LYSAGHT® MULTICLAD® OPTIMA

An Appealing Steel Cladding Profile with Broader Span

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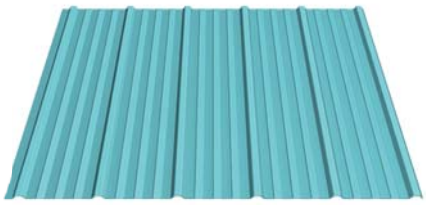


LYSAGHT® MULTICLAD® OPTIMA now has a wider pan, which makes it easier and even more economical to install. It provides versatile and aesthetic walling solutions for all types of building. It is also well suited for garages, screens and fascia. The remarkable strength and multifunctional usage of LYSAGHT® MULTICLAD® OPTIMA clearly establishes it as the best profile for a multitude of applications.

PHYSICAL PROPERTIES

	STANDARD
Base Metal Thickness (mm)	0.42
Total Coated Thickness (mm)	0.47
Mass per Unit Area (kg/m2)	
COLORBOND® Steel	3.87
ZINCALUME® Steel	3.81
Coating Class (min)	AZ150
Grade of Steel (MPa)	G550 (550MPa minimum yield stress)
Effective Cover Width (mm)	1110
Rib Depth (mm)	12
Tolerances	Length +0.0mm, -15.0mm Width ± 4.0mm
Custom Cut Lengths	Any measurement to a maximum transportable length.

Scan for online resources

PERFORMANCE

MAXIMUM ALLOWABLE SUPPORT SPACING

Type of Span	BASE METAL THICKNESS (BMT) (mm) 0.42
Walls (mm)	
Single Span	1200
End Span	1600
Internal Span	1800
Overhang	150

LYSAGHT® MULTICLAD® OPTIMA is not recommended for roofing.

Wall spans consider resistance to wind pressure only. The pressure considered is based on buildings up to 10m high in Region B, Terrain Category 3. Ms=0.85, Mi=1.0, Mt=1.0 with the following assumptions made:

WALLS

Cp_1=+0.20, C_{pe}=0.65, K_1=2.0 for single spans, K_1=1.5 for internal spans.

These spacings may vary serviceability and strength limit states for particular projects.

LIMIT STATE WIND PRESSURE CAPACITIES (kPa)

0.42mm BMT														
TYPE OF SPAN	LIMIT STATE	For Wall (c/c) Span (mm) **												
		600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800
Single	Serviceability	3.12	2.57	2.07	1.63	1.24	0.92	0.65	0.44	0.29	0.25	0.25	0.25	0.25
	Strength*	10.62	10.44	10.44	10.33	10.33	10.33	9.93	9.41	8.79	8.05	7.19	6.23	5.15
End	Serviceability	3.14	2.79	2.46	2.16	1.88	1.62	1.39	1.18	1.00	0.84	0.70	0.59	0.50
	Strength*	11.34	9.97	8.73	7.62	6.64	5.78	5.06	4.46	3.99	3.65	3.45	3.41	3.41
Internal	Serviceability	3.86	3.40	2.97	2.57	2.21	1.89	1.60	1.35	1.13	0.94	0.79	0.67	0.59
	Strength*	9.77	8.78	7.87	7.04	6.30	5.64	5.06	4.57	4.16	3.84	3.59	3.44	3.36

* A capacity reduction factor of ø = 0.9 is applied to strength capacities. Support must not be less than 1mm BMT.

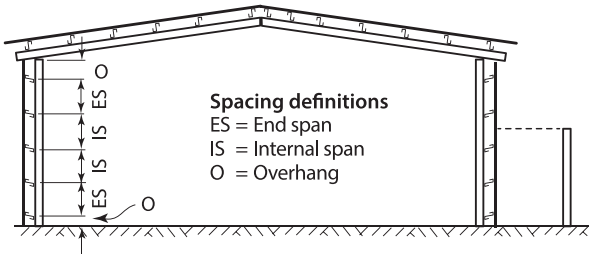
LIMIT STATES WIND PRESSURES

The wind pressure capacities are based on tests conducted at BlueScope Lysaght's NATA-registered testing laboratory. 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 have been determined by testing the cladding to failure (ultimate capacity). These pressures are applicable when the cladding is fixed to a minimum of 1.0mm, G550 steel.

For material less than 1.0mm thick, seek advice from Lysaght representatives.



METHOD STATEMENT AND GENERAL NOTES

ADVERSE CONDITIONS

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

METAL & TIMBER COMPATIBILITY

Lead, copper, free carbon, bare steel and green or some other chemically treated timbers 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 Lysaght representative.

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.

SAFETY, STORAGE AND HANDLING

LSYAGHT's product may be sharp and heavy. It is recommended that heavy-duty cut resistant gloves and appropriate manual handling techniques or a lifting plan be used when handling material.

Keep the product dry and clear off the ground. If stacked or bundled 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.

CUTTING

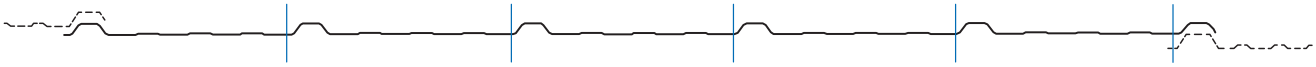
For cutting thin metal on site, we recommend a circular saw with a metal cutting blade because it produces fewer damaging hot metal particles and leaves less resultant burr than a carborundum disc does.

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.

FASTENERS

LYSAGHT® MULTICLAD® OPTIMA requires 5 fasteners per sheet per support as shown below. Fastener should comply to AS3566, Class 3 or Class 4.

Fasteners without insulation			
	Fixing to steel up to 0.75mm BMT	Fixing to steel >0.75mm to 3mm BMT	Fixing to timber
Valley fixed	Type 17 screw with hex & washer head 10-12 x 20	Self-drilling self-tapping screw with hex & washer-head 10-16 x 16	Type 17 screws hex & washer-head Softwood: 10-12 x 30 Hardwood: 10-12 x 20



Valley fix 5 fasteners adjacent to each rib

FASTENING SHEETS TO SUPPORTS

LYSAGHT® MULTICLAD® OPTIMA profile is pierced-fixed to timber or steel supports. This means that fastener screws pass through the sheeting.

When insulation is to be installed, your need to increase the length of the screws given below, depending on the density and thickness of the insulation. When the screw is properly tightened:

- Into metal: There should be at least threads protruding past the support you are fixing to, but the Shankguard must not reach that support;
- Into timber: The screw must penetrate the timber by the same amount that the recommended screw would do if there were no insulation.

SEALED JOINTS

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

SIDE-LAPS

Installation of LYSAGHT® MULTICLAD® OPTIMA is generally considered a good practice to use fasteners along side-laps.

END LAPS

End-laps are possible for LYSAGHT® MULTICLAD® OPTIMA. Recommended overlap length-100mm. Ensure the end laps are fix at support members/ wall girt/ purlins.

INSTALLATION

You can use LYSAGHT® MULTICLAD® OPTIMA for walls, soffit linings or ceilings. Use a similar installation procedure for all.

1. Take special care when positioning the first sheet. Before securing it, ensure that it is accurately placed in relation to other parts of the building. Verify that the sheet aligns properly with the end-wall, including its barge or fascia. Consider the type of flashing or capping treatment that will be applied. Position the remaining sheets accordingly.

2. Once the first sheet is securely fixed in position, align the subsequent sheets using the long edge of the preceding sheet as a guide. Measure the distance from the sheet's end to the wall support provided by the purlin or wall girt.

3.Fix the sheet by either fixing each sheet completely, before laying the next; or fix the sheet sufficiently to prevent movement, lay out all sheets, and then return to install all intermediate fasteners.

NON-CYCLONIC AREAS

The information in this brochure is suitable for use only in areas where a tropical cyclone is unlikely to occur as defined in AS 1170.2-2002. Map and table (below) taken from HB212-2002.

Wind speeds versus return period (3 s guts, 10 m height, open country terrain)				
Handbook Level	Description	Equation for V_R	V_{50}	V_{500}
I	Strong thunderstorms and monsoon winds	$70 - 56R^{-0.1}$	32	40
II	Moderately severe thunderstorms and extra-tropical gales	$67 - 41R^{-0.1}$	39	45
III	Severe thunderstorms and moderate or weakening typhoons/tropical cyclones	$106 - 92R^{-0.1}$	44	57
IV	Strong typhoons/ tropical cyclones	$122 - 104R^{-0.1}$	52	66
V	Very strong typhoons/ tropical cyclones	$156 - 142R^{-0.1}$	60	80

Table summarises the proposed relationships between 3 s gust wind speed and return period for the five levels in the handbook (see map). The values are for 50 years and 500 years return periods.

Note: All the product images used in this brochure are for reference purposes only and does not reflect the actual configuration of the product. Kindly note that the product images are indicative and for illustration purposes only. Lysaght reserves the right to make any change to product images without prior notice. For accurate and up-to-date information, seek advice from Lysaght representative.

ZINCALUME® STEEL AND COLORBOND® STEEL

STRONG BRANDS, QUALITY MATERIALS

LYSAGHT® products are made of highest quality material, namely COLORBOND® steel and ZINCALUME® steel which are the leading materials for external cladding application. COLORBOND® steel and ZINCALUME® steel have been used on countless buildings to portray modern architecture works of art, ranges from the classic roofing to advance façade for industrial, commercial and residential buildings.

Colorbond®

COLORBOND® steel is a pre-painted finished product with ZINCALUME® steel substrate to deliver both superior corrosion resistance and excellent colour performance.

It comes with the THERMATECH® solar reflectance technology and Clean technology to minimize tropical dirt staining while lowering urban heat island effect, delivering longevity and minimal maintenance to your external cladding.

COLORBOND® steel is backed by BlueScope's material warranty*
Malaysia: Up to 25* Years of warranty
Singapore: Up to 10* Years of warranty

Product Attributes

- Pre-painted finish on top of ZINCALUME® steel substrate to deliver superior corrosion resistance.
- Superior primer technology which prevents paint delamination.
- Proprietary super polyester paint system proven to provide excellent colour performance.
- Clean technology incorporated to resist against tropical dirt staining.
- THERMATECH® solar reflectance technology to allow for lower temperature cladding.
- Wide varieties of colours and finishes to cater for your building design needs.

Zincalume®

ZINCALUME® steel is a metallic coated steel product composed of 55% aluminium, 43.5% zinc and 1.5% silicon (aluminium-zinc alloy coating) that can provide superior corrosion resistance for your external cladding, with expected lifespan that's four times the life of generic alternatives (GI).

ZINCALUME® steel is backed by BlueScope's material warranty*
Malaysia: Up to 25* Years of warranty
Singapore: Up to 10* Years of warranty

Product Attributes

- Superior corrosion resistance due to the minimum coating class of AZ150.
- Initial resistance to surface marking and wet storage corrosion due to the proprietary clear resin coating.
- Better aesthetics compared to generic alternatives (Al-Zn) due to less surface darkening, afforded by the proprietary clear resin coating.
- Lightweight and thermally efficient compared to conventional roofing materials (e.g. concrete and clay tiles)
- Excellent flexibility in design as steel can be bent and curved to form truly unique designs.

** Warranty terms & warranty apply*

This material warranty may vary to buildings nearer to marine or industrial environment and is subjected to prior agreement by BlueScope. For full terms and conditions and to determine the eligibility of your project for the warranty, please contact your Key Account Manager.

There are different internal and external environments affecting the longevity of COLORBOND® steel and ZINCALUME® steel, hence feel free to consult our material experts for more specialized recommendations.

Examples of recommendations:

- Direct contact between COLORBOND® steel or ZINCALUME® steel with copper, lead and stainless steel should be avoided.

If condensation on the reverse side of roofing sheet is likely, vapour barrier should be installed to shield COLORBOND® steel or ZINCALUME® steel from prolonged exposure to the condensation (moisture).

- COATING
- COLOUR CHOICES
- DESIGN FLEXIBILITY
- DURABILITY / SECURITY
- HI-TECH PRODUCTION
- RECYCLING
- TERMITE PROOF
- THERMAL EFFICIENCY
- WARRANTY

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STEEL SUPPLIED BY BlueScope

Colorbond® Zincalume®

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