

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 BATTEN SPACING (mm)

BUILDING HEIGHT	TERRAIN CATEGORY	K1	pz (kPa)	TS6175						TS6110					
				BATTEN SPAN (SUPPORT SPACING), mm						BATTEN SPAN (SUPPORT SPACING), mm					
				≤1500	2000	2500	3000	3500	4000	≤1500	2000	2500	3000	3500	4000
UP TO 5M	1	1	4.57	785	585	320	245	205	N/A	785	585	470	360	260	205
		1.5	5.86	610	455	250	N/A	N/A	N/A	610	455	365	280	200	N/A
		2	7.15	500	370	205	N/A	N/A	N/A	500	375	300	230	N/A	N/A
		3	9.72	365	275	N/A	N/A	N/A	N/A	365	275	220	N/A	N/A	N/A
	2	1	3.44	1040	775	430	325	270	215	1040	780	625	480	345	270
		1.5	4.40	815	605	335	255	210	N/A	815	610	490	375	270	210
		2	5.37	665	495	275	210	N/A	N/A	665	500	400	305	220	N/A
		3	7.30	490	365	200	N/A	N/A	N/A	490	365	295	225	N/A	N/A
	2.5	1	3.49	1025	765	420	320	265	210	1025	770	615	475	340	265
		1.5	4.02	890	665	365	280	230	N/A	890	665	535	410	295	230
		2	4.91	730	545	300	230	N/A	N/A	730	545	435	335	240	N/A
		3	6.67	535	400	220	N/A	N/A	N/A	535	400	320	245	N/A	N/A
	3	1	2.86	1255	935	515	395	325	255	1255	940	755	580	440	325
		1.5	3.66	980	730	400	305	255	200	980	730	590	450	325	255
		2	4.47	800	595	330	250	210	N/A	800	600	480	360	265	210
		3	6.07	590	440	240	N/A	N/A	N/A	590	440	355	270	N/A	N/A
	4	1	2.33	1540	1150	635	480	400	315	1540	1150	825	610	515	400
		1.5	2.99	1200	895	450	375	310	245	1200	890	720	555	400	310
		2	3.65	980	730	400	305	255	200	980	730	590	450	325	255
		3	4.96	720	540	270	225	N/A	N/A	720	540	435	330	240	N/A
UP TO 10M	1	1	5.20	690	505	280	215	N/A	N/A	690	515	415	315	230	N/A
		1.5	6.67	535	400	220	N/A	N/A	N/A	535	400	320	245	N/A	N/A
		2	8.13	400	300	N/A	N/A	N/A	N/A	400	330	265	200	N/A	N/A
		3	10.06	320	240	N/A	N/A	N/A	N/A	320	240	N/A	N/A	N/A	N/A
	2	1	4.05	800	645	355	270	225	N/A	865	645	520	400	315	225
		1.5	5.32	670	500	275	210	N/A	N/A	670	505	405	310	225	N/A
		2	6.40	550	410	225	N/A	N/A	N/A	550	415	320	235	N/A	N/A
		3	8.82	405	300	N/A	N/A	N/A	N/A	405	300	240	N/A	N/A	N/A
	2.5	1	3.51	1020	760	420	320	265	210	1020	765	610	470	340	265
		1.5	4.50	795	595	305	250	205	N/A	795	595	460	365	265	205
		2	5.49	650	485	265	205	N/A	N/A	650	485	390	300	215	N/A
		3	7.46	480	355	N/A	N/A	N/A	N/A	480	360	285	220	N/A	N/A
	3	1	2.86	1255	935	515	395	325	255	1255	940	755	580	445	325
		1.5	3.66	980	730	400	305	255	200	980	730	590	450	325	255
		2	4.47	800	595	330	250	210	N/A	800	600	480	370	265	210
		3	6.07	590	440	240	N/A	N/A	N/A	590	440	355	270	N/A	N/A
	4	1	2.33	1540	1150	635	480	400	315	1540	1150	825	610	515	400
		1.5	2.99	1200	895	490	375	310	245	1200	895	720	555	400	310
		2	3.65	980	730	405	305	255	200	980	735	590	450	325	255
		3	4.96	720	540	295	235	N/A	N/A	720	540	435	330	240	N/A

DESIGN CAPACITY TABLE - OUTWARD, CONTINUOUS/LAPPED SPAN *

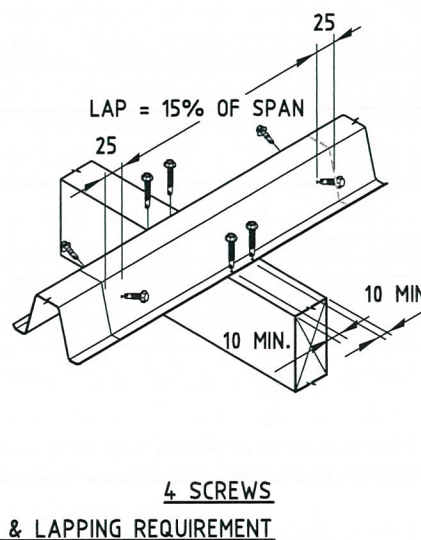
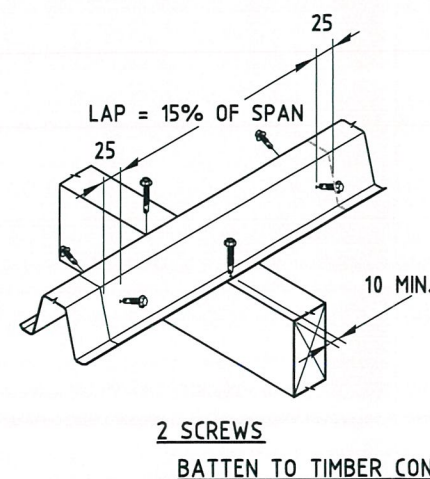
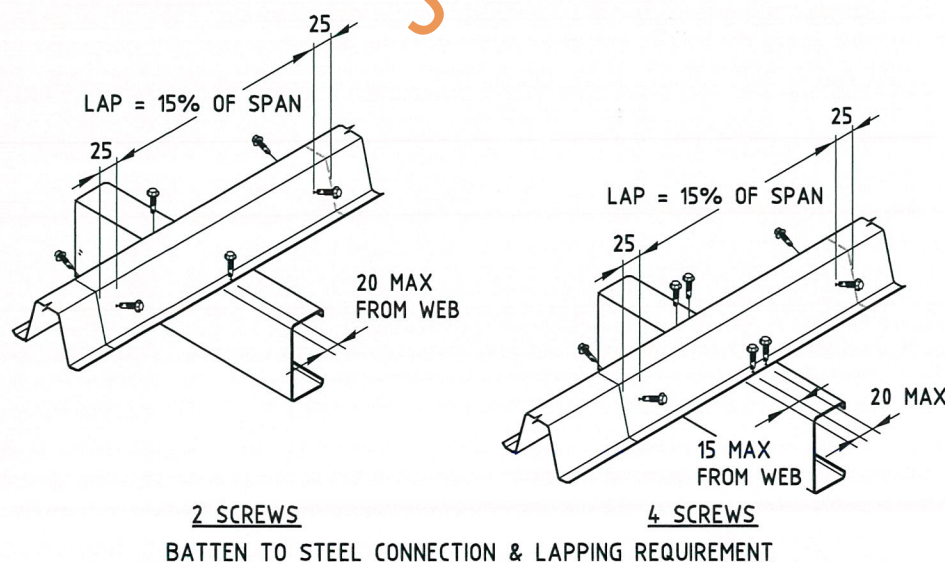
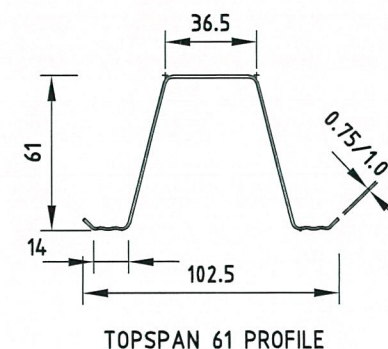
SPAN (mm)	MEMBER STRENGTH (kN/m)	2 FASTENER CAPACITY (kN/m) SUPPORT THICKNESS (mm/bmt)								4 FASTENER CAPACITY (kN/m) SUPPORT THICKNESS (mm/bmt)							
		TS6175				TS6110				#14(M6.5)-12x30				#14(M6.5)-12x30			
		1.0mm	1.2mm	1.5mm	1.9mm	1.0mm	1.2mm	1.5mm	1.9mm	1.0mm	1.2mm	1.5mm	1.9mm	1.0mm	1.2mm	1.5mm	1.9mm
≤1500	4.31	2.88	1.90	2.48	3.10	4.12	2.67	3.59	4.52	5.41							
2000	2.48	2.91	1.43	1.86	2.33	3.09	2.01	2.69	3.39	4.06							
2500	1.44	2.17	1.14	1.49	1.86	2.47	1.60	2.16	2.71	3.25							
3000	1.11	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							

DESIGN CAPACITY TABLE NOTES:

- 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
- TIMBER SUPPORT FASTENER SPECIFICATION: 'BUILDEX' #12(M5.5)-11x40 BATTENZIPS
- DESIGN CAPACITY TABLE CAN BE USED TO DESIGN 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.
- OUTWARD CAPACITY SHALL BE LIMITED BY THE MINIMUM VALUE BETWEEN MEMBER STRENGTH AND FASTENERS CAPACITY.
- * BATTEN 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.

BATTEN SPACING TABLE NOTES:

- 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 LYSAGHT CLADDINGS TO BATTEN.
- SPACING OF BATTENS SHALL NOT EXCEED MAXIMUM SPACING OF CLADDING AS GIVEN IN THE RELEVANT DTCM ROOFING DRAWINGS.
- FASTENER REQUIREMENTS FOR FIXING BATTEN 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
- METAL ROOFING FASTENER: REFER TO THE RELEVANT DTCM ROOFING DRAWINGS FOR ROOFING FASTENER FIXING REQUIREMENTS.



NOTES COVERING BASIS OF DTCM SHEET (RELEVANT TEST REPORTS ETC)

- '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.
- '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.
- 'PULLOUT CAPACITIES OF SCREW FASTENED CONNECTIONS THROUGH LYSAGHT TOPSPAN BATTENS TO STEEL PURLS', INDEX No. 5.4.3 - REPORT 01, NOVEMBER 2010, BLUESCOPE LYSAGHT No. 27 STERLING RD, MINCHINBURY 2770 AUSTRALIA.

**Checking Engineers Certification

Name: KAVITHA MYSORE
Rego. Number: MIE AUST. 2089547
Date: 10/12/2018
Signature: *M.K. Kavitha*

**registered as a structural engineer in Australia

**Certifying Engineers Certification

Name: STEPHEN HEALEY
NT Registration Number: 34856ES
Date: 13/12/2018
Signature: *Stephen Healey*

**registered as a structural engineer in Northern Territory

Product Name

TOPSPAN 61 - ROOFING BATTEN FOR CYCLONIC REGIONS

Product Description

TOPSPAN 6175 (TS6175) IS MANUFACTURED FROM 0.75mm BMT G550, AM125 ZINCALUME STEEL. TOPSPAN 6110 (TS6110) IS MANUFACTURED FROM 1.0mm BMT G550, AM125 ZINCALUME STEEL.

Manufacturer's Name

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



Design Criteria

TOPSPAN 61 COMPLIES WITH AUSTRALIAN STANDARDS FOR THE FOLLOWING REQUIREMENTS:

- WIND LOADING: AS/NZS 1170.2: 2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTION (INCORPORATING AMENDMENT No. 1, 2 & 3)
WIND LOAD DESIGN CRITERIA:
 - IMPORTANCE LEVEL 2 WITH RETURN PERIOD OF 500 YEARS
 - WIND REGION 'C', $V_R = 66xV_c = 66x1.05 = 69.3$ m/sec
 - $M_s = M_t = M_d = 1.0$
 - $C_{pe} = -0.9$; $C_{pi} = +0.7$ K_{ce} & $K_{ci} = 0.9$
- 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
≤5	1.05	0.91	0.87	0.83
≤10	1.12	1.00	0.92	0.83

- CONCENTRATED LOAD: AS/NZS 1170.1: 2002 STRUCTURAL DESIGN ACTIONS PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS (INCORPORATING AMENDMENT 1 & 2)
- SERVICEABILITY: AS/NZS 1170.0: 2002 STRUCTURAL DESIGN ACTIONS PART 0: GENERAL PRINCIPLES (INCORPORATING AMENDMENT 1, 2, 3, 4 & 5)
- TIMBER STRENGTH GROUPS: AS 1720.2: 2006 TIMBER STRUCTURES PART 2: TIMBER PROPERTIES (INCORPORATING AMENDMENT No. 1).
- PRODUCT METALLIC COATING: AS 1397-2011: CONTINUOUS HOT-DIP METALLIC COATED STEEL SHEET AND STRIP - COATINGS OF ZINC AND ZINC ALLOYED WITH ALUMINIUM AND MAGNESIUM.
- INTERPOLATION OF CAPACITY AND SPACING VALUES IS PERMITTED.
- DESIGN TABLES ARE BASED ON THE TEST RESULTS IN ACCORDANCE WITH NCC 2016 BUILDING CODE OF AUSTRALIA - VOLUME 2 PART 3.10.1 (F) REQUIREMENTS FOR "LHL" CYCLONIC TEST FOR METAL ROOFS AND RELEVANT CLAUSES OF AS/NZS 4600: 2005 COLD-FORMED STEEL STRUCTURES.

LIMITATIONS

- BATTEN DESIGN CAPACITY TABLES HAVE BEEN DEVELOPED FOR TIMBER SUPPORTS & MINIMUM 1.0mm BMT G550 STEEL SUPPORT.
- ONLY FASTENERS NOTED CAN BE USED IN THIS DTCM SHEET. ALL FASTENERS ARE TO BE CLASS 4 IN ACCORDANCE TO AS 3566.2-2002 SELF-DRILLING SCREWS FOR THE BUILDING AND CONSTRUCTION INDUSTRIES PART 2: CORROSION RESISTANCE REQUIREMENTS.
- THE DATA IN THIS SHEET SHALL BE APPLICABLE TO TOPSPAN 61 BATTENS ONLY. PROFILE DIMENSIONS OF TOPSPAN 61 AS SUPPLIED FOR INSTALLATION SHALL COMPLY WITH TOPSPAN 61 PRODUCT DRAWINGS AS DEVELOPED BY LYSAGHT.
- STEEL SUPPORT MEMBERS IN THIS DTCM SHEET SHALL BE: 1.0mm BMT G550, 1.2mm BMT G500, 1.5mm & 1.9mm BMT G450.
- INSTALLATION SHALL BE IN ACCORDANCE WITH LYSAGHT CYCLONIC AREA DESIGN MANUAL AND TOPSPAN DESIGN & INSTALLATION GUIDE.
- MAXIMUM BATTEN SPACING TABLES ARE BASED ON MAXIMUM ROOF HEIGHT (h) = 10M.
- INCREASE FASTENER LENGTH IF FIXING OVER INSULATION TO MAINTAIN A MINIMUM OF 3 FASTENERS THREADS PROTRUDING THE FAR SIDE OF THE STEEL SUPPORTING MEMBER.
- Pz (PRESSURE) IN THE TABLES SHALL BE INCREASED ACCORDING TO AS/NZS 1170.2:2011 CLAUSE 5.4.1 IN THE CASE OF: ELEVATED BUILDING ALLOWING FOR AIR FLOW UNDER: $-h/b > 1$, $-h/d > 1$.

Accepted for Inclusion

DTCM ref: *M/572/01*

Chairman's Signature: *Paul Nowland*

Chairman's Name: *Paul Nowland*

Date of Approval: *25-01-2019* Expiry Date: *25-01-2024*