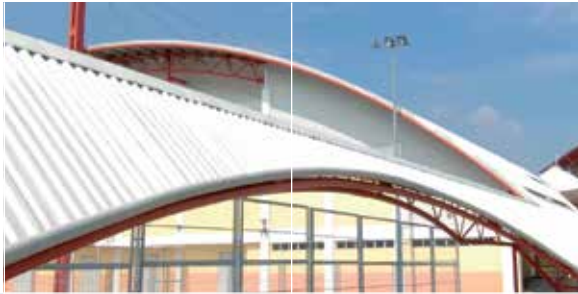


LYSAGHT® HR-29® SERIES

High Rib Roofing & Walling Profile
For Optimized Spanning Capability



Structural Solutions



Roofing & Walling Solutions

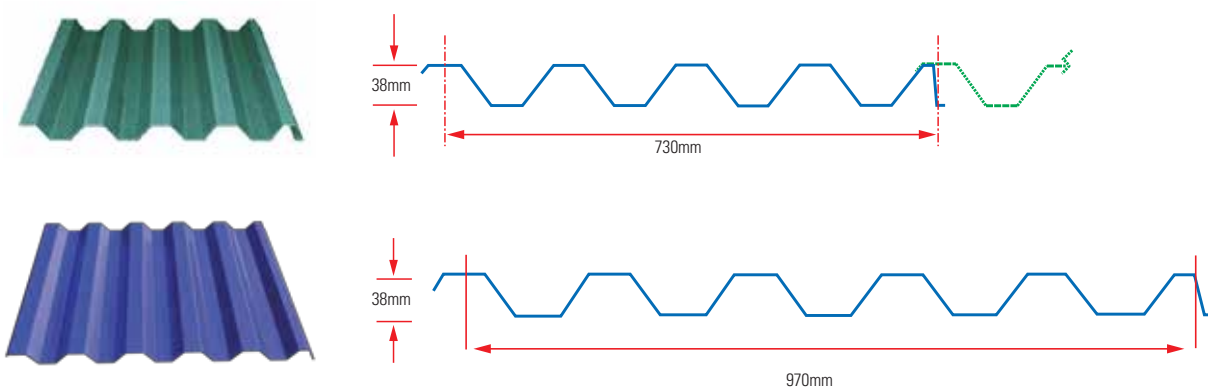


House Framing Solutions

LYSAGHT

LYSAGHT® HR-29® SERIES

Steel Roofing & Walling Profile



LYSAGHT® HR-29® profile is a pierce-fastened roofing and walling system that is suitable for classical or contemporary architecture. It is available in cover width of either 730mm or 970mm.

LYSAGHT® HR-29® can be rollformed to fit building designs that are either pitched or sprung curved. As an added feature, it can also be sprung curved to accommodate large span roofs.

Due to its pierce-fastened system, LYSAGHT® HR-29® profile is fast and easy to install therefore providing savings in construction time and installation cost. Its on-site rollforming option enables ease of installation and allows longer lengths to be produced.

The high rib depth of LYSAGHT® HR-29® provides excellent stiffness and hence, optimises the purlins spanning capacity while reducing the number of purlins used.

PHYSICAL PROPERTIES

Steel Grade (MPa)	Cover Width (mm)	Rib Depth (mm)	Min Roof Pitch	Base Metal Thickness (BMT/ mm)	Total Coated Thickness (TCT/ mm)	Mass (kg/m ²)
G550 (550MPa minimum yield stress)	730	38	2° (1 in 30 approx.)	0.42	0.47	4.54
				0.75	0.80	7.88
	970	38	2° (1 in 30 approx.)	0.42	0.47	4.43
				0.75	0.80	7.69

- High ribs with 38mm depth provide excellent stiffness and enables greater spanning capacity
- Custom cut lengths with the option of on-site rollforming allow longer spans
- Excellent rainwater drainage capacity
- Able to be sprung curve to accommodate complicated roof designs



PRODUCT PROFILE

MATERIAL SPECIFICATIONS

LYSAGHT® HR-29® is available in both COLORBOND® and in unpainted ZINCALUME® aluminium/zinc alloy-coated steel.

- ZINCALUME® steel complying with AS-1379 – 2001 G550, AZ150 (550MPa minimum yield stress, 150g/m² minimum coating mass). The ZINCALUME® steel provides a minimum of twice the life of conventional galvanised steel in the same environment.
- COLORBOND® steel complies with AS/NZS2728:1997. The standard COLORBOND® steel offers a full range of contemporary colours suitable for all building projects.

LENGTH

Sheets are supplied custom cut

TOLERANCES

Length : +/- 15mm
 Cover Width : +/- 2mm
 Thickness : +/- 0.05mm

PERFORMANCE

SUPPORT SPACING

The maximum recommended support spacing are based on testing in accordance with AS1562.1, AS4040.0 and AS4040.1. Roof spans consider both resistance to wind pressure and light foot traffic (traffic arising from incidental maintenance). Wall spans consider resistance to wind pressure only.

TABLE 1 – MAXIMUM ROOF SUPPORT SPACING

Type of Span	BASE METAL THICKNESS (BMT) in mm/TOTAL COATED THICKNESS (TCT) in mm	
	0.42/ 0.47	0.75/ 0.80
Single	Not suitable	2100
End Span	1700	3800
Internal Span	2200	4600
Unstiffened Overhang	150	250
Stiffened Overhang	300	400

TABLE 2 – MAXIMUM WALL SUPPORT SPACING

Type of Span	BASE METAL THICKNESS (BMT) in mm/TOTAL COATED THICKNESS (TCT) in mm	
	0.42/ 0.47	0.75/ 0.80
Single	3600	3600
End Span	3900	3900
Internal Span	4500	4500

* The above tables are based on cover width of 730mm and supports of 1mm

* The above tables are based on supports of 1mm

* 0.80mm (TCT) is non-standard thickness

* These spacing may vary for particular projects, or areas of high wind speeds

WIND PRESSURE

Table 3 provides the capacities of allowable wind pressure for serviceability and strength limit state design. The wind pressure capacities are based on tests conducted at BlueScope Steel's NATA registered testing laboratory at Lysaght Technology in Sydney, Australia.

Testing was conducted in accordance to AS1562.1-1992, "Design and Installation of Sheet Roof and Wall Cladding", and AS4040.2 1992, "Resistance to Wind Pressure for Non-Cyclonic Regions".

The serviceability limit state is based on a deflection limit of: $(\text{span}/120) + (p/30)$, where p is the maximum fastener pitch.

The pressure capacities for strength limit state have been determined by testing the product to failure (ultimate load capacity). These pressures are applicable to the cladding being fixed to materials of a minimum of 1.0mm in thickness

TABLE 3 – WIND PRESSURE CAPACITIES (kPa)

Thickness (mm) TCT	Type of Span	Fasteners Per Sheet Per Support	Limit States	Span (mm)												
				900	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	4500
0.47	Single	4	Serviceability Strength	4.27 6.60	3.56 5.50	2.89 4.60	2.29 3.50	1.76 2.70	1.33 2.10	1.00 1.65	0.77 1.40	0.60 1.25	0.46 1.20	- -	- -	- -
	End	4	Serviceability Strength	4.70 7.30	4.03 5.75	3.39 4.50	2.79 3.55	2.25 2.80	1.80 2.30	1.43 1.90	1.15 1.70	0.93 1.60	0.75 1.55	0.60 1.50	- -	- -
	Internal	4	Serviceability Strength	6.20 8.10	5.31 6.85	4.44 5.70	3.64 4.65	2.92 3.75	2.32 3.10	1.85 2.65	1.49 2.45	1.24 2.30	1.05 2.20	0.90 2.00	0.79 1.75	0.69 1.50
0.80	Single	4	Serviceability Strength	10.04 12.00	8.15 12.00	6.38 9.90	4.79 7.85	3.44 6.15	2.39 4.80	1.67 3.80	1.23 3.20	0.97 2.80	0.80 2.50	- -	- -	- -
	End	4	Serviceability Strength	10.90 11.00	9.15 9.35	7.48 8.00	5.92 6.85	4.56 5.85	3.46 5.10	2.46 4.40	2.08 2.85	1.72 3.40	1.47 2.95	1.30 2.60	- -	- -
	Internal	4	Serviceability Strength	12.00 12.00	10.10 10.60	8.27 9.20	6.60 7.95	5.14 6.80	3.99 5.80	3.17 4.95	2.63 4.30	2.28 3.80	2.03 3.50	1.79 3.25	1.57 3.10	1.35 3.00

RAINWATER RUN OFF

LYSAGHT® HR-29® has better water drainage capacity due to its profile featuring high rib depth. As a guide, Table 4 shows the maximum recommended length for roofing using this profile (based on roof slopes and rainfall intensities). These recommended lengths are based on CSIRO and BlueScope Lysaght testing of LYSAGHT® roofing profiles under peak rainfall conditions.

TABLE 4 – MAXIMUM ROOF RUN (IN METRES) FOR ROOF SLOPES AND RAINFALL INTENSITIES

Rainfall Intensity (mm/hr)	Roof Slope (degrees)					
	2°	3°	4°	5°	7.5°	10°
150	136	155	172	187	216	243
200	102	117	129	140	162	182
250	82	93	103	112	130	146
300	68	78	86	93	108	121
400	51	58	64	70	81	91

* The above tables are based on cover width of 730mm

INSTALLATION METHOD

STEP 1



Locate the first roof sheet and make sure the female rib is close to the barge.

STEP 2



Check the end of roof sheet in relation to overhang for gutter.

STEP 3



Fasten screws on each rib for single and end spans and every alternate rib for internal spans.

STEP 4



Place the second sheet with the female rib over-lapping the male rib of the first sheet. The sheets are snugly nested at the lap.

STEP 5



Vice grips are clamped on two ends. Fasten screws on the lap of every rib.

STEP 6



Make periodic check on alignment after every 10 sheets.

FASTENING METHODS AND RECOMMENDED FASTENERS

RECOMMENDED FASTENERS

Location	Type of Fixing	Details	Type of Fastener	Drilling Capacity	Maximum Attachment
Roof	Crest Fixing		12 - 14 X 55 HGS	6.5mm	Maximum 40mm
			12 - 14 X 68 HGS	6.5mm	Maximum 53mm
Wall	Valley Fixing		12 - 14 X 20 HWFS	6.5mm	<6mm
			12 - 14 X 30 HWFS	6.5mm	<16mm
	Side Lap Fixing		10 - 16 X 16 HWFS	4.5mm	1.2 - 4.5mm

*recommended fastener to conform to AS3566 Class 3

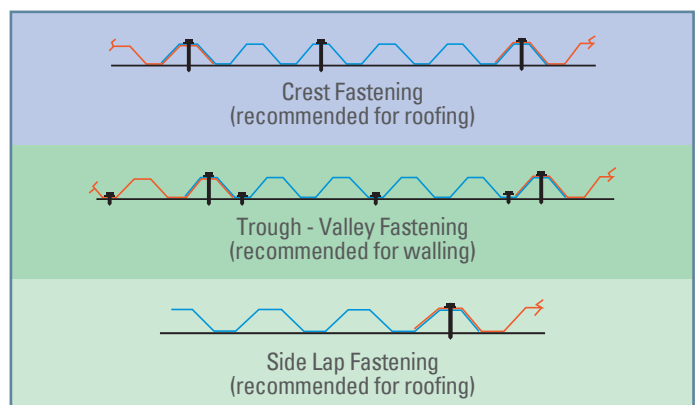
IDENTIFICATION OF FASTENERS

The format of the number code is:

12 - **14** x **55**
 Screw gauge (Thread outside diameter) Thread pitch (Thread per inch) Overall length of the screw measured from under the head (mm)



FASTENERS SPACING





COLORBOND® steel



ZINCALUME® steel

ZINCALUME® steel and COLORBOND® steel

Strong brands, quality materials

LYSAGHT® PRODUCTS ARE MANUFACTURED FROM HIGH QUALITY ZINCALUME® STEEL AND COLORBOND® STEEL, WHICH ARE LEADING BRANDS WITH A WIDE RANGE OF APPLICATIONS. THESE PRODUCTS HAVE BEEN USED WITH STRIKING EFFECT BY LEADING ARCHITECTS TO CREATE THE LATEST IN MODERN BUILDING DESIGNS, THROUGH TO CLASSIC ROOFING STYLES FOR RESIDENTIAL PROJECTS.

Zincalume®

ZINCALUME® steel is a premium metallic coated steel product that is composed of 55% aluminium, 43.5% zinc and 1.5% silicon. The zinc/aluminium alloy coating on ZINCALUME® steel imparts corrosion resistance of up to four times the life of galvanised steel.

ZINCALUME® steel is backed by a material warranty of up to 25 years*

Typical applications featuring ZINCALUME® steel include roofing, wall cladding and gutters.

Product Attributes

- Durable and strong.
- Superior corrosion resistance and has an excellent combination of physical and cut edge protection.
- Lightweight for easy handling.
- Thermally efficient roofing.
- Excellent flexibility in design, can be curved, for truly individual designs.
- Weather tight and secure when installed to manufacturer's specifications.
- Clear resin coating resists scuffing and handling marks.

*Warranty terms and conditions apply

Colorbond®

COLORBOND® pre-painted steel combines the superior strength of steel, the corrosion resistance and protection of a zinc/aluminium alloy (ZINCALUME® steel) coating that maintain its long lasting beauty with excellent colour retention.

It has been developed as a "Defence System Against Tropical Staining." Its unique oven-cured paint system prevents surface staining common to tropical environments caused mainly by temperature, moisture and air-borne contaminants.

COLORBOND® steel is backed by a material warranty of up to 25 years*

Product Attributes

- Available in a range of attractive colours.
- The zinc/aluminium alloy coating on ZINCALUME® steel, plus the oven-baked, prepainted finish on COLORBOND® steel provide superior corrosion resistance for long life.
- Thermally efficient. Roofs made from COLORBOND® steel absorb less heat, thus cools very quickly.
- Lightweight compared to concrete and clay tiles (on a per area basis) - reduced load on supporting structures.
- Excellent flexibility in design, can be curved, for truly individual designs.
- Flexibility of design allows for both traditional straight roof sheeting as well as innovative curved roofing designs.
- Resists cracking, chipping and peeling.

LEAD, COPPER and STAINLESS STEEL are not compatible with COLORBOND® steel and ZINCALUME® steel. Direct contact should therefore, be avoided. Where inside condensation conditions are likely, coated steel girts should be used so that any ZINCALUME® steel to bare steel contact is avoided.

Stainless steel fasteners are not recommended for ZINCALUME® and COLORBOND® steel.

PROJECT REFERENCES



IKEA Cheras, Batu Kawan Penang & Tebrau Johor



Universiti Malaysia Pahang



Perodua Sentral Petaling Jaya



Rakan Muda Complex Selangor



Consolidated Farms Berhad's Liquid Egg Factory Selangor



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COLOUR CHOICES



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DURABILITY / SECURITY



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TERMITE PROOF



THERMAL EFFICIENCY



WARRANTY