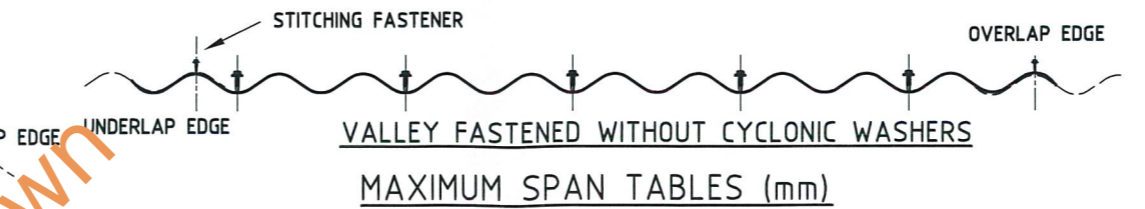
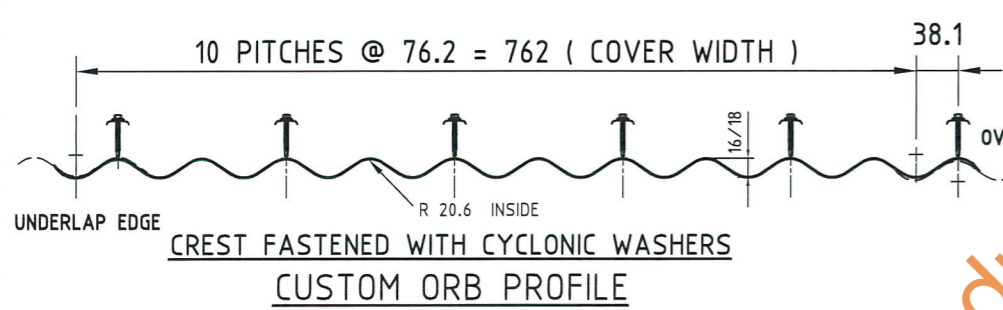


IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1) THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.



**MAXIMUM SPAN TABLES (mm)**

BUILDING HEIGHT	TERRAIN CATEGORY	K1	pz (kPa)	VALLEY FASTENED WITHOUT CYCLONIC WASHERS, 0.42BMT			CREST FASTENED WITH CYCLONIC WASHERS, 0.42BMT			VALLEY FASTENED WITHOUT CYCLONIC WASHERS, 0.48BMT			CREST FASTENED WITH CYCLONIC WASHERS, 0.48BMT		
				SINGLE	END	INTERNAL	SINGLE	END	INTERNAL	SINGLE	END	INTERNAL	SINGLE	END	INTERNAL
UP TO 5M	1	1	3.86	1220	1080	1340	1230	1080	1400	1220	1150	1430	1220	1460	1680
		1.5	4.79	1120	950	1150	1090	950	1240	1120	1010	1260	1120	1250	1510
		2	5.72	1030	840	980	960	840	1110	1020	880	1120	1020	1060	1350
	2	1	2.90	1360	1220	1550	1380	1220	1580	1360	1330	1660	1360	1690	1870
		1.5	3.60	1260	1110	1390	1270	1110	1440	1260	1190	1480	1260	1520	1730
		2	4.30	1170	1020	1240	1160	1020	1320	1170	1090	1350	1170	1360	1600
	2.5	1	2.65	1400	1270	1620	1430	1270	1640	1400	1390	1720	1400	1750	1920
		1.5	3.29	1300	1160	1460	1320	1160	1490	1310	1250	1550	1310	1590	1790
		2	3.93	1210	1070	1320	1220	1070	1380	1210	1140	1420	1210	1440	1670
	3	1	2.41	1430	1320	1680	1460	1320	1700	1440	1440	1790	1440	1810	1970
		1.5	2.99	1350	1200	1530	1370	1200	1560	1350	1320	1630	1350	1660	1850
		2	3.57	1260	1120	1400	1270	1120	1440	1270	1190	1480	1270	1520	1740
4	1	1.97	1490	1410	1800	1550	1410	1800	1510	1550	2010	1510	1930	2060	
	1.5	2.44	1430	1310	1670	1460	1310	1690	1430	1430	1780	1430	1800	1960	
	2	2.92	1360	1210	1550	1380	1210	1580	1360	1330	1650	1360	1680	1860	
UP TO 10M	1	1	4.39	1160	1000	1220	1150	1000	1310	1160	1070	1340	1160	1340	1580
		1.5	5.45	1050	870	1030	1000	870	1140	1050	910	1160	1050	1110	1400
		2	6.51	950	760	840	860	760	1000	940	780	1010	940	900	1220
	2	1	3.50	1270	1130	1410	1290	1130	1460	1280	1210	1500	1280	1540	1750
		1.5	4.34	1170	1010	1230	1150	1010	1310	1160	1080	1340	1160	1350	1590
		2	5.19	1080	890	1070	1040	890	1180	1080	950	1190	1080	1170	1440
	2.5	1	2.96	1350	1210	1540	1370	1210	1570	1360	1320	1640	1360	1670	1850
		1.5	3.68	1250	1100	1380	1260	1100	1430	1250	1180	1460	1250	1500	1720
		2	4.39	1160	1000	1220	1150	1000	1310	1160	1070	1340	1160	1340	1590
	3	1	5.82	1020	830	960	950	830	1090	1010	870	1110	1010	1040	1340
		1.5	2.41	1430	1320	1680	1460	1320	1700	1440	1440	1790	1440	1810	1970
		1.5	2.99	1350	1200	1530	1370	1200	1560	1350	1320	1630	1350	1660	1850
4	1	3.57	1260	1120	1400	1270	1120	1440	1270	1190	1480	1270	1520	1740	
	2	4.73	1130	960	1160	1100	960	1250	1120	1020	1270	1120	1260	1520	
	1	1.97	1490	1410	1800	1550	1410	1800	1510	1550	2010	1510	1930	2060	
4	1.5	2.44	1430	1310	1670	1460	1310	1690	1430	1430	1780	1430	1800	1960	
	2	2.92	1360	1210	1550	1380	1210	1580	1360	1330	1650	1360	1680	1860	
	3	3.87	1220	1080	1340	1230	1080	1390	1220	1150	1430	1220	1460	1680	

**Product Name**  
CUSTOM ORB - WALLING FOR CYCLONIC REGIONS

**Product Description**  
CUSTOM ORB WALLING IS MANUFACTURED FROM 0.42mm & 0.48mm BMT G550, AM125 ZINCALUME, AM100 COLORBOND/COLORBOND METALLIC, AM150 COLORBOND ULTRA. Z450 GALVSPAN MATERIAL IS AVAILABLE IN SOME LOCATIONS.

**Manufacturer's Name**  
**LYSAGHT**  
BlueScope Limited  
A.B.N. 16 000 011 058  
Trading as Lysaght

**Design Criteria**

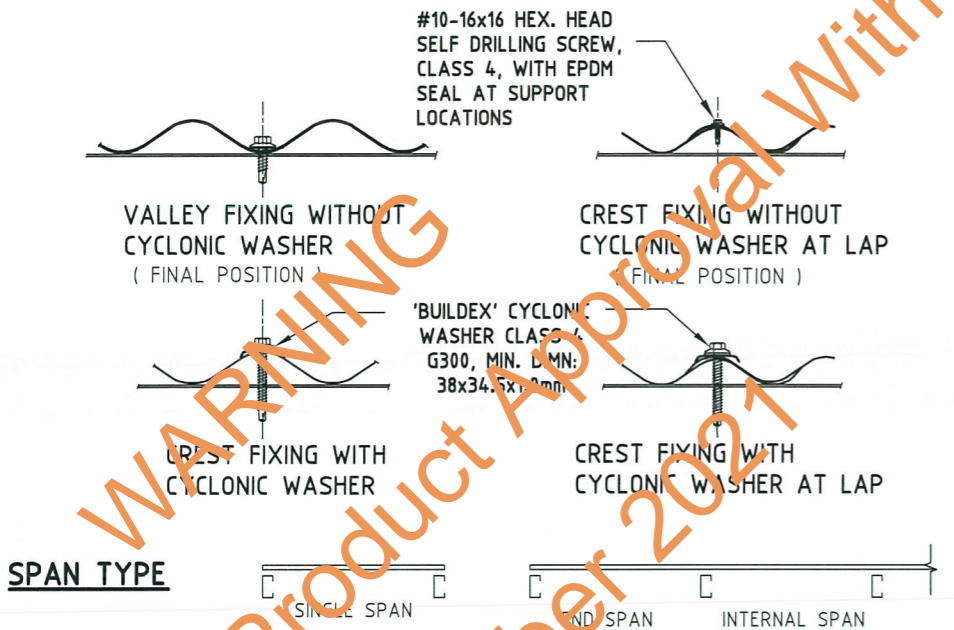
THE FOLLOWING CRITERIA FROM AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS (INCORPORATING AMENDMENT No. 1,2&3) HAVE BEEN USED TO GENERATE THE TABLES.

1. IMPORTANCE LEVEL 2 WITH RETURN PERIOD OF 500 YEARS
2.  $V_R = 66 \times F_c = 66 \times 1.05 = 69.3$  m/sec
3.  $M_s = M_t = M_d = 1.0$
4.  $C_{pe} = +0.7 / -0.65$ ;  $C_{pi} = -0.65 / +0.7$   $K_{ce} & K_{ci} = 0.9$
5. HEIGHT MULTIPLIERS FROM TABLE 4.1 OF AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS (INCORPORATING AMENDMENT No. 1,2&3) HAVE BEEN USED TO GENERATE THE TABLES.

HEIGHT (m)	TERRAIN / HEIGHT MULTIPLIER (Mz, cat)				
	1	2	2.5	3	4
<=5	1.05	0.91	0.87	0.83	0.75
<=10	1.12	1.00	0.92	0.83	0.75

**Limitations**

1. THE DATA IN THIS SHEET SHALL BE APPLICABLE TO CUSTOM ORB WALLING ONLY. PROFILE DIMENSIONS OF CUSTOM ORB AS SUPPLIED FOR INSTALLATION SHALL COMPLY WITH CUSTOM ORB PRODUCT DRAWINGS AS DEVELOPED BY LYSAGHT.
2. WALL DESIGN CAPACITY TABLES & MAXIMUM SPAN TABLES HAVE BEEN DEVELOPED FOR TIMBER SUPPORTS & STEEL SUPPORTS 1.5mm BMT OR THICKER. FOR STEEL SUPPORT LESS THAN 1.50mm BMT, REFER TO APPROPRIATE DTCM SHEET FOR MAXIMUM BATTEN SPACING.
3. INSTALLATION SHALL BE IN ACCORDANCE WITH LYSAGHT CYCLONIC AREA DESIGN MANUAL AND CUSTOM ORB MANUAL.
4. MAXIMUM SPAN TABLES ARE BASED ON MAXIMUM ROOF HEIGHT = 10M.
5. MAXIMUM OVERHANG SHALL BE DETAILED ACCORDING TO CURRENT LYSAGHT ROOFING & WALLING INSTALLATION MANUAL.
6. Pz (PRESSURE) IN THE TABLES SHALL BE INCREASED ACCORDING TO AS/NZS 1170.2:2011, STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS (INCORPORATING AMENDMENT No. 1,2 & 3) AS/NZS 1170.2: 2011 CLAUSE 5.4.1 IN THE CASE OF: ELEVATED BUILDING ALLOWING FOR AIR FLOW UNDER:  $-h/b > 1$ ,  $-h/d > 1$ . \*
7. NO PRE-BORED HOLES PERMITTED.
8. CUSTOM ORB COMPLIES WITH AUSTRALIAN STANDARDS FOR THE FOLLOWING REQUIREMENTS:
  - A. SERVICEABILITY: AS/NZS 1170.0: 2002 STRUCTURAL DESIGN ACTIONS PART 0: GENERAL PRINCIPLES (INCORPORATING AMENDMENT 1,2,3,4&5)
  - B. WIND LOADING: AS/NZS 1170.2: 2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTION (INCORPORATING AMENDMENT No. 1,2&3)
9. SERVICEABILITY LIMIT STATE PRESSURES CAN BE OBTAINED BY MULTIPLYING WALL DESIGN CAPACITY TABLES BY A FACTOR 0.46.
10. INCREASE SCREW LENGTH IF FIXING OVER INSULATION TO MAINTAIN A MIN. OF 3 SCREW THREADS PROTRUDING ON THE FAR SIDE STEEL SUPPORT.
11. FOR STRENGTH GROUPS OF TIMBER, REFER TO AS 1720.2: 2006 TIMBER STRUCTURES PART 2: TIMBER PROPERTIES (INCORPORATING AMENDMENT No. 1).
12. DESIGN TABLES ARE BASED ON TEST RESULTS COMPATIBLE TO AS 4040.3 - 1992 METHODS OF TESTING SHEET ROOF AND WALL CLADDING METHOD 3: RESISTANCE TO WIND PRESSURES FOR CYCLONE REGIONS.
13. PRODUCT METALLIC COATING COMPLIES WITH AS 1397-2011: CONTINUOUS HOT-DIP METALLIC COATED STEEL SHEET AND STRIP - COATINGS OF ZINC AND ZINC ALLOYED WITH ALUMINIUM AND MAGNESIUM & AS/NZS 2728: 2013 PREFINISHED/PREPAINTED SHEET METAL PRODUCTS FOR INTERIOR/EXTERIOR BUILDING APPLICATIONS - PERFORMANCE REQUIREMENTS



**WALL DESIGN CAPACITY TABLES**  
ULTIMATE LIMIT STATE PRESSURE (kPa)

SPAN mm	0.42 BMT						0.48 BMT					
	PAN FASTENED WITHOUT CYCLONIC WASHERS			CREST FASTENED WITH CYCLONIC WASHERS			PAN FASTENED WITHOUT CYCLONIC WASHERS			CREST FASTENED WITH CYCLONIC WASHERS		
	SGL.	END	INT.	SGL.	END	INT.	SGL.	END	INT.	SGL.	END	INT.
600	10.8	8.10	8.09	8.64	8.10	10.13	10.80	8.10	10.13	10.80	8.16	10.80
900	7.00	5.18	6.17	6.19	5.18	7.34	6.98	5.56	7.38	6.98	6.54	8.65
1200	4.05	3.01	4.52	4.05	3.01	5.05	4.05	3.57	5.18	4.05	5.05	6.68
1500	1.96	1.58	3.12	2.23	1.58	3.27	2.02	2.12	3.51	2.02	3.69	4.88
1800	0.72	0.90	1.99	0.72	0.90	1.99	0.88	1.22	2.39	0.88	2.46	3.25
2100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.86	1.80	N/A	1.36	1.80

SGL. = SINGLE SPAN, END = END SPAN, INT. = INTERNAL SPAN

**RECOMMENDED FASTENERS**

**STEEL SUPPORTS - CLASS 4 : SELF DRILLING & SELF TAPPING HEX HEAD SCREW WITH EPDM SEAL**

LOCATION ON CLADDING	SINGLE & LAPPED THICKNESS 0.75mm UP TO 1.0mm bmt.	SINGLE THICKNESS ≥ 1.0mm UP TO 3.0mm bmt.	LAPPED THICKNESS > 1.0mm UP TO 1.9mm bmt. (3.8mm total)
CREST	M6.5 (#14)-12x55 CYCLONIC ROOFZIPS	#14 - 10 x 42 HH	#14 - 10 x 42 HH
PAN	M6.5 (#14)-12x30 CYCLONIC ROOFZIPS	#14 - 10 x 25 HH	#14 - 10 x 25 HH

**TIMBER SUPPORTS - CLASS 4 : TYPE 17 SELF DRILLING HEX HEAD SCREW WITH EPDM SEAL**

LOCATION ON CLADDING	HARDWOOD (STRENGTH GROUP J1-J3)	SOFTWOOD (STRENGTH GROUP J4)
CREST	#12 - 11 x 50 T17 HH TG/HG	#14 - 10 x 50 T17 HH M6 -11 x 50 ROOFZIPS
PAN	#12 - 11 x 25 T17 HH	#14 - 10 x 50 T17 HH

**FASTENER NOTATION**  
HH - HEX HEAD  
HG - HIGH GRIP  
TG - TOP GRIP  
T17 - TYPE 17

Notes covering basis of DTCM sheet (relevant test reports etc).

1. CUSTOM ORB 0.42 & 0.48 BMT CYCLONIC ROOF & WALL PRESSURE TEST. PROJECT #501855, JUNE 2008. BLUESCOPE STEEL LYSAGHT. No 7 FERNGROVE PLACE, CHESTER HILL 2162 NSW - AUSTRALIA.
2. STATIC & CYCLIC FATIGUE WITHDRAWAL CAPACITIES OF THE SELF DRILLING SCREWS IN TIMBER SUPPORTS: REPORT 5.1.2 - REPORT No 05. DECEMBER 2001. BLUESCOPE LYSAGHT No 27 STERLING RD. MINCHINBURY 2770 NSW AUSTRALIA.
3. CYCLIC PULL OUT CAPACITIES OF BUILDEX #14 - 12 X 55 CYCLONIC ROOFZIPS SCREWS. REPORT, 5.1.2 - REPORT 05 JUNE 2010. BLUESCOPE LYSAGHT No 27 STERLING RD. MINCHINBURY 2770 NSW AUSTRALIA.
4. SCREW PULL OUT CAPACITIES TO BUILDING CODE OF AUSTRALIA LOW-HI-LOW CYCLONIC TEST REGIME: REPORT:5.1.2 - REPORT 02. SEPTEMBER 2009. BLUESCOPE LYSAGHT No 27 STERLING RD. MINCHINBURY 2770 NSW AUSTRALIA.

**\*\*Checking Engineers Certification**  
Name: JACK HUANG  
Rego Number: MIE. Aust. 2592775  
Date: 26/09/2016  
Signature:

**\*\*Certifying Engineers Certification**  
Name: STEPHEN HEALEY  
NT Rego Number: 34856ES  
Date: 27 September 2016  
Signature:

\*\*registered as a structural engineer in Australia      \*\*registered as a structural engineer in Northern Territory

Accepted for Inclusion

DTCM REF: M/309/01

Chairman's Signature:

Chairman's Name: Peter Russell

Date of Approval: 03/09/2016 Expiry Date: 02/09/2021