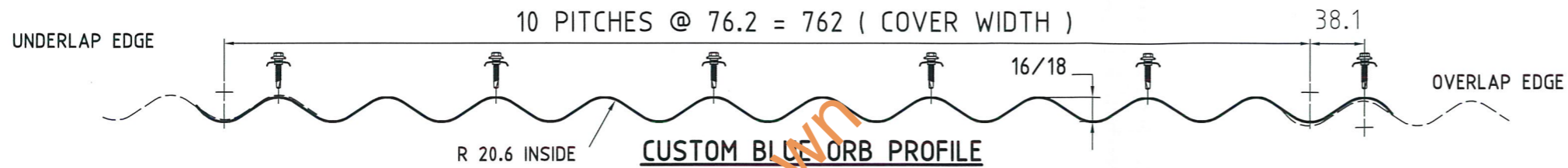


IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1) THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.



Product Name
CUSTOM BLUE ORB ROOFING - FOR CYCLONIC REGIONS

Product Description
CUSTOM BLUE ORB ROOFING IS MANUFACTURED FROM 0.6mm BMT G300, AM125 ZINCALUME, AM100 COLORBOND, AM150 COLORBOND ULTRA OR Z600 ZINCFORM MATERIALS.

Manufacturer's Name
LYSAGHT

BlueScope Steel Limited
A.B.N. 16 000 011 058
Trading as Lysaght

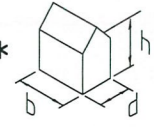


Design Criteria

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. $VR = 66xFc = 66x1.05 = 69.3$ m/sec
3. $Ms = Mt = Md = 1.0$
4. $Cpe = -0.9$; $Cpi = +0.7$ Kce & $Kci = 0.9$
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 BLUE ORB ROOFING ONLY. PROFILE DIMENSIONS OF CUSTOM BLUE ORB AS SUPPLIED FOR INSTALLATION SHALL COMPLY WITH CUSTOM BLUE ORB PRODUCT DRAWINGS AS DEVELOPED BY LYSAGHT.
2. ROOF 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 BLUE 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 BLUE 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)
 - C. CONCENTRATED LOAD AT MAXIMUM SPAN: AS 4040.0-1992: METHODS OF TESTING SHEET ROOF AND WALL CLADDING - INTRODUCTION, LIST OF METHODS AND GENERAL REQUIREMENTS; AS 4040.1-1992: METHODS OF TESTING SHEET ROOF AND WALL CLADDING - RESISTANCE TO CONCENTRATED LOADS
9. SERVICEABILITY LIMIT STATE PRESSURES CAN BE OBTAINED BY MULTIPLYING ROOF DESIGN CAPACITY TABLES BY A FACTOR 0.46.
10. ALWAYS WALK OVER SUPPORTS IF POSSIBLE. GENERALLY KEEP YOUR WEIGHT DISTRIBUTED EVENLY OVER THE SOLES OF YOUR SHOES.
11. MAX. CUSTOM BLUE ORB ROOF LENGTHS AS RELATED TO ROOF CARRYING CAPACITY & ROOF PITCH SHALL BE DETERMINED USING THE CUSTOM BLUE ORB DESIGN & INSTALLATION GUIDE.
12. INCREASE SCREW LENGTH IF FIXING OVER INSULATION TO MAINTAIN A MIN. OF 3 SCREW THREADS PROTRUDING ON THE FAR SIDE STEEL SUPPORT.
13. FOR STRENGTH GROUPS OF TIMBER, REFER TO AS 1720.2: 2006 TIMBER STRUCTURES PART 2: TIMBER PROPERTIES (INCORPORATING AMENDMENT No. 1).
14. DESIGN TABLES ARE BASED ON TEST RESULTS IN ACCORDANCE TO BCA REQUIREMENTS FOR "LHL" CYCLONIC TEST FOR METAL ROOFS.
15. 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.

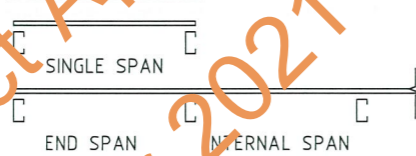
MAXIMUM SPAN TABLES (mm)

BUILDING HEIGHT	TERRAIN CATEGORY	K1	pz (kPa)	CREST FASTENED WITH CYCLONIC WASHERS, 0.60 BMT		
				SINGLE	END	INTERNAL
UP TO 5M	1	1	4.57	1720	1710	1950
		1.5	5.86	1120	1370	1740
		2	7.15	940	1120	1500
	2	1	3.44	1860	2100	2100
		1.5	4.40	1800	1760	1980
		2	5.37	1180	1470	1830
	2.5	1	3.49	1860	2100	2100
		1.5	4.02	1830	1940	2040
		2	4.91	1470	1600	1900
	3	1	2.86	1900	2100	2100
		1.5	3.66	1850	2100	2100
		2	4.47	1800	1740	1970
4	1	2.33	1940	2100	2100	
	1.5	2.99	1890	2100	2100	
	2	3.65	1850	2100	2100	
UP TO 10M	1	1	5.2	1260	1510	1850
		1.5	6.67	1000	1200	1590
		2	8.13	830	960	1300
	2	1	4.15	1820	1870	2020
		1.5	5.32	1190	1480	1830
		2	6.48	1030	1240	1630
	2.5	1	3.51	1860	2100	2100
		1.5	4.5	1780	1730	1970
		2	5.49	1170	1450	1810
	3	1	2.86	1900	2100	2100
		1.5	3.66	1850	2100	2100
		2	4.47	1800	1740	1970
4	1	2.33	1940	2100	2100	
	1.5	2.99	1890	2100	2100	
	2	3.65	1850	2100	2100	
	1	4.96	1430	1590	1890	

'BUILDEX' CYCLONIC WASHER CLASS-4, G300, MIN. DIMN: 38x34.5x1.0mm.



SPAN TYPE



ROOF DESIGN CAPACITY TABLES
0.6 BMT G300 CUSTOM BLUE ORB

ULTIMATE LIMIT STATE PRESSURE (kPa)

SPAN (mm)	CREST FASTENED WITH CYCLONIC WASHERS		
	SINGLE SPAN	END SPAN	INTERNAL SPAN
600	10.80	10.8	10.8
900	7.45	8.52	9.82
1200	5.28	6.68	8.62
1500	4.88	5.27	7.20
1800	4.47	4.28	5.56
2100	N/A	3.73	3.70

MAXIMUM SUPPORT SPACING

SPAN TYPE	MAXIMUM SUPPORT SPACING (mm)	
SINGLE	1600	
END	1600	
INTERNAL	1800	
EAVE OVERHANG	UNSTIFFENED	200
	STIFFENED	300

THE MAXIMUM SUPPORT SPACING CONSIDERS LIGHT ROOF TRAFFIC FROM INCIDENTAL MAINTENANCE.

SCREW NOTATION CODE:
HH - HEX. HEAD
T17 - TYPE 17
HG - HIGH GRIP
TG - TOP GRIP

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

RECOMMENDED ROOF FASTENERS FOR STEEL SUPPORTS *

SINGLE: 1.0mm UP TO 3.0mm bmt	#14-10x42 HH (CREST FIX)
SINGLE & LAPPED: 0.75mm UP TO 1.0mm bmt (total 2.0mm)	M6.5 (#14) -12x55 CYCLONIC ROOF ZIP (CREST FIX)
LAPPED: 1.0mm UP TO 1.9mm bmt (total 3.8mm)	#14-10x42 HH (CREST FIX)

RECOMMENDED ROOF FASTENERS FOR TIMBER SUPPORTS *

HARDWOOD J1-J3	#12-11x50 T17 HG/TG HH (CREST FIX)
SOFTWOOD J4	M6-11x50 ROOFZIPS (CREST FIX) #14-10x50 T17 (CREST FIX)

Notes covering basis of DTCM sheet (Relevant test reports etc)

1. CUSTOM BLUE ORB 0.6 BMT CYCLONIC ROOF & WALL PRESSURE TESTS. PROJECT #501855, JUNE 2008. BLUESCOPE STEEL LYSAGHT No7 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 05. DECEMBER 2010. LYSAGHT No 27 STERLING RD. MINCHINBURY 2770 NSW AUSTRALIA.
3. CYCLIC PULLOUT CAPACITIES OF BUILDEX #14 - 12 X 55 CYCLONIC ROOF ZIPS SCREWS. REPORT: 5.1.3 - REPORT 05 JUNE 2010. 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 STEEL LYSAGHT No 27 STERLING RD. MINCHINBURY 2770 NSW AUSTRALIA.

**Design Engineers Certification

Name: Jack Huang
Registration Number: MIE AUST. 2592775
Date: 05/09/2016
Signature:

**registered as a structural engineer in Australia

**Certifying Engineers Certification

Name: Stephen Healey
NT Registration Number: 34856ES
Date: 27 September 2016
Signature:

**registered as a structural engineer in Northern Territory

Accepted for Inclusion

DTCM REF: M/310/01

Chairman's Signature:

Chairman's Name: Peter Russell

Date of Approval: 03/08/2016

Expiry Date: 02/08/2021