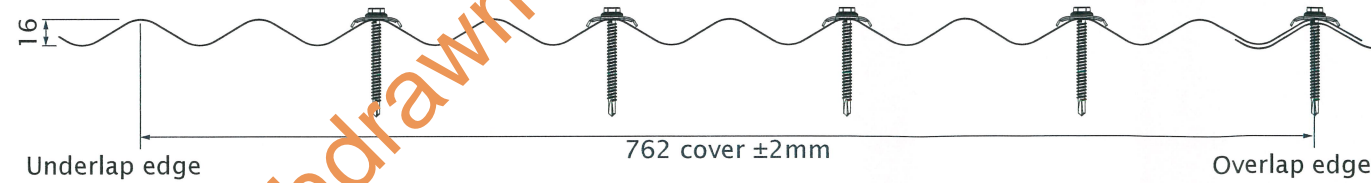




CGI ROOF CLADDING

Region C



Fixing screws to comply to AS3566. I-2002 Self-drilling screws for the building and construction industries - General requirements and mechanical properties.

| Fastener Details | | |
|------------------|------------------------------|---|
| Steel | Minimum 0.75mm (BMT) | Class 4 minimum 14g x 55mm self-drilling screw with cyclonic washer assembly. |
| Timber | Hardwood F11/JD2 or stronger | Class 4 minimum 14g x 55mm self-drilling screw with cyclonic washer assembly, embedded at least 35mm into timber. |
| | Softwood F7/JD4 or stronger | Class 4 minimum 14g x 55mm self-drilling screw with cyclonic washer assembly, embedded at least 35mm into timber. |

Note: For spans > 900mm side lap fixing midspan using an 8x15mm self-drilling screw with seal or 3.2mm sealed blind rivets are recommended (maximum 600mm centres). This provides a weather-proof seal and secures the overlap.

| Design Pressures - Strength Limit State Capacity (kPa) | | | | | | |
|--|------------|-------|----------|------------|-------|----------|
| Span (mm) | 0.42mm BMT | | | 0.48mm BMT | | |
| | Single | End | Internal | Single | End | Internal |
| 400 | 10.76 | 10.76 | 11.77 | 11.23 | 11.23 | 12.28 |
| 700 | 7.21 | 7.21 | 7.88 | 7.60 | 7.60 | 8.31 |
| 1000 | 4.80 | 4.80 | 5.25 | 5.39 | 5.39 | 5.89 |
| 1300 | 2.96 | 2.96 | 3.24 | 3.69 | 3.69 | 4.04 |
| 1600 | 1.69 | 1.69 | 1.85 | 2.50 | 2.50 | 2.73 |
| 1900 | 1.00 | 1.00 | 1.09 | 1.82 | 1.82 | 1.99 |

| Maximum Allowable Spans (mm) | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-----|----------|--------------------------------|-----|----------|------------|------|----------|--------------------------------|------------|-----|----------|------------|------|---------------------------------|----------|------------|-----|----------|------------|------|----------|
| Terrain Category | KI | Pz (kPa) | 3m Maximum Average Roof Height | | | | | | 5m Maximum Average Roof Height | | | | | | 10m Maximum Average Roof Height | | | | | | | |
| | | | 0.42mm BMT | | | 0.48mm BMT | | | 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 | | Single | End | Internal | Single | End | Internal |
| 1.0 | 1.0 | 4.07 | 800 | 950 | 1200 | 900 | 1220 | 1290 | 4.57 | 800 | 950 | 1090 | 900 | 1130 | 1200 | 5.20 | 800 | 940 | 1000 | 900 | 1020 | 1100 |
| | 1.5 | 5.21 | 800 | 940 | 1000 | 900 | 1020 | 1100 | 5.86 | 800 | 850 | 920 | 900 | 920 | 1000 | 6.67 | 760 | 760 | 820 | 810 | 810 | 890 |
| | 2.0 | 6.35 | 790 | 790 | 860 | 860 | 860 | 930 | 7.15 | 700 | 700 | 770 | 750 | 750 | 830 | 8.13 | 600 | 600 | 660 | 640 | 640 | 720 |
| | 3.0 | 8.64 | 560 | 560 | 610 | 600 | 600 | 650 | 9.72 | 470 | 470 | 520 | 510 | 510 | 550 | 11.06 | - | - | - | 410 | 410 | 450 |
| 1.5 | 1.0 | 3.74 | 800 | 950 | 1200 | 900 | 1280 | 1350 | 3.99 | 800 | 950 | 1170 | 900 | 1240 | 1300 | 4.66 | 800 | 950 | 1070 | 900 | 1110 | 1180 |
| | 1.5 | 4.80 | 800 | 950 | 1050 | 900 | 1090 | 1160 | 5.11 | 800 | 950 | 1010 | 900 | 1040 | 1110 | 5.97 | 800 | 840 | 900 | 900 | 910 | 980 |
| | 2.0 | 5.85 | 800 | 860 | 920 | 900 | 930 | 1000 | 6.23 | 800 | 810 | 880 | 870 | 870 | 950 | 7.28 | 690 | 690 | 760 | 730 | 730 | 810 |
| | 3.0 | 7.96 | 620 | 620 | 680 | 660 | 660 | 730 | 8.47 | 570 | 570 | 630 | 610 | 610 | 670 | 9.91 | 460 | 460 | 500 | 490 | 490 | 540 |
| 2.0 | 1.0 | 3.44 | 800 | 950 | 1200 | 900 | 1300 | 1420 | 3.44 | 800 | 950 | 1200 | 900 | 1300 | 1420 | 4.15 | 800 | 950 | 1150 | 900 | 1200 | 1270 |
| | 1.5 | 4.40 | 800 | 950 | 1110 | 900 | 1160 | 1230 | 4.40 | 800 | 950 | 1110 | 900 | 1160 | 1230 | 5.32 | 800 | 920 | 990 | 900 | 1010 | 1080 |
| | 2.0 | 5.37 | 800 | 920 | 980 | 900 | 1000 | 1070 | 5.37 | 800 | 920 | 980 | 900 | 1000 | 1070 | 6.48 | 780 | 780 | 850 | 840 | 840 | 920 |
| | 3.0 | 7.30 | 690 | 690 | 760 | 730 | 730 | 810 | 7.30 | 690 | 690 | 760 | 730 | 730 | 810 | 8.82 | 540 | 540 | 600 | 580 | 580 | 640 |
| 2.5 | 1.0 | 3.14 | 800 | 950 | 1200 | 900 | 1300 | 1490 | 3.14 | 800 | 950 | 1200 | 900 | 1300 | 1490 | 3.47 | 800 | 950 | 1200 | 900 | 1300 | 1410 |
| | 1.5 | 4.02 | 800 | 950 | 1170 | 900 | 1230 | 1300 | 4.02 | 800 | 950 | 1170 | 900 | 1230 | 1300 | 4.45 | 800 | 950 | 1100 | 900 | 1150 | 1220 |
| | 2.0 | 4.91 | 800 | 950 | 1040 | 900 | 1070 | 1140 | 4.91 | 800 | 950 | 1040 | 900 | 1070 | 1140 | 5.43 | 800 | 910 | 970 | 900 | 990 | 1060 |
| | 3.0 | 6.67 | 760 | 760 | 820 | 810 | 810 | 890 | 6.67 | 760 | 760 | 820 | 810 | 810 | 890 | 7.38 | 680 | 680 | 750 | 720 | 720 | 800 |
| 3.0 | 1.0 | 2.86 | 800 | 950 | 1200 | 900 | 1300 | 1560 | 2.86 | 800 | 950 | 1200 | 900 | 1300 | 1560 | 2.86 | 800 | 950 | 1200 | 900 | 1300 | 1560 |
| | 1.5 | 3.66 | 800 | 950 | 1200 | 900 | 1300 | 1370 | 3.66 | 800 | 950 | 1200 | 900 | 1300 | 1370 | 3.66 | 800 | 950 | 1200 | 900 | 1300 | 1370 |
| | 2.0 | 4.47 | 800 | 950 | 1100 | 900 | 1150 | 1220 | 4.47 | 800 | 950 | 1100 | 900 | 1150 | 1220 | 4.47 | 800 | 950 | 1100 | 900 | 1150 | 1220 |
| | 3.0 | 6.07 | 800 | 830 | 890 | 890 | 890 | 970 | 6.07 | 800 | 830 | 890 | 890 | 890 | 970 | 6.07 | 800 | 830 | 890 | 890 | 890 | 970 |

Note: For roofing applications a local pressure of KI = 3.0 is applicable adjacent roof corners on roofs with a pitch less than 10°.

Product Name
CGI Roof Cladding

Product Description
Stratco CGI Roof Cladding is manufactured from 0.42 or 0.48 BMT G550 steel. Cladding available in colour or zinc/al finish, minimum AZ150 coating.

Manufacturer's Name
Stratco (Australia) Pty Ltd
780 Stuart Highway, Berrimah NT 0828. ABN 30 007 528 850

Design Criteria
The following criteria was used in the development of the tables:
Region C with an annual probability of exceedance of 500 years (strength), 25 years (serviceability).

- $V_R = F_c 66 \text{ m/s}$, with $F_c = 1.05$ (strength); $V_R = F_c 47 \text{ m/s}$, with $F_c = 1$ (serviceability)
- $M_s/M_t/M_d = 1.00$
- $K_{c,e} = K_{c,i} = 0.9$
- Importance Level 2

| Height (m) | Terrain/Height Multiplier (Mz,cat) | | | | |
|------------|------------------------------------|------|------|------|------|
| | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 |
| ≤3 | 0.99 | 0.95 | 0.91 | 0.87 | 0.83 |
| ≤5 | 1.05 | 0.98 | 0.91 | 0.87 | 0.83 |
| ≤10 | 1.12 | 1.06 | 1.00 | 0.92 | 0.83 |

Pressure Coefficients:
Internal $C_{p,i} = +0.7$ (strength), $+0.2$ (serviceability)
External $C_{p,e} = -0.9$

Design Criteria determined in accordance with AS/NZS 1170.2:2011 Wind Actions.

- Limitations
- Design pressures and maximum allowable spans are based on five crest fasteners per sheet per support.
 - The maximum allowable spans have considered serviceability requirements.
 - When fixing over insulation, screw length should be increased to ensure sufficient penetration of the fastener.
 - When fixing to roof battens, roofing spans may be limited by the allowable batten spacing. Refer to the relevant roof batten DTC sheet.
 - Maximum allowable overhang is 200mm for roof cladding.
 - For pressure coefficients which vary from those specified in the design criteria, refer AS/NZS 1170.2:2011 Wind Actions for evaluation of pressure, Pz. Examples include elevated buildings and h/d ratios which exceed 0.5.
 - Refer AS/NZS 1170.2:2011 Structural Design Actions Part 2: Wind Actions for definition of local pressure zones.

Accepted for Inclusion

DTCM ref: M/200/01

Chairman's Signature: *P. Russell*

Chairman's Name: P. Russell

Date of Approval: 27.8.15 Expiry Date: 27.8.20

Notes covering basis of DTC (Relevant test reports etc)

- Cyclonic Fatigue Testing in accordance with the NCC 2015 BCA Volume Two - Low-High-Low Pressure Testing.
- Cyclonic Testing of CGI Roof Sheeting, Report no. 69 revision A, 05/2014, Stratco Testing Facility, Gepps Cross, South Australia.

*Checking Engineers Certification
Name: Trevor John
Registration Number: 106278
Date: 19.08.2015
Signature: *T. John*
REF: 50067-4
TREVOR JOHN
*registered as a structural engineer in Australia

*Certifying Engineers Certification
Heiner Structural Engineering Consultants
Name: Wisnu Lim (nominee)
NT Registration Number: NT145651ES
Date: 19.08.2015
Signature: *Wisnu Lim*
*registered as a structural engineer in Northern Territory