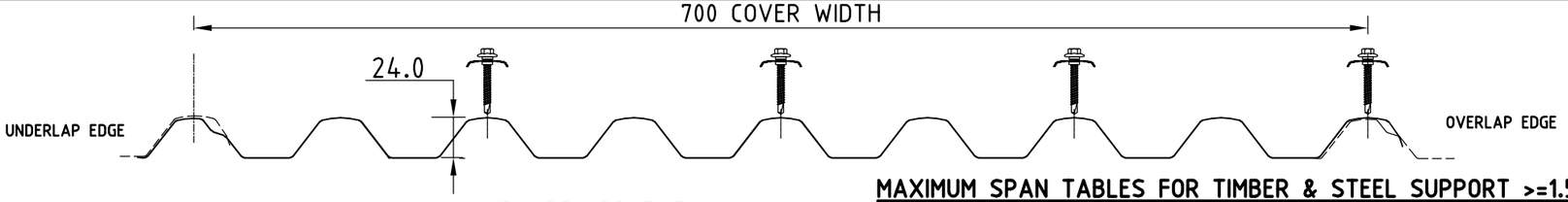
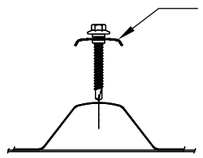
NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)
This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.

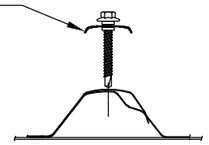


SPANDEK PROFILE



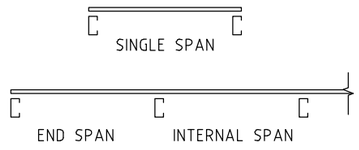
'BUILDEX' CYCLONIC WASHER
CLASS-4, G300, MIN.
DIMN: 38x36x1.0mm
(OR) 'BREMICK'
REGION D CYCLONIC
ASSEMBLY
40X36X1.0mm G300

CREST FIXING WITH CYCLONIC WASHER



CREST FIXING WITH CYCLONIC WASHER AT LAP

SPAN TYPE



MAXIMUM SPAN TABLES FOR TIMBER & STEEL SUPPORT >=1.5 (mm)

BUILDING HEIGHT	TERRAIN CATEGORY	Kl	pz (kPa)	CREST FASTENED WITH CYCLONIC WASHERS, 0.42BMT			CREST FASTENED WITH CYCLONIC WASHERS, 0.48BMT		
				SINGLE	END	INTERNAL	SINGLE	END	INTERNAL
UP TO 5M	1	1	4.57	1240	1260	1450	1400	1260	1670
		1.5	5.86	1080	1090	1220	1180	1090	1400
		2	7.15	930	940	1030	1010	940	1160
		3	9.72	690	690	720	710	700	750
	2	1	3.44	1420	1440	1710	1620	1450	1950
		1.5	4.40	1270	1290	1480	1430	1290	1710
		2	5.37	1140	1150	1300	1260	1150	1490
		3	7.30	920	920	1010	990	930	1130
	2.5	1	3.49	1410	1440	1700	1610	1440	1930
		1.5	4.02	1330	1350	1570	1490	1350	1790
		2	4.91	1190	1200	1390	1340	1210	1590
		3	6.67	990	1000	1100	1080	1000	1240
	3	1	2.86	1520	1570	1910	1760	1660	2110
		1.5	3.66	1380	1410	1660	1570	1410	1890
		2	4.47	1260	1280	1460	1410	1280	1690
		3	6.07	1060	1070	1180	1160	1070	1360
	4	1	2.33	1650	1710	2100	1940	1970	2300
		1.5	2.99	1490	1530	1850	1730	1580	2070
		2	3.65	1380	1410	1660	1580	1410	1890
		3	4.96	1180	1200	1380	1330	1200	1580
UP TO 10M	1	1	5.2	1160	1170	1330	1290	1170	1530
		1.5	6.67	990	1000	1100	1080	1000	1240
		2	8.13	840	840	900	890	840	1000
		3	11.06	N/A	N/A	N/A	N/A	N/A	N/A
	2	1	4.15	1310	1330	1530	1470	1330	1760
		1.5	5.32	1140	1150	1310	1270	1160	1500
		2	6.48	1010	1020	1130	1100	1020	1280
		3	8.82	770	780	820	810	780	880
	2.5	1	3.51	1410	1430	1700	1610	1430	1930
		1.5	4.5	1250	1270	1460	1410	1280	1680
		2	5.49	1120	1130	1280	1240	1140	1470
		3	7.46	900	900	990	970	910	1110
	3	1	2.86	1520	1570	1910	1760	1660	2110
		1.5	3.66	1380	1410	1660	1570	1410	1890
		2	4.47	1260	1280	1460	1410	1280	1690
		3	6.07	1060	1070	1180	1160	1070	1360
	4	1	2.33	1650	1710	2100	1940	1970	2300
		1.5	2.99	1490	1530	1850	1730	1580	2070
		2	3.65	1380	1410	1660	1580	1410	1890
		3	4.96	1180	1200	1380	1330	1200	1580

ROOF DESIGN CAPACITY TABLES

CLADDING CREST FASTENED WITH CYCLONIC WASHERS
- ULTIMATE LIMIT STATE PRESSURE (kPa)

SPAN (mm)	0.42mm BMT			0.48mm BMT		
	SINGLE	END	INTERNAL	SINGLE	END	INTERNAL
600	10.80	10.8	10.8	10.80	10.8	10.8
900	7.48	7.52	8.14	8.04	7.56	8.74
1200	4.86	4.97	5.98	5.77	5.00	6.92
1500	2.95	3.13	4.30	3.99	3.13	5.34
1800	1.74	2.02	3.12	2.71	2.63	4.00
2100	1.24	1.62	2.43	1.92	2.12	2.91
2400	N/A	N/A	N/A	1.62	1.62	2.05

MAXIMUM SUPPORT SPACING (MM)

SPAN TYPE	0.42 BMT	0.48 BMT
SINGLE	1300	2000
END	1800	2200
INTERNAL	2400	3000
EAVE UNSTIFFENED	300	400
OVERHANG STIFFENED	600	700

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

NOTE: CLADDING SPAN SHALL NOT EXCEED THE MAXIMUM SPAN FOR CLADDING (SHEET 1) OR THE MAXIMUM BATTEN SPACING (SHEET 2)

RECOMMENDED ROOF FASTENERS FOR STEEL SUPPORTS

ONLY FASTENERS NOTED CAN BE USED IN THIS DTCM SHEET.

SCREW NOTATION CODE:	STEEL THICKNESS	CLASS 4 : SELF DRILLING & 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	#14 - 10 x 50 HH (CREST FIX)
	SINGLE/LAPPED: 0.75mm UP TO 1.0mm bmt (total 2.0mm)	M6.5 (#14) - 12 x 55 CYCLONIC ROOF ZIPS (CREST FIX)
	LAPPED: 1.0mm UP TO 1.9mm bmt (total 3.8mm)	#14 - 10 x 50 HH (CREST FIX)

RECOMMENDED ROOF FASTENERS FOR TIMBER SUPPORTS

STRENGTH GROUP	CLASS 4 : SELF DRILLING HEX HEAD SCREW WITH EPDM SEAL
HARDWOOD J1-J3	#12 - 11 x 65 T17 HG/TG HH (CREST FIX)
SOFTWOOD J4	M6 - 11 x 65 ROOFZIPS (CREST FIX) #14 - 10 x 65 T17 HH (CREST FIX)

Notes covering basis of DTC (Relevant test reports etc)

1. SPANDEK 0.42 + 0.48 BMT CYCLONIC ROOF & WALL PRESSURE TESTS. PROJECT #501855. FEBRUARY 2008. 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. 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. LYSAGHT No 27 STERLING RD, MINCHINBURY 2770 NSW - AUSTRALIA.

Checking Engineer
Name: SANDEEP SHARMA
Registration Number: MIE AUST. 3101165
Date: 06/12/2021
Signature:
Must be an Australian registered structural engineer

Certifying Engineer
Name: Stephen Healey
NT Registration Number: 35856ES
Date: 08/12/2021
Signature:
Must be a registered structural engineer in the Northern Territory

Product Name

SPANDEK - ROOFING FOR CYCLONIC REGIONS - SHEET 1 OF 2

Product Description

SPANDEK ROOFING IS MANUFACTURED FROM 0.42mm & 0.48mm BMT G550, AM125 ZINCALUME, AM100 COLORBOND/COLORBOND METALLIC, AM150 COLORBOND ULTRA. Z450 GALVASPAN MATERIAL IS AVAILABLE IN SOME LOCATIONS.

Manufacturer's Name

LYSAGHT

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

Design Criteria

A. THE FOLLOWING CRITERIA FROM AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS (INCORPORATING AMENDMENT No. 1, 2, 3, 4 & 5) 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, 4 & 5) 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

B. SPANDEK COMPLIES WITH AUSTRALIAN STANDARDS FOR THE FOLLOWING REQUIREMENTS:
   1. SERVICEABILITY: AS/NZS 1170.0: 2002 STRUCTURAL DESIGN ACTIONS PART 0: GENERAL PRINCIPLES (INCORPORATING AMENDMENT 1,2,3,4&5)
   2. WIND LOADING: AS/NZS 1170.2: 2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTION (INCORPORATING AMENDMENT No. 1, 2, 3, 4 & 5)
   3. 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

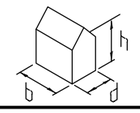
C. DESIGN TABLES ARE BASED ON TEST RESULTS IN ACCORDANCE TO NCC-2019, BUILDING CODE OF AUSTRALIA REQUIREMENTS FOR "LHL" CYCLONIC TEST FOR METAL ROOFS AND RELEVANT CLAUSES OF AS4600:2018, COLD-FORMED STEEL STRUCTURES

D. PRODUCT METALLIC COATING COMPLIES WITH AS 1397-2021 : 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

E. FOR STRENGTH GROUPS OF TIMBER, REFER TO AS 1720.2: 2006 TIMBER STRUCTURES PART 2: TIMBER PROPERTIES (INCORPORATING AMENDMENT No. 1).

Limitations

1. THE DATA IN THIS SHEET SHALL BE APPLICABLE TO SPANDEK ROOFING ONLY. PROFILE DIMENSIONS OF SPANDEK AS SUPPLIED FOR INSTALLATION SHALL COMPLY WITH SPANDEK PRODUCT DRAWINGS AS DEVELOPED BY LYSAGHT.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH LYSAGHT CYCLONIC AREA DESIGN MANUAL AND SPANDEK MANUAL.
   https://cdn.dcs.lysaght.com/download/lysaght-cyclonic-design-manual-steel-roofing-walling-topspan
3. MAXIMUM SPAN TABLES ARE BASED ON MAXIMUM ROOF HEIGHT = 10M.
4. MAXIMUM OVERHANG SHALL BE DETAILED ACCORDING TO CURRENT LYSAGHT ROOFING & WALLING INSTALLATION MANUAL.
5. NO PRE-BORED HOLES PERMITTED.
6. ALWAYS WALK OVER SUPPORTS IF POSSIBLE. GENERALLY KEEP YOUR WEIGHT DISTRIBUTED EVENLY OVER THE SOLES OF YOUR SHOES.
7. MAX. SPANDEK ROOF LENGHTS AS RELATED TO ROOF CARRYING CAPACITY & ROOF PITCH SHALL BE DETERMINED USING THE SPANDEK DESIGN & INSTALLATION GUIDE:
   https://cdn.dcs.lysaght.com/download/lysaght-roofing-walling-installation-manual
8. INCREASE SCREW LENGTH IF FIXING OVER INSULATION TO MAINTAIN A MIN. OF 3 SCREW THREADS PROTRUDING ON THE FAR SIDE STEEL SUPPORT.
9. 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. 1,2,3,4& 5) AS/NZS 1170.2: 2011 CLAUSE 5.4.1 IN THE CASE OF: ELEVATED BUILDING ALLOWING FOR AIR FLOW UNDER h/d > 0.5



Accepted for Inclusion in Deemed to Comply Manual

DTCM drawing number: M/322/01-02

Chairperson Signature:

Chairperson Name: Paul Nowland

Date of Approval: 20/12/2021 Expiry Date: 20/12/2026

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)
This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.

MAXIMUM BATTEN SPACING TABLES FOR 0.75mm & 1.0mm BMT STEEL BATTENS (mm)

BUILDING HEIGHT	TERRAIN CATEGORY	KI	pz (kPa)	TS4075					TS6175						TS6110					
				BATTEN SPAN (SUPPORT SPACING), mm					BATTEN SPAN (SUPPORT SPACING), mm						BATTEN SPAN (SUPPORT SPACING), mm					
				≤ 600	900	1200	1500	1800	≤1500	2000	2500	3000	3500	4000	≤1500	2000	2500	3000	3500	4000
UP TO 5M	1	1	4.57	1135	805	525	400	270	785	585	320	245	205	N/A	785	585	470	360	260	205
		1.5	5.86	885	625	410	310	210	610	455	250	N/A	N/A	N/A	610	455	365	280	200	N/A
		2	7.15	725	510	335	255	N/A	500	370	205	N/A	N/A	N/A	500	375	300	230	N/A	N/A
		3	9.72	535	375	245	N/A	N/A	365	275	N/A	N/A	N/A	N/A	365	275	220	N/A	N/A	N/A
	2	1	3.44	1510	1065	700	530	360	1040	775	430	325	270	215	1040	780	625	480	345	270
		1.5	4.40	1180	835	545	415	280	815	605	335	255	210	N/A	815	610	490	375	270	210
		2	5.37	965	685	445	340	230	665	495	275	210	N/A	N/A	665	500	400	305	220	N/A
		3	7.30	710	500	330	250	N/A	490	365	200	N/A	N/A	N/A	490	365	295	225	N/A	N/A
	2.5	1	3.49	1490	1050	690	520	355	1025	765	420	320	265	210	1025	770	615	475	340	265
		1.5	4.02	1295	915	595	455	310	890	665	365	280	230	N/A	890	665	535	410	295	230
		2	4.91	1060	745	490	370	250	730	545	300	230	N/A	N/A	730	545	435	335	240	N/A
		3	6.67	780	550	360	270	N/A	535	400	220	N/A	N/A	N/A	535	400	320	245	N/A	N/A
	3	1	2.86	1820	1285	840	635	435	1255	935	515	395	325	255	1255	940	755	580	415	325
		1.5	3.66	1420	1005	655	500	340	980	730	400	305	255	200	980	730	590	450	325	255
		2	4.47	1160	820	535	405	275	800	595	330	250	210	N/A	800	600	480	370	265	210
		3	6.07	855	605	395	300	205	590	440	240	N/A	N/A	N/A	590	440	355	270	N/A	N/A
	4	1	2.33	2230	1575	1030	785	535	1540	1150	635	480	400	315	1540	1150	925	710	515	400
		1.5	2.99	1740	1230	805	610	415	1200	895	490	375	310	245	1200	895	720	555	400	310
		2	3.65	1425	1005	660	500	340	980	730	405	305	255	200	980	735	590	450	325	255
		3	4.96	1045	740	485	365	250	720	540	295	225	N/A	N/A	720	540	435	330	240	N/A
UP TO 10M	1	1	5.20	1000	705	460	350	240	690	515	280	215	N/A	N/A	690	515	415	315	230	N/A
		1.5	6.67	780	550	360	270	N/A	535	400	220	N/A	N/A	N/A	535	400	320	245	N/A	N/A
		2	8.13	640	450	295	225	N/A	440	325	N/A	N/A	N/A	N/A	440	330	265	200	N/A	N/A
		3	11.06	470	330	215	N/A	N/A	320	240	N/A	N/A	N/A	N/A	320	240	N/A	N/A	N/A	N/A
	2	1	4.15	1250	885	580	440	300	865	645	355	270	225	N/A	865	645	520	400	285	225
		1.5	5.32	975	690	450	340	230	670	500	275	210	N/A	N/A	670	505	405	310	225	N/A
		2	6.48	800	565	370	280	N/A	550	410	225	N/A	N/A	N/A	550	415	330	255	N/A	N/A
		3	8.82	590	415	270	205	N/A	405	300	N/A	N/A	N/A	N/A	405	300	240	N/A	N/A	N/A
	2.5	1	3.51	1480	1045	685	520	355	1020	760	420	320	265	210	1020	765	615	470	340	265
		1.5	4.50	1155	815	535	405	275	795	595	325	250	205	N/A	795	595	480	365	265	205
		2	5.49	945	670	435	330	225	650	485	265	205	N/A	N/A	650	485	390	300	215	N/A
		3	7.46	695	490	320	245	N/A	480	355	N/A	N/A	N/A	N/A	480	360	285	220	N/A	N/A
	3	1	2.86	1820	1285	840	635	435	1255	935	515	395	325	255	1255	940	755	580	415	325
		1.5	3.66	1420	1005	655	500	340	980	730	400	305	255	200	980	730	590	450	325	255
		2	4.47	1160	820	535	405	275	800	595	330	250	210	N/A	800	600	480	370	265	210
		3	6.07	855	605	395	300	205	590	440	240	N/A	N/A	N/A	590	440	355	270	N/A	N/A
	4	1	2.33	2230	1575	1030	785	535	1540	1150	635	480	400	315	1540	1150	925	710	515	400
		1.5	2.99	1740	1230	805	610	415	1200	895	490	375	310	245	1200	895	720	555	400	310
		2	3.65	1425	1005	660	500	340	980	730	405	305	255	200	980	735	590	450	325	255
		3	4.96	1045	740	485	365	250	720	540	295	225	N/A	N/A	720	540	435	330	240	N/A

BATTEN SPACING TABLE NOTES:

1. MAXIMUM SPACING COULD BE GOVERNED BY CAPACITY OF BATTENS AND THEIR CONNECTIONS TO SUPPORTING RAFTERS/TRUSSES AS WELL AS PULL-OUT CAPACITIES OF FASTENERS CONNECTING CLADDINGS TO BATTEN.
2. SPACING OF BATTENS SHALL NOT EXCEED BOTH MAXIMUM SPAN AND MAXIMUM SUPPORT SPACING OF CLADDING AS GIVEN IN SHEET 1.
3. FASTENER REQUIREMENTS FOR FIXING **TS4075** TO SUPPORTS IN BATTEN SPACING TABLE:
   STEEL SUPPORTS:
   - 1.00mm BMT: 2x #14(M6.5)-12X30 CYCLONIC ROOF ZIPS®
   - 1.20~1.9mm BMT: 2x #14-10X25 HEX. HEAD SELF DRILLING SELF TAPPING TEKS®
   - 'BUILDEX' M6.5-12X30 CYCLONIC ROOF ZIPS = #14-12X30 CYCLONIC ROOF ZIPS

   TIMBER SUPPORTS:
   - 2x 'BUILDEX' #12(M5.5)-11x40 BATTENZIPS
4. FASTENER REQUIREMENTS FOR FIXING **TS6175** OR **TS6110** TO SUPPORTS IN BATTEN SPACING TABLE:
   - STEEL SUPPORT 1.20~1.9mm BMT: 4x #14-10X25 HEX. HEAD SELF DRILLING SELF TAPPING TEKS®
   - TIMBER SUPPORTS: 4x 'BUILDEX' #12(M5.5)-11x40 BATTENZIPS

DESIGN CAPACITY TABLE NOTES:

1. STEEL SUPPORT FASTENER SPECIFICATION:
   - 1.00mm BMT: #14(M6.5)-12X30 CYCLONIC ROOF ZIPS®
   - 1.20~1.9mm BMT: #14-10X25 HEX. HEAD SELF DRILLING SELF TAPPING TEKS®
   - 'BUILDEX' M6.5-12X30 CYCLONIC ROOF ZIPS = #14-12X30 CYCLONIC ROOF ZIPS
2. TIMBER SUPPORT FASTENER SPECIFICATION: 'BUILDEX' #12(M5.5)-11x40 BATTENZIPS
3. DESIGN CAPACITY TABLE CAN BE USED TO DESIGN TS4075, TS6175 & TS6110 WITH TIMBER SUPPORTS:
   - 2 FASTENER CONNECTION: SOFTWOOD TIMBER = 1.5mm bmt STEEL SUPPORT, HARDWOOD TIMBER = 1.9mm bmt STEEL SUPPORT.
   - 4 FASTENER CONNECTION: HARDWOOD/SOFTWOOD TIMBER SUPPORT = 1.9bmt STEEL SUPPORT.
4. OUTWARD CAPACITY SHALL BE LIMITED BY THE MINIMUM VALUE BETWEEN MEMBER STRENGTH AND FASTENERS CAPACITY.
5. **TS4075** BATTEN SHALL BE CONTINUOUS OVER AT LEAST 2 SPANS, LAPPED 40mm MINIMUM AT THE SUPPORT (TRUSS OR RAFTER) LOCATIONS.
6. **TS6175** AND **TS6110** BATTENS SHALL BE CONTINUOUS OVER AT LEAST 2 SPANS, STRUCTURAL LAPPING DISTANCE AT SUPPORT IS MINIMUM 15% OF THE LONGER SPAN. NON STRUCTURAL LAPPING DISTANCE IS 40mm MINIMUM AT THE SUPPORT (TRUSS OR RAFTER) LOCATIONS.

TS6175, TS6110 DESIGN CAPACITY TABLE - OUTWARD, CONTINUOUS/LAPPED SPAN

ULTIMATE LIMIT STATE LOAD (kN/m)

SPAN (mm)	MEMBER STRENGTH (kN/m)		2 FASTENER CAPACITY (kN/m) SUPPORT THICKNESS (mm/bmt)				4 FASTENER CAPACITY (kN/m) SUPPORT THICKNESS (mm/bmt)			
	TS6175	TS6110	#14(M6.5)-12x30	#14-10x25			#14(M6.5)-12x30	#14-10x25		
			1.0mm	1.2mm	1.5mm	1.9mm	1.0mm	1.2mm	1.5mm	1.9mm
≤1500	4.31	5.88	1.90	2.48	3.10	4.12	2.67	3.59	4.52	5.41
2000	2.68	2.91	1.43	1.86	2.33	3.09	2.01	2.69	3.39	4.06
2500	1.48	2.17	1.14	1.49	1.86	2.47	1.60	2.16	2.71	3.25
3000	1.13	1.66	0.95	1.24	1.55	2.06	1.34	1.80	2.26	2.71
3500	0.94	1.20	0.82	1.06	1.33	1.76	1.15	1.54	1.94	2.32
4000	0.74	0.94	0.71	0.93	1.16	1.54	1.00	1.35	1.69	2.03

TS4075 DESIGN CAPACITY TABLE - OUTWARD, CONTINUOUS SPAN

ULTIMATE LIMIT STATE LOAD (kN/m)

SPAN (mm)	MEMBER STRENGTH kN/m	2 FASTENER CAPACITY (kN/m) SUPPORT THICKNESS (mm/bmt)				4 FASTENER CAPACITY (kN/m) SUPPORT THICKNESS (mm/bmt)			
	TS4075	#14(M6.5)-12x30	#14-10x25			#14(M6.5)-12x30	#14-10x25		
		1.0mm	1.2mm	1.5mm	1.9mm	1.0mm	1.2mm	1.5mm	1.9mm
≤ 600	7.98	5.51	7.19	8.99	11.93	7.75	10.41	13.09	15.69
900	4.72	3.68	4.79	5.99	7.95	5.16	6.94	8.73	10.46
1200	2.41	2.76	3.59	4.49	5.96	3.87	5.21	6.54	7.84
1500	1.83	2.21	2.88	3.60	4.77	3.10	4.16	5.24	6.27
1800	1.25	1.84	2.40	3.00	3.98	2.58	3.47	4.36	5.23

NOTES:

1. REFER TO "TOPSPAN 61 ROOFING BATTENS FOR CYCLONIC REGIONS" & "TOPSPAN 4075 ROOFING BATTENS FOR CYCLONIC REGION FOR BATTEN" DTCM DRAWINGS FOR DIMENSIONS, SPACING, SPANS, CONNECTIONS DETAILS AND TEST REPORTS.
2. 'FULL SCALE TOPSPAN 4075,6175,6110 ROOFING BATTENS TESTING TO BUILDING CODES OF AUSTRALIA'S LOW-HIGH-LOW CYCLONIC TEST', REGIME. INDEX No. 5.1.2 - REPORT 04, AUGUST 2010, BLUESCOPE LYSAGHT No. 27 STERLING RD, MINCHINBURY 2770 AUSTRALIA.
3. 'WITHDRAWAL CAPACITIES OF TOPSPAN BATTEN TO TIMBER SUPPORT CONNECTIONS USING BUILDEX BATTENZIPS M5.5 - 11 x 40 FASTENERS', INDEX No. 5.1.2 - REPORT 06, DECEMBER 2010, BLUESCOPE LYSAGHT No. 27 STERLING RD, MINCHINBURY 2770 AUSTRALIA.
4. 'PULLOUT CAPACITIES OF SCREW FASTENED CONNECTIONS THROUGH LYSAGHT TOPSPAN BATTENS TO STEEL PURLINS', INDEX No. 5.4.3 - REPORT 01, NOVEMBER 2010, BLUESCOPE LYSAGHT No. 27 STERLING RD, MINCHINBURY 2770 AUSTRALIA.

Checking Engineer
Name: SANDEEP SHARMA
Rego. Number: MIE AUST. 3101165
Date: 06/12/2021
Signature:
Must be an Australian registered structural engineer

Certifying Engineer
Name: STEPHEN HEALEY
NT Rego. Number: 34856ES
Date: 06/12/2021
Signature:
Must be a registered structural engineer in the Northern Territory

Product Name

SPANDEK - ROOFING FOR CYCLONIC REGIONS - SHEET 2 OF 2

Product Description

SPANDEK ROOFING IS MANUFACTURED FROM 0.42mm & 0.48mm BMT G550, AM125 ZINCALUME, AM100 COLORBOND/COLORBOND METALLIC, AM150 COLORBOND ULTRA. Z450 GALVASPAN MATERIAL IS AVAILABLE IN SOME LOCATIONS.

Manufacturer's Name

LYSAGHT

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

Design Criteria

A. THE FOLLOWING CRITERIA FROM AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS (INCORPORATING AMENDMENT No. 1, 2, 3, 4 & 5) 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, 4 & 5) 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

B. SPANDEK COMPLIES WITH AUSTRALIAN STANDARDS FOR THE FOLLOWING REQUIREMENTS:
   1. SERVICEABILITY: AS/NZS 1170.0: 2002 STRUCTURAL DESIGN ACTIONS PART 0: GENERAL PRINCIPLES (INCORPORATING AMENDMENT 1,2,3,4&5)
   2. WIND LOADING: AS/NZS 1170.2: 2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTION (INCORPORATING AMENDMENT No. 1, 2, 3, 4 & 5)
   3. 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

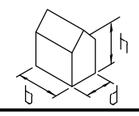
C. DESIGN TABLES ARE BASED ON TEST RESULTS IN ACCORDANCE TO NCC-2019, BUILDING CODE OF AUSTRALIA REQUIREMENTS FOR "LHL" CYCLONIC TEST FOR METAL ROOFS AND RELEVANT CLAUSES OF AS4600:2018, COLD-FORMED STEEL STRUCTURES

D. PRODUCT METALLIC COATING COMPLIES WITH AS 1397-2021 : 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

E. FOR STRENGTH GROUPS OF TIMBER, REFER TO AS 1720.2: 2006 TIMBER STRUCTURES PART 2: TIMBER PROPERTIES (INCORPORATING AMENDMENT No. 1).

Limitations

1. THE DATA IN THIS SHEET SHALL BE APPLICABLE TO SPANDEK ROOFING ONLY. PROFILE DIMENSIONS OF SPANDEK AS SUPPLIED FOR INSTALLATION SHALL COMPLY WITH SPANDEK PRODUCT DRAWINGS AS DEVELOPED BY LYSAGHT.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH LYSAGHT CYCLONIC AREA DESIGN MANUAL AND SPANDEK MANUAL.
   https://cdn.dcs.lysaght.com/download/lysaght-cyclonic-design-manual-steel-roofing-walling-topspan
3. MAXIMUM SPAN TABLES ARE BASED ON MAXIMUM ROOF HEIGHT = 10M.
4. MAXIMUM OVERHANG SHALL BE DETAILED ACCORDING TO CURRENT LYSAGHT ROOFING & WALLING INSTALLATION MANUAL.
5. NO PRE-BORED HOLES PERMITTED.
6. ALWAYS WALK OVER SUPPORTS IF POSSIBLE. GENERALLY KEEP YOUR WEIGHT DISTRIBUTED EVENLY OVER THE SOLES OF YOUR SHOES.
7. MAX. SPANDEK ROOF LENGHTS AS RELATED TO ROOF CARRYING CAPACITY & ROOF PITCH SHALL BE DETERMINED USING THE SPANDEK DESIGN & INSTALLATION GUIDE:
   https://cdn.dcs.lysaght.com/download/lysaght-roofing-walling-installation-manual
8. INCREASE SCREW LENGTH IF FIXING OVER INSULATION TO MAINTAIN A MIN. OF 3 SCREW THREADS PROTRUDING ON THE FAR SIDE STEEL SUPPORT.
9. 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. 1,2,3,4& 5) AS/NZS 1170.2: 2011 CLAUSE 5.4.1 IN THE CASE OF: ELEVATED BUILDING ALLOWING FOR AIR FLOW UNDER h/d > 0.5



Accepted for Inclusion in Deemed to Comply Manual

DTCM drawing number: M/322/01-02

Chairperson Signature:

Chairperson Name: Paul Nowland

Date of Approval: 20/12/2021 Expiry Date: 20/12/2026