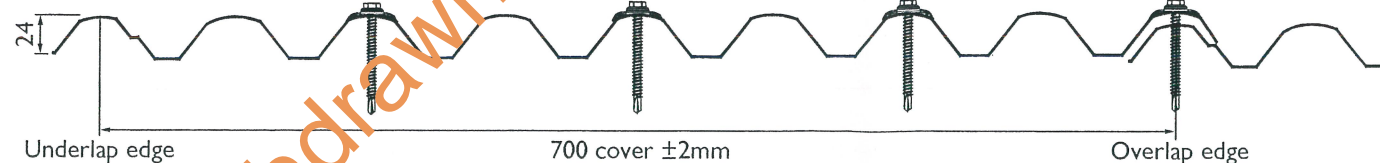




# SMARTSPAN® ROOF CLADDING

## Region C



Fixing screws to comply to AS3566 1-2002 Self-drilling screws for the building and construction industries - General requirements and mechanical properties.

Product Name  
**Smartspan® Roof Cladding**

Product Description  
Stratco Smartspan® 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 were used in the development of the tables:  
1. Region C with an annual probability of exceedance of 500 years (strength), 25 years (serviceability).  
2.  $V_R = F_c 66m/s$ , with  $F_c=1.05$  (strength);  $V_R = F_c 47m/s$ , with  $F_c=1$  (serviceability)  
3.  $M_s/M_t/M_d = 1.00$   
4.  $K_{c,e} = K_{c,i} = 0.9$   
5. Importance Level 2

Height (m)	Terrain/Height Multiplier (M <sub>z,cat</sub> )				
	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 four 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 supports (steel: minimum 1.5mm thickness), roofing spans may be limited by the allowable support spacing. Refer to relevant engineered specifications.
  - 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, P<sub>z</sub>. 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.
  - Smartspan® roofing requires minimum 2° roof pitch.

Accepted for Inclusion

DTCM ref: *M/298/01*

Chairman's Signature: *[Signature]*

Chairman's Name: *STEVEN J EURLICH*

Date of Approval: *17 March 2016* Expiry Date: *16 March 2021*

Fastener Details		
Steel	Minimum 1.5mm (BMT)	Buildex class 4 minimum 14g x 55mm self drilling screw with cyclonic washer assembly.
Timber	Hardwood F11/D2 or stronger	Buildex class 4 minimum 14g x 70mm self drilling screw with cyclonic washer assembly, embedded at least 35mm into timber.
	Softwood F11/D4 or stronger	Buildex class 4 minimum 14g x 70mm self drilling screw with cyclonic washer assembly, embedded at least 35mm into timber.

Span (mm)	0.42mm BMT			0.48mm BMT		
	Single	End	Internal	Single	End	Internal
400	10.76	10.76	11.77	12.00	12.00	13.12
1000	6.62	6.62	7.24	7.35	7.35	8.04
1300	5.05	5.05	5.53	5.61	5.61	6.13
1600	3.78	3.78	4.13	4.20	4.20	4.60
1900	2.79	2.79	3.05	3.13	3.13	3.42
2200	2.09	2.09	2.29	2.39	2.39	2.61
2500	1.68	1.68	1.84	1.99	1.99	2.17
2700	1.57	1.57	1.72	1.90	1.90	2.08

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

Maximum Allowable Spans (mm)																						
Terrain Category	K1	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	1350	1520	1610	1630	1630	1720	4.57	1350	1400	1490	1510	1510	1600	5.20	1260	1260	1360	1370	1370	1470
	1.5	5.21	1260	1260	1360	1370	1370	1470	5.86	1130	1130	1230	1250	1250	1340	6.67	990	990	1090	1110	1110	1200
	2.0	6.35	1040	1040	1140	1160	1160	1260	7.15	920	920	1010	1030	1030	1130	8.13	780	780	850	890	890	980
	3.0	8.64	700	700	770	830	830	910	9.72	550	550	600	690	690	750	11.06	-	-	-	520	520	570
1.5	1.0	3.74	1350	1600	1690	1710	1710	1800	3.99	1350	1540	1630	1650	1650	1740	4.66	1350	1380	1470	1490	1490	1580
	1.5	4.80	1350	1350	1440	1460	1460	1550	5.11	1280	1280	1380	1390	1390	1490	5.97	1110	1110	1210	1230	1230	1320
	2.0	5.85	1140	1140	1230	1250	1250	1350	6.23	1070	1070	1170	1180	1180	1280	7.28	900	900	980	1010	1010	1110
	3.0	7.96	800	800	880	920	920	1010	8.47	730	730	800	850	850	930	9.91	520	520	570	670	670	730
2.0	1.0	3.44	1350	1690	1780	1800	1800	1890	3.44	1350	1690	1780	1800	1800	1890	4.15	1350	1500	1590	1610	1610	1700
	1.5	4.40	1350	1440	1530	1550	1550	1640	4.40	1350	1440	1530	1550	1550	1640	5.32	1240	1240	1340	1350	1350	1450
	2.0	5.37	1230	1230	1330	1340	1340	1440	5.37	1230	1230	1330	1340	1340	1440	6.48	1020	1020	1120	1140	1140	1240
	3.0	7.30	900	900	980	1000	1000	1100	7.30	900	900	980	1000	1000	1100	8.82	680	680	740	810	810	880
2.5	1.0	3.14	1350	1780	1870	1890	1890	1990	3.14	1350	1780	1870	1890	1890	1990	3.51	1350	1670	1760	1780	1780	1870
	1.5	4.02	1350	1530	1620	1640	1640	1730	4.02	1350	1530	1620	1640	1640	1730	4.50	1350	1420	1510	1530	1530	1620
	2.0	4.91	1330	1330	1420	1440	1440	1530	4.91	1330	1330	1420	1440	1440	1530	5.49	1210	1210	1300	1320	1320	1410
	3.0	6.67	990	990	1090	1100	1100	1200	6.67	990	990	1090	1100	1100	1200	7.46	870	870	950	980	980	1080
3.0	1.0	2.86	1350	1800	1960	1990	1990	2090	2.86	1350	1800	1960	1990	1990	2090	2.86	1350	1800	1960	1990	1990	2090
	1.5	3.66	1350	1630	1710	1730	1730	1830	3.66	1350	1630	1710	1730	1730	1830	3.66	1350	1630	1710	1730	1730	1830
	2.0	4.47	1350	1420	1520	1530	1530	1620	4.47	1350	1420	1520	1530	1530	1620	4.47	1350	1420	1520	1530	1530	1620
	3.0	6.07	1090	1090	1190	1210	1210	1310	6.07	1090	1090	1190	1210	1210	1310	6.07	1090	1090	1190	1210	1210	1310

Note: For roofing applications a local pressure of K1 = 3.0 is applicable adjacent roof corners on roofs with a pitch less than 10°.

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 Smartspan® Roof Sheeting, Report no. 71 revision A, 10/06/2014, Stratco Testing Facility, Gepps Cross, South Australia.

\*Checking Engineers Certification  
Name: Trevor John  
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Date: 16.11.2015  
Signature: *[Signature]*  
REF: 50067-4  
TREVOR JOHN  
\*registered as a structural engineer in Australia

\*Certifying Engineers Certification  
Name: Darryl V. Robinson  
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Date: 17/02/2016  
Signature: *[Signature]*  
\*registered as a structural engineer in Northern Territory