



The Lysaght Multiline® System

Style and versatility for various building applications

A complete framing solution

Responding to your demands for MULTILINE® clad structures to be designed for various applications and environments, BlueScope Lysaght has combined the classic style of its cladding product with the tested strength of its proprietary steel wall frame product SUPRAFRAME® to create the MULTILINE system.

The unique combination provides a cost effective solution to building design ranging from classes 1 to 10 and wind categories N1 to C3.

Whether you require a fully serviced, internally lined house for cyclonic regions or simply a stylish garage, BlueScope Lysaght has a pre-designed MULTILINE system to suit at a competitive price.

The choice is yours

MULTILINE from BlueScope Lysaght is a weatherboard-like horizontal sheet steel cladding which is specifically designed to be fixed to stud frames.

The MULTILINE profile is easily distinguished by its horizontal microfluting along the panel face, a pan contour that casts fashionable shadow lines between each panel and chamferboard edges.

The 900mm panel width provides an economical and decorative alternative to standard vertical profiles used to clad or re-clad houses, sheds, garages, fascias or soffits.

Combined with SUPRAFRAME wall framing, the MULTILINE system gives you an economical alternative.



Roofing & Walling Products



Structural Products



Rainwater Products



Fencing Products



House Framing Products

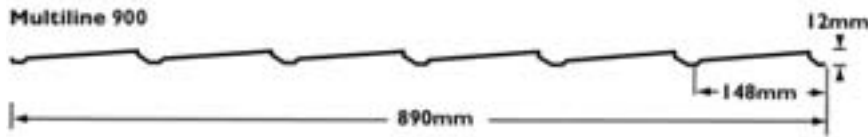


Customer Support



Home Improvements

LYSAGHT MULTILINE



Masses

BMT		kg/m	kg/m ²	m ² /t
0.42	ZINCALUME®	3.26	3.66	273
0.42	COLORBOND®	3.32	3.73	269

Materials specifications

The base material is ZINCALUME® steel.

- ZINCALUME® aluminium/zinc alloy-coated steel complying with AS 1397—2001 G550, AZ150 (550 MPa minimum yield stress, 150 g/m² minimum coating mass)

Cover width is 890 mm.

The base metal thickness is 0.42 mm.

The COLORBOND® prepainted steel complies with AS/NZS 2728:1997.

Lengths

Sheets are supplied custom cut in lengths from 1000 - 6000 mm.

Tolerances

Length: + 0 mm, - 7 mm

Width: + 3 mm, - 3 mm

Profile depth: 12 mm

Simple, low-cost fixing

Long, straight lengths of MULTILINE can be easily placed and aligned.

Colours

MULTILINE is available in an attractive range of colours in COLORBOND® prepainted steel or in the metallic grey colour of unpainted ZINCALUME® steel.

Limit states wind pressures

MULTILINE offers the full benefits of the latest methods for modelling wind pressures. The wind pressure capacity table is determined by full scale tests conducted at BlueScope Lysaght's NATA-registered testing laboratory, using the direct pressure-testing rig.

Testing was conducted in accordance with AS 1562.1—1992 Design and Installation of Sheet Roof and Wall Cladding—Metal, and AS 4040.2—1992 Resistance to Wind Pressure for Non-cyclonic Regions.

The pressure capacities for serviceability are based on a deflection limit of (span/120) + (maximum fastener pitch/30).

The pressure capacities for strength

Multiline: Limit State Wind Pressures (kPa) - non cyclonic

Fasteners per sheet per support	Type of span	Criteria	Span (mm)					
			450	600	750	900	1000	
3	End	Serviceability	2.91	2.69	2.37	1.90	1.53	
		Strength	6.50	4.67	3.20	2.31	1.90	
	Internal	Serviceability	1.88	2.11	2.18	1.98	1.77	
		Strength	7.40	5.37	3.70	2.63	2.10	
	6	End	Serviceability	10.62	7.12	4.23	2.35	1.42
			Strength	11.10	8.53	6.50	5.37	4.90
	6	Internal	Serviceability	12.20	8.82	6.00	4.08	3.08
			Strength	12.20	9.46	7.30	6.10	5.60

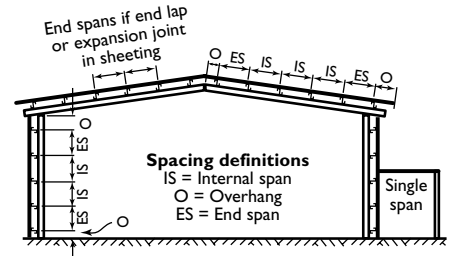
have been determined by testing the cladding to failure (ultimate capacity).

These pressures are applicable when the cladding is fixed to a minimum of 0.6 mm stud material (SUPRAFRAME) or greater BMT.

If fixing to thinner gauge, seek advice from our information line.

Frame bending test

An additional bending test was carried out on the MULTILINE/ SUPRAFRAME system, using 8 -18 x 12 hex head self drilling, self tapping screws. The frame, with stud spacing 750mm, with the screws fastened vertically at every pan and horizontally at every stud, with one screw between studs, withstood a bending load of 2.4kPa.



Section properties

Profile	Base metal thickness	Yield strength	Area	Moment of Inertia	Torsion J	Warping	
Multiline	(mm)	(MPa)	(mm ²)	I _{xx} (mm ⁴) x10 ⁶	I _{yy} (mm ⁴) x10 ⁶	I _w x 10 ⁶ (mm ⁶)	
900	0.42	550	393	0.0033	26.56	23.12	240.1



Installation

Adverse conditions

If this product is to be used in marine, severe industrial, or unusually corrosive environments, ask for advice from our information line.

Metal & timber compatibility

Lead, copper, free carbon, bare steel and green or some chemically-treated timber are not compatible with this product.

Don't allow any contact of the product with those materials, nor discharge of rainwater from them onto the product. Supporting members should be coated to avoid problems with underside condensation.

If there are doubts about the compatibility of other products being used, ask for advice from our information line.

Maintenance

Optimum product life will be achieved if all external walls are washed regularly. Areas not cleaned by natural rainfall (such as the tops of walls sheltered by eaves) should be washed down every six months.

Cutting

For cutting thin metal on site, we recommend a circular saw with a metal-cutting blade because it produces fewer damaging hot metal particles and leaves less resultant burr than does a carborundum disc.

Cut materials over the ground and not over other materials.

Sweep all metallic swarf and other debris from roof areas and gutters at the end of each day and at the completion of the installation. Failure to do so can lead to surface staining when the metal particles rust.

Storage and handling

Keep the product dry and clear of the ground. If stacked or bundled and the product becomes wet, separate it, wipe it with a clean cloth to dry thoroughly.

Handle materials carefully to avoid damage: don't drag materials over rough surfaces or each other; don't drag tools over material; protect from swarf.

Sealed joints

For sealed joints use screws or rivets and neutral-cure silicone sealant branded as suitable for use with galvanised or ZINCALUME® steel.

Installation Method

Install MULTILINE panels from the ground up with each subsequent sheet lapping over the previous sheet. The two methods of lapping recommended are the Edge Lap joint and the Pan Lap joint, as depicted at right.

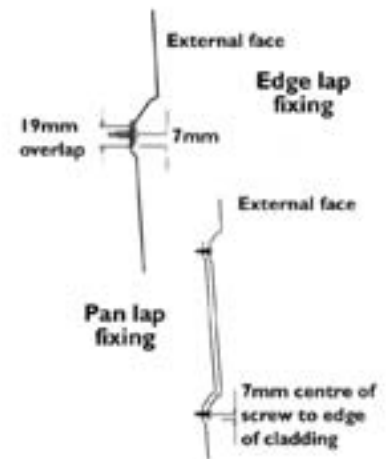
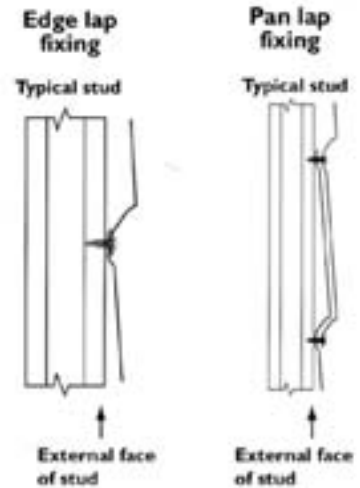
Screw each sheet to supports behind at every flat contact area 150mm apart. Ensure each fastener is straight and not over tightened.

Location of fasteners

One fastener should be placed each side of a lap and vertically at every pan, unless otherwise noted.

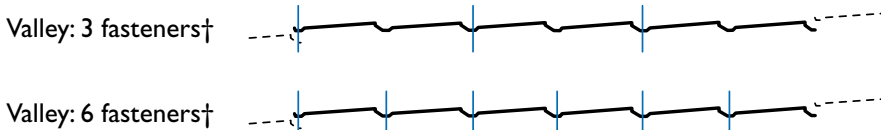
Fasten horizontally at 600mm centres where supported with No.10 - 16 x 16 wafer head self drilling screws to either:

- 1.2mm LYSAGHT standard stud
- 0.60mm or 0.75mm LYSAGHT SUPRAFRAME stud.



MULTILINE 900

	Fixing to steel up to 0.75 mm BMT	Fixing to steel >0.75 to 3 mm BMT	Fixing to timber
Valley fixed	Self drilling self tapping screws with wafer head 10-12 x 20	Self drilling self tapping screws with wafer head 10-16 x 16	Self drilling screws with wafer head SOFTWOOD: 10-12 x 30 HARDWOOD: 10-12 X 20



Number of fasteners depends on wind pressure (see brochure on this product).

Do not fix screws less than 25mm from the end of sheet.

Allowable loads

Allowable bending loads - Cyclonic

MULTILINE/SUPRAFRAME system wall panels have been subjected to nominated cyclonic pressures.

Components have failed at loads greater than twice the cyclic pressure. The table opposite gives a summary of the systems tested.

Tests have been conducted in our NATA accredited testing laboratory on MULTILINE cladding under cyclonic conditions and these tests found that the cladding passed a 2.91 kPa design cyclic load with a failure at 10.5 kPa for 600mm spans.

Allowable racking forces

A fully installed MULTILINE panel can act as a stressed skin and provide a useful contribution to bracing capacity. The profile has been tested in accordance with AS3623-1993 'Domestic Metal Framing'. The racking capacity is governed by the deflection and strength limits set by the standards.

Various wall panels have been tested, using 10 - 16 x 16 wafer head screws, in order to achieve the racking safe load capacity (kN) of each system. The results of these tests are summarised in the table opposite.

Additional racking test

An additional racking test on the system, using 8 - 18 x 20 hex head self drilling self tapping screws was carried out on a 2700mm high frame. The MULTILINE/SUPRAFRAME 2400mm wide system has 0.6mm dovetail studs at 600mm centres, with screws at every pan vertical and at 300mm centres along the top and bottom plates. The racking safe load capacity of this system is 2.62kN.

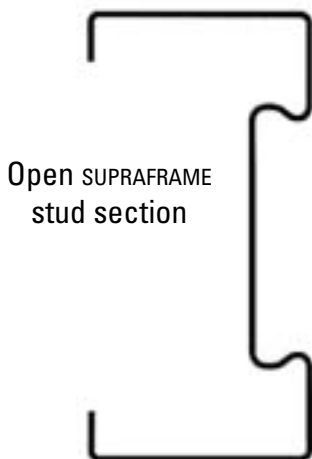
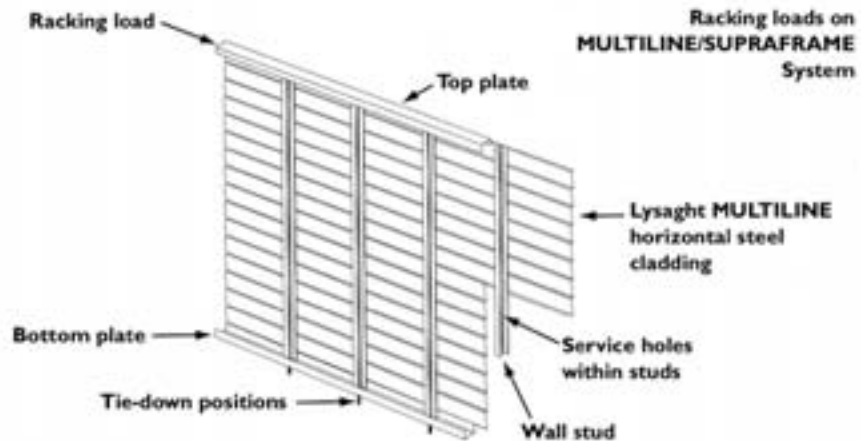
Allowable Cyclic Bending Loads (kPa)

STUD				Design cyclonic pressure (kPa)
Basic Metal Thickness (mm)	Spacing (mm)	Configuration	Height (mm)	
0.60	750	Boxed Stud	2400	2.16
0.60	750	Boxed Stud	2700	1.50
0.60	600	Boxed Stud	2700	2.16
0.60	1000	Boxed Stud	2700	1.50
0.75	450	Open Studs	2700	2.16

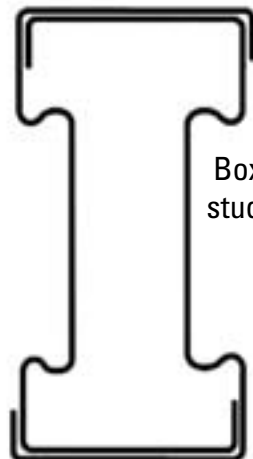
Allowable Racking Loads (kN/m)

Dovetail Stud			Lap Type	Height (mm)	Width (mm)	Screw Fixing		Racking Safe Load (kN/m)	
Thickness (mm)	Spacing (mm)	Configuration				Vertically at internal studs	Horizontally centres along top & bottom plates		
0.60	600	Open Studs	Edge	2400	2400	every other pan & lap join	every pan	300	1.5
0.60	600	Open Studs	Edge	2400	3000	every pan	every pan	150	2.0
0.60	600	Open Studs	Edge	2700	1800	every pan	every pan	300	2.3
0.60	600	Open Studs	Edge	2700	2400	every pan	every pan	300	2.4
0.60	750	Open Studs	Edge	2700	3000	every pan	every pan	375	2.1
0.60	1000	Open Studs	Edge	2700	3000	every pan	every pan	500	1.5
0.60	600	Boxed Studs	Edge	2700	2400	every pan	every pan	300	3.4
0.60	750	Boxed Studs	Edge	2700	3000	every pan	every pan	375	2.8
0.60	600	Open Studs	Edge	2700	1200	every pan	every pan	300	2.0
0.75	450	Open Studs	Pan	2700	2700	every pan	every pan	150	4.1

Note: For tie down capacity requirements, refer to SUPRAFRAME® design documentation.



Open SUPRAFRAME stud section



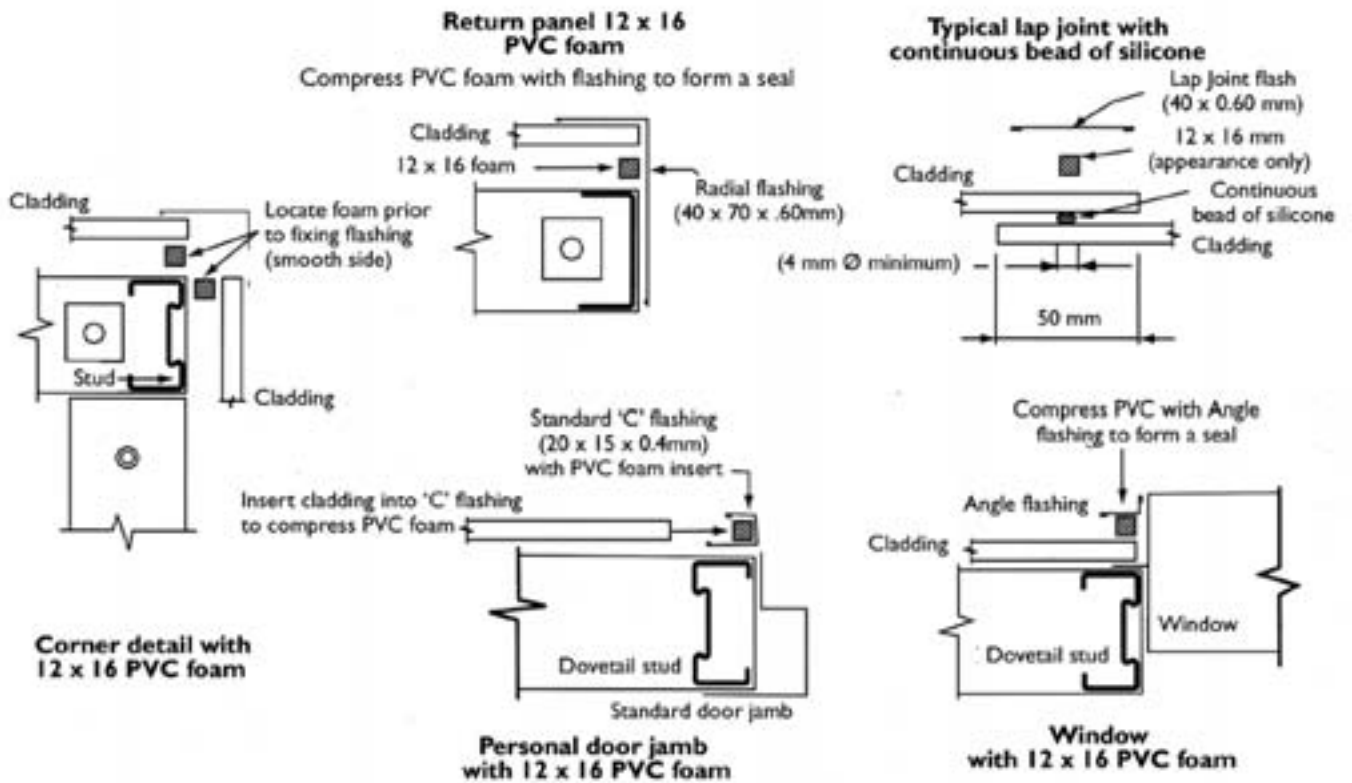
Boxed SUPRAFRAME stud configuration

Joint sealing

Standard MULTILINE accessories can be used with the SUPRAFRAME system, such as those detailed next page for vertical joint sealing.

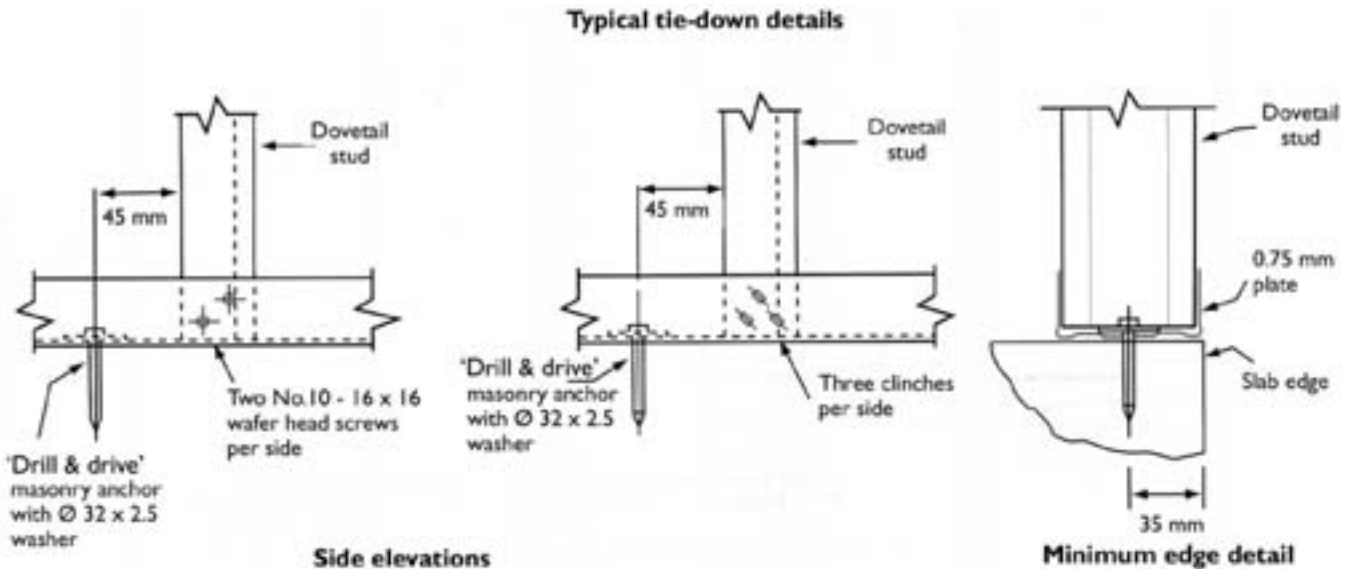
These connections are advised for use when erecting a habitable MULTILINE/SUPRAFRAME structure.

Accessories & tie down



Notes:

1. PVC foam shall be grade 'SOFT'
2. Applying large beads of silicone to each surface may assist the placement of PVC.
3. Fasten flashing with No. 10 - 16 x 16 wafer head screws at each crest of the cladding.



Accessories

MULTILINE has a special 'C' flashing, custom made for doors, windows and sheet joints. Other accessories such as EASYCLAD CD1, CD5, CD6 and CD27 may also be used with MULTILINE.
Note: PVC slow soft recovery foam may be used to close gaps between MULTILINE and flashing.

Sealed joints

It is not practical to solder ZINCALUME® steel, so where joints are required use 10 - 16 x 16 wafer head screws and silicone sealant.
Only sealant branded as suitable for use with galvanised or ZINCALUME® steel should be used.

MULTILINE System design advantages.

- Combines the classic style of weatherboard steel cladding with the strength of SUPRAFRAME® steel wall framing product
- Provides a cost efficient solution to building design ranging from classes 1 to 10 and wind categories N1 to C3
- Strong, lightweight and economical alternative to traditional vertical claddings
- It can be fixed quickly and easily
- Steel wall framing and cladding system that offers outstanding value for money



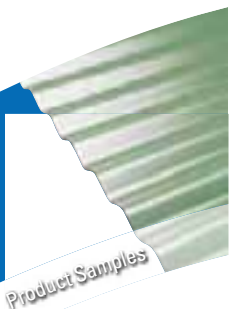
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Product Samples



Product Literature



Warranties



Technical Support



Online Information



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Information, brochures and your local distributor **1800 641 417**

Please check the latest information which is always available at www.lysaght.com

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