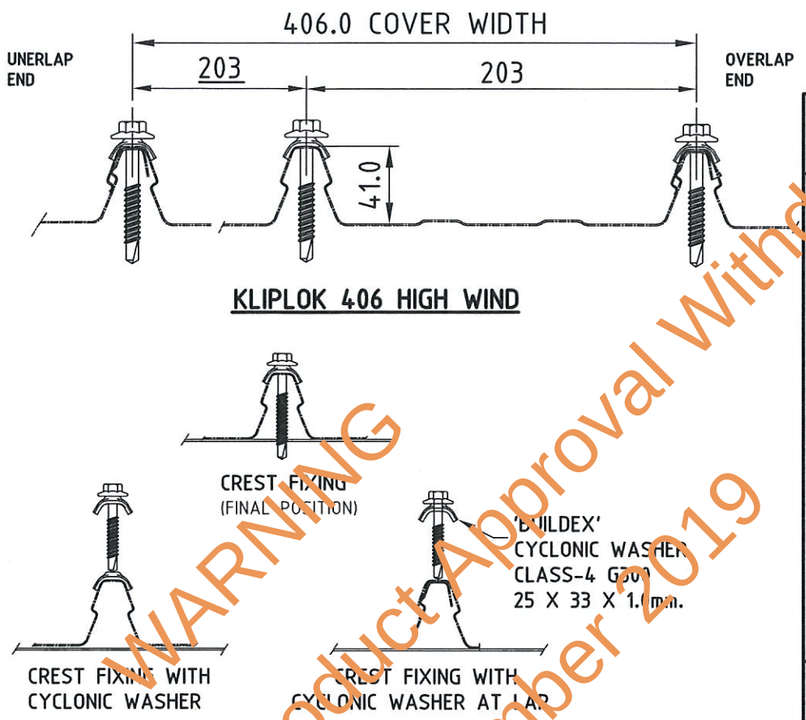
IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1), THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.



ROOF DESIGN CAPACITY TABLES

KLIPLOK 406 HIGH WIND: 0.7 BMT

– ULTIMATE LIMIT STATE PRESSURE (kPa)

SPAN mm	CREST FASTENED WITH CYCLONIC WASHERS	
	END	INTERNAL
600	12.00	12.00
900	9.70	11.94
1200	7.31	8.96
1500	5.37	7.31
1800	4.18	5.52
1900	3.88	5.07
2100	3.43	4.48
2400	2.99	3.73

KLIPLOK 406 HIGH WIND: 0.55 BMT

– ULTIMATE LIMIT STATE PRESSURE (kPa)

SPAN	CREST FASTENED WITH CYCLONIC WASHERS	
	END	INTERNAL
600	12.00	12.00
900	9.27	10.60
1200	6.98	7.91
1500	4.93	6.27
1800	3.88	5.07
1900	3.58	4.78

MAXIMUM SPAN TABLES

BUILDING HEIGHT	TERRAIN CATEGORY	Kl	Mt = 1.0 pz (kPa)	Mt = 1.0 0.55 bmt END	Mt = 1.0 0.55 bmt INTERNAL	Mt = 1.0 0.7 bmt END	Mt = 1.0 0.7 bmt INTERNAL	Mt = 1.3 pz (kPa)	Mt = 1.3 0.55 bmt END	Mt = 1.3 0.55 bmt INTERNAL	Mt = 1.3 0.7 bmt END	Mt = 1.3 0.7 bmt INTERNAL
UP TO 5M	1	1	4.57	1600	1900	1700	2060	7.72	1100	1230	1140	1420
		1.5	5.86	1360	1600	1420	1740	9.90	830	970	870	1100
		2	7.15	1170	1330	1220	1520	12.08	N/A	N/A	N/A	N/A
		3	9.72	850	990	890	1120	16.43	N/A	N/A	N/A	N/A
	2	1	3.44	1900	1900	1900	1900	5.81	1360	1610	1430	1750
		1.5	4.40	1650	1900	1740	1900	7.44	1130	1280	1180	1470
		2	5.37	1430	1720	1500	1830	9.08	920	1060	970	1180
		3	7.30	1150	1310	1200	1500	12.34	N/A	N/A	N/A	N/A
	2.5	1	3.49	1900	1900	2070	2400	5.90	1350	1590	1410	1730
		1.5	4.02	1750	1900	1850	2280	6.79	1220	1400	1280	1580
		2	4.91	1500	1850	1610	1900	8.30	1020	1150	1070	1320
		3	6.67	1240	1420	1290	1600	11.27	670	750	690	960
	3	1	2.86	1900	1900	2400	2400	4.83	1520	1880	1630	1980
		1.5	3.66	1870	1900	1990	2400	6.19	1310	1520	1370	1680
		2	4.47	1630	1900	1720	2100	7.55	1120	1260	1160	1450
		3	6.07	1330	1540	1390	1700	10.26	790	930	820	1060
	4	1	2.33	1900	1900	2400	2400	3.94	1780	1900	1880	1900
		1.5	2.99	1900	1900	2390	2400	5.05	1480	1800	1580	1900
		2	3.65	1870	1900	2000	2400	6.17	1310	1520	1370	1690
		3	4.96	1490	1830	1600	1930	8.38	1010	1140	1060	1300
UP TO 10M	1	1	5.2	1450	1760	1540	1870	8.79	960	1100	1010	1230
		1.5	6.67	1240	1420	1290	1600	11.27	670	750	690	960
		2	8.13	1040	1170	1090	1350	13.74	N/A	N/A	N/A	N/A
		3	11.06	700	800	720	980	18.69	N/A	N/A	N/A	N/A
	2	1	4.15	1720	1900	1800	1900	7.01	1190	1360	1240	1550
		1.5	5.32	1440	1730	1510	1840	8.99	930	1070	980	1190
		2	6.48	1270	1460	1320	1630	10.95	710	820	730	990
		3	8.82	950	1090	1010	1220	14.91	N/A	N/A	N/A	N/A
	2.5	1	3.51	1900	1900	2060	2400	5.93	1350	1580	1410	1730
		1.5	4.5	1620	1900	1710	1900	7.61	1110	1250	1160	1440
		2	5.49	1410	1690	1480	1800	9.28	890	1040	950	1160
		3	7.46	1130	1280	1180	1470	12.61	N/A	N/A	N/A	N/A
	3	1	2.86	1900	1900	2400	2400	4.83	1520	1880	1630	1900
		1.5	3.66	1870	1900	1990	2400	6.19	1310	1520	1370	1680
		2	4.47	1630	1900	1720	1900	7.55	1120	1260	1160	1450
		3	6.07	1330	1540	1390	1700	10.26	790	930	820	1060
	4	1	2.33	1900	1900	1900	1900	3.94	1780	1900	1880	1900
		1.5	2.99	1900	1900	1900	1900	5.05	1480	1800	1580	1900
		2	3.65	1870	1900	1900	1900	6.17	1310	1520	1370	1690
		3	4.96	1490	1830	1600	1900	8.38	1010	1140	1060	1300

RECOMMENDED FASTENERS FOR STEEL SUPPORTS

ONLY FASTENERS NOTED CAN BE USED IN THIS DTCM SHEET.

SCREW NOTATION CODE:	STEEL THICKNESS	CLASS 4: SELF DRILLING & SELF TAPPING HEX HEAD SCREW WITH EPDM SEAL
HH DENOTED - HEX. HEAD T17 " - TYPE 17 HG " - HIGH GRIP TG " - TOP GRIP	SINGLE: 1.0mm UP TO 3.0mm bmt	BUILDEX #14 - 10 x 65 HH (CREST FIX) WITH EPDM SEAL
	LAPPED: 1.0mm UP TO 1.9mm bmt (total 3.8mm)	BUILDEX #14 - 10 x 65 HH (CREST FIX) WITH EPDM SEAL

RECOMMENDED ROOFING FASTENERS FOR TIMBER SUPPORTS

STRENGTH GROUP	CLASS 4 : SELF DRILLING HEX HEAD SCREW WITH EPDM SEAL
HARDWOOD J1-J3	BUILDEX #12 - 11 x 75 T17 HH (CREST FIX) WITH EPDM SEAL
SOFTWOOD J4	BUILDEX #14 - 10 x 75 T17 HH (CREST FIX) WITH EPDM SEAL

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

1. SELECTED CYCLONIC TESTING OF KLIPLOK 406 HIGH WIND G300 0.55mm BMT TO BCA LHL REGIME TEST REPORT. REPORT 5.1.2 - REPORT 01. JUNE 2009. BLUESCOPE STEEL LYSAGHT, No 7 FERNGROVE PLACE, CHESTER HILL 2162 NSW - AUSTRALIA.
2. STATIC & CYCLIC FATIGUE WITHDRAWAL CAPACITIES OF SELF DRILLING SCREWS IN TIMBER SUPPORTS. REPORT: 5.1.2-REPORT 05. DECEMBER 2010. BLUESCOPE LYSAGHT No 27 STERLING RD, MINCHINBURY 2770 NSW - AUSTRALIA.
3. CYCLIC PULLOUT CAPACITIES OF BUILDEX M6.5-12X55 CYCLONIC ZIP SCREWS. REPORT: 5.1.3 - REPORT 05. JUNE 2010. BLUESCOPE LYSAGHT No 27 STERLING RD, MINCHINBURY 2770 NSW - AUSTRALIA.
4. SCREW PULLOUT CAPACITIES TO BUILDING CODES OF AUSTRALIA'S LOW-HIGH-LOW CYCLONIC TEST REGIME. REPORT 5.1.2- REPORT 02. SEPTEMBER 2009. BLUESCOPE LYSAGHT No 27 STERLING RD, MINCHINBURY 2770 NSW - AUSTRALIA.
5. INCREASE SCREW LENGTH OVER INSULATION TO MAINTAIN A MIN. OF 3 SCREW THREADS PROTRUDING THE FAR SIDE OF THE SUPPORT.
6. FOR STRENGTH GROUPS OF TIMBER, REFER TO AS 1720.2 : 2006.
7. DESIGN TABLES ARE BASED ON TEST RESULTS IN ACCORDANCE TO BCA REQUIREMENTS FOR 'LHL' CYCLONIC TEST FOR METAL ROOFS.

**Checking Engineers Certification

Name: Stephen Healey
Registration number: MIE AUST. 25662
Date: 3.09.2014
Signature:

**registered as a structural engineer in Australia

**Certifying Engineers Certification

Name: Alexander Filonov
NT Registration Number: 24332ES
Date: 3.09.2014
Signature:

**registered as a structural engineer in Northern Territory

Product Name: KLIPLOK 406 HIGH WIND - ROOFING FOR CYCLONIC REGIONS

Product Description: 0.55 & 0.7 BMT G300 AM125 & COLORBOND AS 1397: 2011 & AS/NZS 2728: 2007

Manufacturer's Name: LYSAGHT

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

Design Criteria

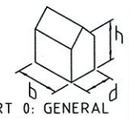
THE FOLLOWING CRITERIA FROM AS/NZS 1170.2:2011, STRUCTURAL DESIGN ACTIONS PART 2 : WIND ACTIONS, HAVE BEEN USED TO GENERATE THE TABLES.

1. IMPORTANCE LEVEL 2 WITH RETURN PERIOD OF 500 YEARS
2. VR = 66 m/sec, Fc = 1.05 3. Ms = Mt = Md = 1.0
4. Cpe = -0.9; Cpi = +0.7 5. Kc = 0.9
6. HEIGHT MULTIPLIERS FROM TABLE 4.1 - AS/NZS 1170.2: 2011. STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS.

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 KLIPLOK 406 HIGH WIND ROOFING ONLY. PROFILE DIMENSIONS OF KLIPLOK 406 HIGH WIND AS SUPPLIED FOR INSTALLATION SHALL COMPLY WITH KLIPLOK 406 HIGH WIND PRODUCT DRAWING AS DEVELOPED BY LYSAGHT.
2. ROOF DESIGN CAPACITY TABLES & MAXIMUM SPAN TABLES HAVE BEEN DEVELOPED FOR TIMBER SUPPORTS & STEEL SUPPORTS 1.5mm BMT G450 OR THICKER.
3. REFER TO APPROPRIATE DTCM SHEET FOR MAXIMUM BATTEN SPACING IN A CASE WHEN STEEL SUPPORTS ARE LESS THAN 1.5mm BMT.
4. INSTALLATION SHALL BE IN ACCORDANCE WITH LYSAGHT CYCLONIC AREA DESIGN MANUAL.
5. MAXIMUM SPAN TABLES ARE BASED ON THE FOLLOWING PARAMETERS: MAXIMUM ROOF HEIGHT = 10M.
6. THE DESIGN & SPAN TABLES ARE VALID FOR KL 406 HIGH WIND OVERHANG LENGTHS NOT EXCEEDING 100mm.
7. Pz PRESSURE IN THE TABLES SHALL BE INCREASED ACCORDING TO AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS, IN THE CASE OF: - ELEVATED BUILDINGS ALLOWING FOR AIR FLOW UNDER - h/b > 1 & h/d >1.



8. NO PRE-BORED HOLES PERMITTED.
9. LYSAGHT KLIPLOK 406 HIGH WIND COMPLIES WITH SERVICEABILITY REQUIREMENTS OF AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS PART 0: GENERAL PRINCIPLES, AS1170.2:2011 STRUCTURAL DESIGN ACTIONS PART2: WIND ACTIONS, AS 4040.1:1992 METHODS OF TESTING SHEET ROOF & WALL CLADDING - RESISTANCE TO CONCENTRATED LOADS AT MAXIMUM SPANS AS IN THE DRAWING. MAXIMUM SPAN OF KLIPLOK 406 HIGH WIND ARE GOVERNED BY ULTIMATE LIMI STATE. CORRESPONDING SERVICEABILITY LIMIT STATE PRESSURES CAN BE OBTAINED BY MULTIPLYING ROOF DESIGN CAPACITY TABLES BY A FACTOR OF 0.47.
10. ALWAYS WALK IN PANS & OVER SUPPORTS IF POSSIBLE. GENERALLY KEEP YOUR WEIGHT DISTRIBUTED OVER THE SOLES OF BOTH FEET, TO AVOID CONCENTRATING YOUR WEIGHT ON EITHER THE HEELS OR TOE OF YOUR FEET.
11. MAXIMUM KLIPLOK 406 HIGH WIND ROOF LENGTHS AS RELATED TO WATER CARRYING CAPACITY & ROOF PITCH SHOULD BE DETERMINED USING LYSAGHT KLIPLOK-406 DESIGN & INSTALLATION GUIDE.

Accepted for Inclusion

DTCM ref: m/196

Chairman's Signature:

Chairman's Name: P. RUSSELL

Date of Approval: 11/9/14 Expiry Date: 11.9.19