550	1630	1690	1690	1780	2.96	1450	1450	1530	1570	1570	1660
	1.5	3.29	1360	1360	1440	1460	1460	1550	3.29	1360	1360	1440	1460	1460	1550	3.68	1250	1250	1340	1350	1350	1440
	2.0	3.93	1190	1190	1270	1290	1290	1380	3.93	1190	1190	1270	1290	1290	1380	4.39	1080	1080	1170	1170	1170	1260
	3.0	5.20	900	900	990	1000	1000	1090	5.20	900	900	990	1000	1000	1090	5.82	780	780	880	880	880	980
3.0	1.0	2.41	1630	1630	1710	1790	1790	1800	2.41	1630	1630	1710	1790	1790	1800	2.41	1630	1630	1710	1790	1790	1800
	1.5	2.99	1440	1440	1520	1560	1560	1650	2.99	1440	1440	1520	1560	1560	1650	2.99	1440	1440	1520	1560	1560	1650
	2.0	3.57	1280	1280	1360	1380	1380	1470	3.57	1280	1280	1360	1380	1380	1470	3.57	1280	1280	1360	1380	1380	1470
	3.0	4.73	1000	1000	1090	1100	1100	1190	4.73	1000	1000	1090	1100	1100	1190	4.73	1000	1000	1090	1100	1100	1190

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.

Design Criteria

The following criteria was used in the development of the tables:

1. Region C with design return period of 500 years.
2. V_r = F_C66m/s (strength limit state), with F_C = 1.05
3. $M_s/M_t/M_d$ = 1.00
4. $K_{c,e} = K_{c,i}$ = 0.90

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	1.00	0.92	0.83

Pressure Coefficients:
Internal $C_{p,i}$ = +0.70
External $C_{p,e}$ = -0.65

Limitations

1. Design pressures and maximum allowable spans are based on five fasteners per sheet per support.
2. Maximum allowable spans are based on design pressures for ultimate limit state only. For serviceability limit state wind capacities, refer to the Stratco CGI Design Guide.
3. When fixing over insulation, screw length should be increased to ensure sufficient penetration of the fastener.
4. Maximum allowable overhang is 200mm for wall cladding.
5. Refer AS/NZS 1170.2 for definition of local pressure zones.

Fixing Recommendations

CGI sheets should be laid into the prevailing wind. They should be fixed within the recommended support spacings. For spans > 900mm, 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 500mm centres). This provides a weather proof seal and secures the overlap.

Maintenance Requirements

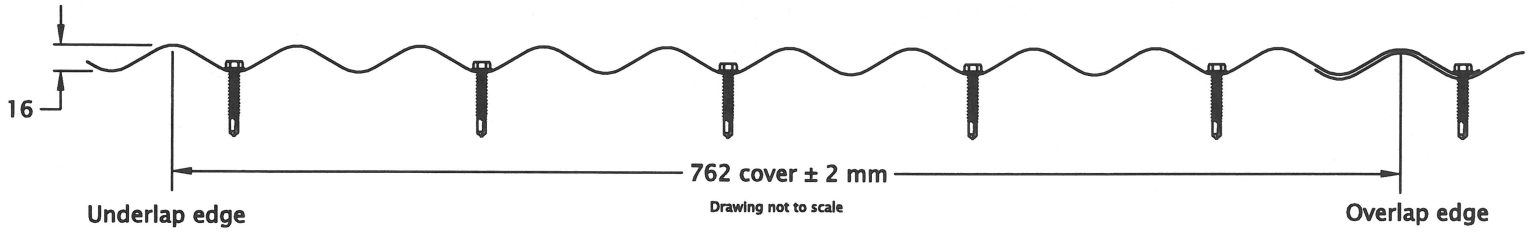
The performance of CGI over time depends on its corrects application and maintenance. Maintenance should be performed as often as is required to remove any dirt, salt and pollutants. Where CGI is used in severly corrosive environments, cleaning should be performed more often. It is important that screws have the same life expectancy as the CGI cladding you have specified. Packs of CGI 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.

Notes

1. 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.
2. Design Criteria are determined in accordance with AS/NZS 1170.2:2011 Wind Actions.
3. CGI Walling Cyclonic Testing, Report No. 167, 01/2012, Stratco Testing Facility, Gepps Cross, South Australia.

CGI Wall Cladding Performance in Cyclonic Region D

0.42mm and 0.48mm BMT AS1397/G550 AZ150



Maximum Allowable Spans (mm) for Region D

Terrain Category	Kl	5m Maximum Height							10m Maximum Height						
		Pz (kPa)	0.42mm BMT			0.48mm BMT			Pz (kPa)	0.42mm BMT			0.48mm BMT		
			Single	End	Internal	Single	End	Internal		Single	End	Internal	Single	End	Internal
1 & 2	1	4.53	1050	1050	1140	1140	1140	1230	5.02	940	940	1030	1040	1040	1130
	1.5	5.62	820	820	910	920	920	1010	6.23	700	700	800	810	810	900
	2	6.71	610	610	720	720	720	820	7.43	480	480	600	610	610	710
2.5	1	3.84	1210	1210	1300	1310	1310	1400	4.48	1060	1060	1150	1150	1150	1240
	1.5	4.77	990	990	1080	1090	1090	1180	5.56	830	830	920	930	930	1020
	2	5.69	800	800	900	900	900	1000	6.64	620	620	730	730	730	830
3 & 4	1	3.21	1380	1380	1460	1490	1490	1580	3.97	1180	1180	1260	1270	1270	1360
	1.5	3.98	1170	1170	1260	1270	1270	1360	4.93	960	960	1050	1050	1050	1150
	2	4.76	990	990	1090	1090	1090	1180	5.89	760	760	860	870	870	960

NOTE: The values are for use with steel supports with a minimum thickness of 0.75mm BMT G550.

Design Pressures Pz - Ult. Limit State (kPa)

Span (mm)	0.42mm BMT			0.48mm BMT		
	Single	End	Internal	Single	End	Internal
600	6.80	6.80	7.44	7.50	7.50	8.20
900	5.23	5.23	5.71	5.74	5.74	6.27
1200	3.90	3.90	4.27	4.30	4.30	4.70
1500	2.83	2.83	3.09	3.19	3.19	3.49
1800	2.00	2.00	2.19	2.40	2.40	2.62

Fastener Details in Region D

Steel	Min 0.75mm BMT	M6 x 25mm Hex head self drilling screws at every second pan
Timber	Hardwood (F11)	Minimum 12 gauge timber fix screws embedded at least 35mm into timber
	Softwood (F5)	Minimum 12 gauge timber fix screws embedded at least 35mm into timber

NOTE 1: 0.75mm BMT Battens are secured with two 14 gauge self drilling screws per connection to 1.2mm supports. If battens are secured into 1.0mm minimum supports, four screws per connection is required.

NOTE 2: For spans > 900mm a side lap fixing midspan using an 8 x 12mm self drilling stitch screw or 3.2mm blind rivet is recommended. This provides a weather proof seal and secures the overlap.

FEBRUARY 2012

Design Criteria

The following criteria were used in the development of the tables:

1. Region D with a design return period of 500 years
2. $V_R = F_D 80$m/s (strength limit state), with $F_D = 1.10$
3. $M_s/M_t/M_d = 1.0$
4. $K_{c,e} = K_{c,i} = 0.8$

Height (m)	Terrain/height Multiplier ($M_{z,cat}$)		
	1&2	2.5	3&4
<=5.0	0.95	0.875	0.80
<=10	1.0	0.95	0.89

Pressure Coefficients:
Internal, $C_{pi} = 0.7$
External, $C_{pe} = -0.65$

Limitations

1. Design pressures and maximum allowable spans are based on five fasteners per sheet per support.
2. When fixing over insulation, screw length should be increased to ensure sufficient penetration of the fastener.
3. Maximum allowable overhang is 200mm for wall cladding.
4. When a local pressure factor (Kl) of 3 is required refer to the Design Pressure table for individual analysis.
5. Refer to AS/NZS 1170.2 for definition of local pressure zones.

Notes

1. Cyclonic Fatigue Testing in accordance with AS4040.3, Methods of testing sheet roof and wall cladding. Method 3: Resistance to wind pressures for cyclonic regions.
2. Design Criteria are determined in accordance wtih AS/NZS 1170.2:2011 Wind Actions.
3. CGI Walling Cyclonic Testing, Report No. 167, 01/2012

Fixing Recommendations:
CGI sheets should be laid into the prevailing wind and sit neatly on the preceding sheet, with a side lap of 1.5 corrugations. They should be fixed within the recommended support spacings. Avoid 'stretching' the width of the sheet when installing, as this could allow wind and rain to enter.

Maintenance Requirements:
The performance of CGI 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 CGI is used in severly corrosive environments, cleaning should be performed more often. It is important that screws have the same life expectancy as the CGI cladding you have specified. Packs of CGI should always be kept dry and stored above ground level on site. If the sheets have become wet, they should be seperated, 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.