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11. Mall Kelapa Gading, Jakarta
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13. Pondok Indah Mall, Jakarta
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18. Inco Soroako, Sulawesi Selatan

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20. IIE Hall BSD, Tangerang
21. Soekarno Hatta Airport



## LYSAGHT® Roofing & Walling Solutions



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For further information, brochures  
and your local distributors call :

**Phone : (021) 5790 5415**  
**Fax : (021) 5790 5416**

Hotline Marketing : +62 811 8111 080

Hotline Customer Service : +62 811 8102 220

[www.lysaght.co.id](http://www.lysaght.co.id)

#### PT NS BlueScope Lysaght Indonesia

##### SALES AND MARKETING HEAD OFFICE :

**JAKARTA** : BRI II Building 9th Floor Suite 902. Kav 44-46, JAKARTA  
P : (021) 5790 5415 | F : (021) 5790 5416 (Sales Office)

##### FACTORY :

**BEKASI** : Jl. Irian Blok DD2/2Kawasan Industri MM - 1200 Cibitung, BEKASI  
P : (021) 8998 2965 | F : (021) 8998 2966

##### FACTORY AND SALES OFFICE:

**BANDUNG** : Istana Pasteur Regency Blok CRB No. 62, Gunung Batu Bandung  
P: (022) 8606 5324 / 8606 5278

**MEDAN** : Jl. Rumah Potong Hewan No. 177, MEDAN  
P : (061) 685 1555 | F : (061) 685 0155

**PALEMBANG** : Komplek Pergudangan Prima Star Bizpark Blok K1 Tanjung Api-api Km 18.5  
Banyu Asin, PALEMBANG  
P : (0711) 571 0075

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**SEMARANG** : Kawasan Industri Candi Blok 11A No 2  
Jl. Gatot Subroto, SEMARANG  
P : (024) 7627 233 / 7627 235 | F : (024) 7627 234

**MAKASSAR** : Jl. Kima Raya1 No1, MAKASSAR  
P : (0411) 514 987 / 518 000 | F : (0411) 514 343

**BALIKPAPAN** : Ruko Sentra Eropa 3 blok Ac1-02  
P : (0542) 8510 172



Web:



Lysaght App at:





# Roofing & Walling Solutions

## INTRODUCTION

PT NS Bluescope Lysaght Indonesia established since 1973 in Indonesia, has been manufacturing and supplying metallic coated and pre-painted cladding and roofing accessories with the brand LYSAGHT®. With series of Bluescope Lysaght Technology superiority, R&D in Chester Hill, Australia, profile accuracy, international used, more than a hundred years credibility, provide designers and constructors a choice of products with high performance characteristics and aesthetics for any roofing or cladding applications.

ZINCALUME® steel base material consist of 43,5% Zinc, 55% Aluminum and 1,5% Silicon which combined provide an extremely durable product. The expected life of ZINCALUME® steel can be up to four time that galvanized coated steel in the same environment.

Clean COLORBOND® steel is pre-painted material. Paint is applied to the ZINCALUME® steel substrate in carefully controlled factory conditions, ensuring high finish and adhesion of the paint to the substrate, which provides total corrosion resistance.



## GENERAL INFORMATION

### Latest Technology

State of the art testing methods have been used to determine the performance of LYSAGHT® Roofing & Walling. The Direct Pressure Testing Rig at BlueScope Lysaght's NATA registered testing laboratory has been used to developed the limit state performance of the cladding. The Direct Pressure test rig offers much better modeling of wind load, compared to traditional air bag test methods.

### Simple, Low Cost Fixing

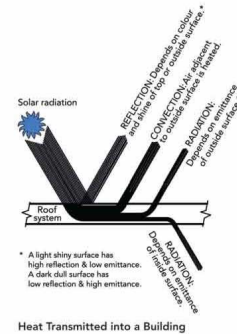
The long, straight lengths of LYSAGHT® Roofing & Walling can be lowered into place and easily aligned. Fixing is simple and fast.

### Material

All LYSAGHT® Roofing & Walling finishes have base steel G550 (550 Mpa minimum yield stress) and variable base metal thickness from 0.35 mm to 0.60 mm (according to product type). The standard ZINCALUME® steel finish conforms to AS 1397-G550-AZ150. The Clean COLORBOND® pre-painted finish is applied over ZINCALUME® steel, coating class AZ 150 (minimum average 150 g/m2 coating mass) and is accordance with AS 2728, "Pre-Painted and Organic Film/Metal Laminate Products"

### Mix and Match

The wide choice of colours and styles from BlueScope Lysaght Indonesia allows you to mix and match with ease.



### Heat Control

In summer buildings get hot from the sun and we want to cool the inside; in winter we often heat the inside and want to avoid losing that heat.

Factors in controlling heat include:

- the orientation of the building relative to the sun;
- external shading from trees or other buildings;
- design of the building, especially ventilation and sealing at doors and windows;
- the colours and surface gloss of the cladding.

The first three factors are outside the scope of this book. Heat is absorbed into a sheet on one side, and some of that absorbed heat is re-radiated from the other side

- Light-coloured or shiny surfaces don't absorb much heat, and they radiate little.
- Dark-coloured or dull surfaces absorb a lot of heat, and they radiate a lot. This doesn't stop you using darker claddings because you can use reflective foil laminate under the cladding.

## MOBILE ROLLFORMING

BlueScope Lysaght's mobile roll forming offer provides not only the benefits of Lysaght® roofing solutions but numerous other advantages for greater design possibilities.

### Benefits



The elimination of transportation challenges, step joints, minimising the possibility of leaks and the long clean lines while reducing the number of purlins required to support cladding are obvious benefits to the combined of Lysaght long length profiles and mobile rollforming offer. The speed of installation is greatly increased and that has obvious attractions for roofing contractors.

Some of the benefits of BlueScope Lysaght's Mobile Rollforming offer:

- Roll to ground or roll to roof options providing flexibility to meet your design and application requirements
- Experienced BlueScope Lysaght staff for assistance throughout entire project
- Ability to supply long lengths without joints
- Elimination of step and expansion joints reducing purlin requirement, labour, installation time, ongoing maintenance requirements and potential for leaks.
- Construction cost savings
- Fewer transport and site handling issues
- Reduced crane costs lifting roof sheeting to roof
- Less product handling preserves 'mint' condition of cladding
- Products scheduling matched to labour scheduling
- Potential for shorter installation time frame
- Cost reduction through elimination of step joints
- Concealed fixing system overcomes thermal expansion challenges
- Less ongoing maintenance issues and cost savings

### Lysaght Roll On Site

- Mobile Elevated Roll Forming



- Roll Forming On Top



- Fix Base Elevated Roll Forming



- On Ground Roll Forming



- Smooth Curving





**LYSAGHT® roofing & walling**  
**Wind Capacities (KPA) - Limit State**

**LYSAGHT® FLEX-LOK™ Wind Capacities (KPA) - Limit State**

Thickness (mm)	Type of Span	Limit State	Span (mm)						
			900	1200	1500	1800	2100	2400	2700
0.55	Single	Serviceability	1.10	0.99	0.89	0.80	0.71	0.63	0.56
		Strength*	2.40	1.90	1.45	1.10	0.85	0.75	0.70
	End	Serviceability	0.43	0.58	0.55	0.53	0.52	0.53	0.55
		Strength*	1.40	1.20	1.05	0.95	0.85	0.80	0.80
	Internal	Serviceability	0.58	0.53	0.50	0.48	0.48	0.49	0.52
		Strength*	1.20	1.10	1.00	0.95	0.90	0.90	0.90
0.80	Single	Serviceability	2.66	2.50	2.32	2.12	1.86	1.57	1.26
		Strength*	5.45	4.80	4.25	3.70	3.30	2.95	2.65
	End	Serviceability	1.67	1.62	1.58	1.55	1.51	1.48	1.45
		Strength*	3.70	3.30	2.95	2.70	2.50	2.45	2.40
	Internal	Serviceability	1.60	1.56	1.53	1.50	1.46	1.43	1.40
		Strength*	3.50	3.25	3.00	2.85	2.75	2.70	2.70

1. Support must not be less than 1.5 mm BMT.
2. The fastened diameter of the seam is 20 mm, tolerance should be within -0.7mm – + 0.3 mm.
3. Seaming up can be finished by twice fastening, first to diameter about 21-22 mm and then to the final size.
4. Values provided here are the strength of ultimate wind capacities.

**LYSAGHT KLIP-LOK OPTIMA® Wind Capacities (KPA) - Limit State**

KLIP-LOK OPTIMA® 0.40mm BMT Span Type	No connection to gutters (without edge stiffener)						
	900	1200	1500	1800	2100	2400	2400
Single	Serviceability	0.91	0.80	0.70	0.61	0.52	0.45
	Strength*	1.89	1.76	1.63	1.49	1.35	1.20
End	Serviceability	0.73	0.71	0.69	0.66	0.63	0.58
	Strength*	1.70	1.53	1.36	1.19	1.04	0.93
Internal	Serviceability	0.65	0.62	0.60	0.59	0.58	0.56
	Strength*	1.81	1.63	1.47	1.34	1.23	1.15

**SAFETY & HANDLING**

**Care and Storage Prior to Installation**

Roof sheeting is delivered in strapped bundles and should not be allowed to get wet. Bundles should be stored clear of the ground and protected by waterproof covers. If bundles become wet, the sheets should be separated, wiped with a clean cloth and stacked allow air circulation and completes drying.

**Handling On Site**

Long lengths should be lifted using a spreader bar and fabric sling. Clean dry gloves should be used. The sheets should not be dragged over rough surfaces or each other. Care should also be taken to prevent tools dragging on the surface.

**Walking on Roof Sheeting**

When walking along the length of

LYSAGHT® Roofing & Walling, walk on at least to pans. When walking across the width of roof sheeting, especially overhangs, walk over or close to the roofing supports.

Generally keep weight evenly distributed over the soles of the feet. Clean and soft soled shoes should be worn. Care should be taken with new sheets as they may be slippery.

**Cleaning Up**

All metallic swarf and other debris should be swept from the roof area and gutters regularly, at the end of the day and at the completion of the installation. Failure to do so can lead to surface staining as the metal particles oxidize.

**Join Sealing**

As it is not practical to solder ZINCALUME steel, where sealed joints are required use screw or rivets and silicone sealant. Only

sealants branded as suitable for use with galvanized or ZINCALUME steel should be used

**Oil Canning**

Oil Canning is an inherent characteristic and not direct of standing seam profile. It is therefore not a cause for panel rejection.

Standard Color: Cliff White, Silver Green, Angora Stone, Burg Red, Heritage Red, Armour Grey, Cliff Grey, Cool Blue

Non-Standard Color: Cobalt Green, Lavender Blue, Misty Green, Pine Green, Full Red, Silver Brown

Note: \* Color For Reference Only

Colorbond  
 Long lasting beauty

Zincalume  
 Made Only by Galvalume

**LYSAGHT SPANDEK® Wind Capacities (KPA) - Limit State**

Thickness (mm)	Type of Span	Fastener Per sheet	Limit State	Span (mm)						
				600	900	1200	1500	1800	2100	2400
0.35	Single	3	Serviceability	1.47	1.24	0.96	0.69	0.52	0.44	0.28
			Strength	8.25	6.30	5.35	4.10	3.60	3.20	2.68
	End	Serviceability	1.55	1.46	1.24	0.96	0.77	0.61	0.47	
		Strength	5.60	5.10	4.05	3.15	2.55	2.10	1.65	
	Internal	Serviceability	1.71	1.62	1.35	1.10	0.94	0.74	0.61	
		Strength	7.20	5.60	4.35	3.35	2.65	2.20	2.00	
0.35	Single	4	Serviceability	2.67	2.25	1.75	1.25	0.95	0.80	0.50
			Strength	11.00	8.40	7.15	5.50	4.80	4.30	3.50
	End	Serviceability	2.82	2.65	2.25	1.75	1.40	1.10	0.85	
		Strength	7.50	6.80	5.45	4.25	3.40	2.80	2.20	
	Internal	Serviceability	3.11	2.95	2.45	2.00	1.70	1.35	1.10	
		Strength	9.60	7.50	5.85	4.50	3.55	2.95	2.70	
0.40	Single	3	Serviceability	2.50	1.92	1.41	1.02	0.73	0.50	0.30
			Strength	10.65	7.10	5.55	4.45	3.85	3.50	3.35
	End	Serviceability	2.14	1.97	1.73	1.43	1.09	0.83	0.55	
		Strength	6.80	5.65	4.35	3.50	3.05	2.45	2.15	
	Internal	Serviceability	2.24	2.09	1.87	1.52	1.17	0.92	0.75	
		Strength	10.45	7.05	4.80	3.75	3.50	3.10	2.60	
0.40	Single	4	Serviceability	4.45	3.49	2.57	1.85	1.32	0.90	0.55
			Strength	12.00	9.50	7.40	5.95	5.15	4.70	4.50
	End	Serviceability	3.89	3.58	3.14	2.60	1.98	1.50	1.00	
		Strength	9.10	7.55	5.80	4.70	4.10	3.30	2.90	
	Internal	Serviceability	4.07	3.08	3.40	2.76	2.12	1.68	1.38	
		Strength	12.00	9.45	6.40	5.05	4.70	4.15	3.50	

- Note:
1. Serviceability limit state is based on a deflection limit of: (span/120) + (Pitch/30)
  2. Strength limit state capacities are based on the failure load (ultimate capacity)
  3. The above pressures are applicable when the cladding is fixed to a minimum of 1.0 mm material thickness

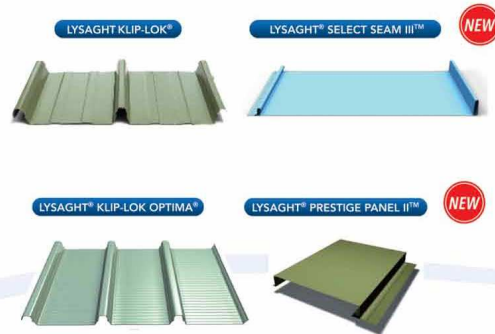
**LYSAGHT**

Roofing & Walling Solutions

KLIP-LOK®, TRIMDEK®, SPANDEK®, CUSTOM ORB®, OPTIMA®, V-CRIMP®, FLEX-LOK™, KLIP-LOK OPTIMA®, AUSDEK®, TRIMDEK CRIMP CURVED®, TRATAS™, SPANDEK OPTIMA™, SPANDEK IIB, SELECT SEAM® SERIES, PRESTIGE® PANEL II, LOCKED SEAM®, ULTRA RIB™

- High Quality Roof System
- Long lasting beauty and design flexibility
- Environmental friendly

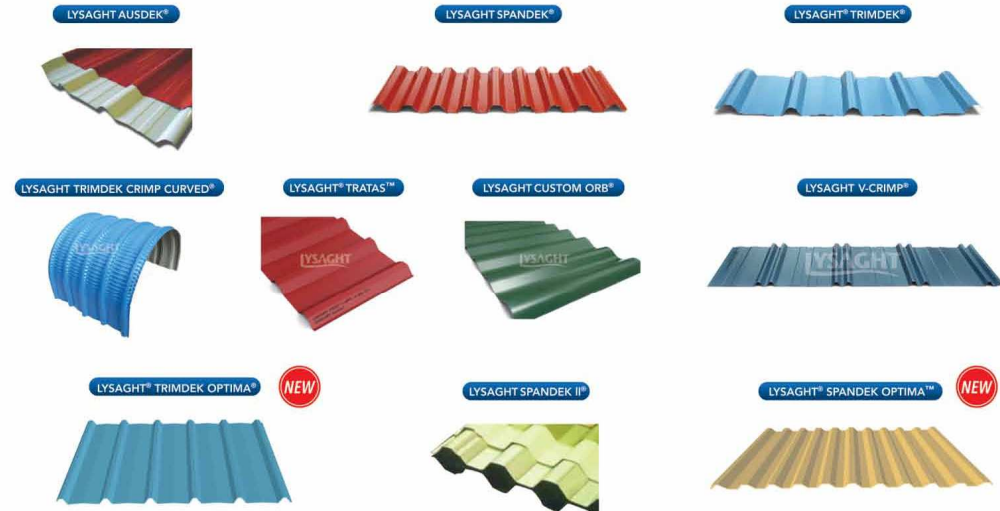
**CONCEALED & BOLTED FIX**



**SEAMING**



**BOLT**





# Product Profile

# Wind Capacities (KPA)

Roll On-Site Based On Request

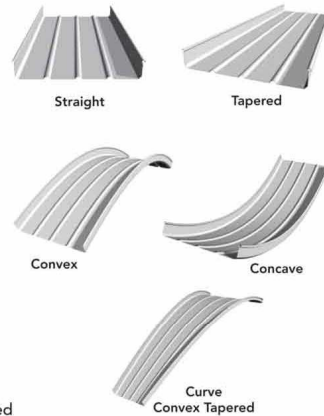
## LYSAGHT® FLEX-LOK™

Square Ribbed Steel Roof & Wall Cladding

LYSAGHT® FLEX-LOK™ structural standing seam profile is the latest addition to the LYSAGHT® suite of products. Unlike our range of architectural standing seam profile, this roofing system requires no substrate as it is profiled with structural strength to function as a single skin roof to increase its ability in thermal resistance and sound transmission. In addition, LYSAGHT® FLEX-LOK™ can be formed into straight sheet, convex curved sheet or tapered sheet to meet increasingly sophisticated roof geometries demanded by designers today. As such, LYSAGHT® FLEX-LOK™ is the architects, engineers and contractors' ultimate choice for roofing solution.

### Advantages

- No fastener penetration ensures weather tightness performance.
- Advance concealed clip system provide excellent uplift resistance.
- Available on tapered and curved sheets to fulfill the most challenging design criteria.
- Can be roll-formed on site to avoid end overlapping and to achieve extreme length according to the project requirements.
- Available in a range over widths in ferrous and non ferrous material.
- Original clip design minimize the need for roofing thermal expansion joints.
- Specially engineered thermal pad of the clip can reduce thermal bridging effects.
- Excellent in rain drainage (high ribbed profile).
- The minimum roof slope is 1.40 degrees



### Standard BMT

0,55 mm, & 0,75 mm (FLEX-LOK™-Steel)  
0,8 mm - 1,2 mm (FLEX-LOK™-Aluminium)

Non standard based on request

## LYSAGHT® roofing & walling Wind Capacities (KPA) - Limit State

### LYSAGHT KLIP-LOK® Wind Capacities (KPA) - Limit State

Thickness (mm)	Type of Span	Limit State	Span (mm)													
			900	1200	1500	1800	2100	2400	2700	3000	3300	3600				
0.45	Single	Serviceability	2.34	2.07	1.81	1.55	1.31	1.07	0.83	0.59						
		Strength	4.17	3.99	3.79	3.52	3.16	2.68	2.11	1.50						
	End	Serviceability	2.13	1.98	1.82	1.66	1.51	1.36	1.21	1.06	0.91	0.77				
		Strength	3.83	3.25	2.78	2.40	2.11	1.89	1.69	1.53	1.40	1.28				
	Internal	Serviceability	2.34	2.27	2.18	2.09	1.98	1.85	1.69	1.50	1.31	1.10				
		Strength	3.86	3.29	2.83	2.47	2.18	1.95	1.75	1.58	1.44	1.31				

- Note:
- Serviceability limit state is based on a deflection limit of: (span/120) + Pitch/30
  - Strength limit state capacities are based on the failure load (ultimate capacity)
  - The above pressures are applicable when the cladding is fixed to a minimum of 1.0 mm material thickness

### LYSAGHT TRIMDEK® Wind Capacities (KPA) - Limit State

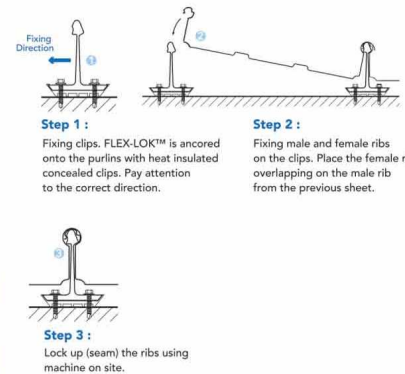
Thickness (mm)	Type of Span	Limit State	Span (mm)													
			600	900	1200	1500	1800	2100	2400	2700	3000					
0.35	Single	Serviceability	2.80	2.25	1.80	1.35	0.90	0.55	0.35							
		Strength	7.40	5.15	3.40	2.55	2.05	1.70	1.50	0.50						
	End	Serviceability	2.75	2.75	2.75	2.30	1.80	1.25	0.80	1.75	0.30					
		Strength	6.60	5.95	5.30	4.45	3.50	2.10	0.90	1.65						
	Internal	Serviceability	2.80	2.70	2.55	2.30	1.95	1.55	1.20	2.00	0.65					
		Strength	7.50	7.00	6.40	5.45	4.35	3.30	2.50	0.40	1.80					
0.40	Single	Serviceability	4.25	3.45	2.55	1.70	1.00	0.55								
		Strength	10.25	8.15	5.95	4.30	3.25	2.80	2.75	0.65						
	End	Serviceability	3.65	3.25	2.90	2.40	1.85	1.35	1.00	2.70	0.40					
		Strength	6.60	6.10	5.60	5.00	4.30	3.65	3.05	1.10	2.25					
	Internal	Serviceability	4.35	3.70	3.10	2.65	2.20	1.80	1.45	3.00	0.85					
		Strength	9.85	8.45	7.00	5.65	4.55	3.70	3.25	2.85						

- Note:
- Serviceability limit state is based on a deflection limit of: (span/120) + Pitch/30
  - Strength limit state capacities are based on the failure load (ultimate capacity)
  - To obtain the design strength capacity of the sheeting, a capacity reduction factor of 0.9 should be applied
  - The above pressures are applicable when the cladding is fixed to a minimum of 1.0 mm material thickness

## Specification of Steel

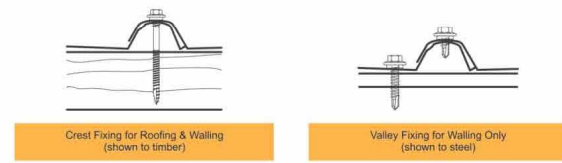
Coverage	Straight 300, 400*, 500 Tapered 240 ~ 400	Rib Height 65 mm	
Minimum Recommended Roof Pitch	2.5%	Coverage 300/400*/500 mm	
Minimum Radius of Curving	Smooth Pre-Curve	Convex	14 M
		Concave	18 M
		Convex	55 M (0.60 mm)
	Spring Curve	Convex	60 M (0.85 mm)
		Concave	80 M (0.60 mm)
			90 M (0.85 mm)
Recommended Support Spacing	1.5 m ~ 2.0 m		
Coating Mass	150 gram/m <sup>2</sup>		
Yield Strength	300 MPa		
Meets Australian Standard	AS 1397-2001 AS/NZS 2728-2007		

### Fixing Clips



## FASTENER

PT NS BlueScope Lysaght Indonesia recommend that fasteners be selected having durability compatible with the roof material. Poor quality fasteners will lead to unsightly staining and or early failure of the roof material. The use of Electro Plated Zinc or Cadmium Plated screws without additional protection are not recommended. Fasteners must comply with Australian Standard AS 3566 Amendment 1990 class 3 screws used for the Building and construction industry. Approved fasteners, color matched or plain are available from PT NS BlueScope Lysaght Indonesia.



### Fastening Method

Profile	Fastening Method
LYSAGHT KLIP-LOK®	Concealed fastened with KL 65 clips: 10-16 x 16 WAF
LYSAGHT SPANDEK®	12-14 x 45 HGS, 12-14 x 20 HWFS, 10-16 x 16 HWFS
LYSAGHT TRIMDEK®/ SPANDEK®/ AUSDEK®/ SPANDEK II®	12-14 x 45 HGS, 12-14 x 20 HWFS, 10-16 x 16 HWFS
LYSAGHT CUSTOM ORB®	12-14 x 35 HGS, 12-14 x 20 HWFS, 10-16 x 16 HWFS
LYSAGHT V-CRIMP®	12-14 x 45 HGS, 12-14 x 20 HWFS, 10-12 x 20 HWFS
LYSAGHT OPTIMA®	Concealed Fastened KL 98 clips: 12-24 x 30 HWFS
LYSAGHT® FLEX-LOK™	Concealed Fastened Halter: 12-14 x 30 HWFS

\* The standard width of LYSAGHT® FLEX-LOK™ is 400 mm.  
\* The limitation data may different for various material, please contact BlueScope Lysaght Technical Department for advice.  
\* Use specific raw of Material.

## NEW PRODUCT

### LYSAGHT® ULTRA RIB™

Concealed Fastened Roof System

What advantages you can get from LYSAGHT® ULTRA RIB™

#### Excellent waterproof

LYSAGHT® ULTRA RIB™ with special high rib and concealed fixing and seaming ensure the totally waterproof for the most strict requirement buildings.

#### Insulated option flexibility

Two types of high & low connectors helps the LYSAGHT® ULTRA RIB™ can go with normal or very thick and high-density insulation which fit with specific requirement.

#### Color in seaming roof

The LYSAGHT® ULTRA RIB™ can be supplied with Clean COLORBOND® material thanks to the special seaming principal.

#### High quality material

LYSAGHT® ULTRA RIB™ are made from aluminium/zinc alloy coated ZINCALUME® steel/pre-painted Clean COLORBOND® steel that have a life time of up to four times that of ordinary Galvanised steel and excellent resistance to tropical discoloration and staining, bring a long lasting beauty and smart appearance to your project.

#### Cost Saving

The high rib, spanning ability, lightness and rigidity of LYSAGHT® ULTRA RIB™ profile permits wide support spacing which helps save cost of purlins in the building.

#### Smart Appearance

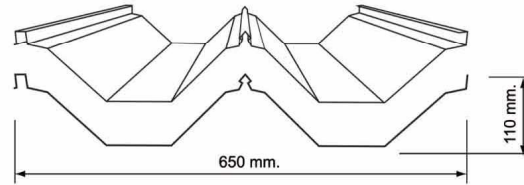
The stiff eners in profile circle node in the rib and electric seamers ensure the straight and good-looking roof at completion.

#### Low Roof Pitch

Can be used on roofs with a little as 2 degree.

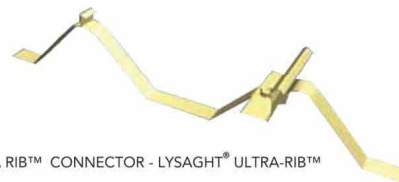
#### Site Mobile Roll-Former

For project that required long length roof without any end laps, LYSAGHT® ULTRA RIB™ can be roll-formed at site by mobile roll-former with the length of the sheets up to 65 m.



Base Material	ZINCALUME®, Clean COLORBOND®
Base metal thickness	0.45mm ; 0.55mm ; 0.75mm;
Cover width	650mm
Rib Height	110mm
Length	Length depend on customer's requirement
Tolerance	Length : +0mm, -15mm Cover width: +4mm, -4mm
Coating mass	150g/m <sup>2</sup>
Yield strength	300 MPa
ZINCALUME® steel meets Australian standard	AS1397-G300-AZ150
Clean COLORBOND® steel meets Australian standard	AS/NZS 2728

LYSAGHT® ULTRA RIB™ CONNECTOR - LYSAGHT® ULTRA-RIB™



Roll On-Site Based On Request

### LYSAGHT TRIMDEK®

Subtle Square Steel Fluted Steel Cladding

LYSAGHT TRIMDEK® is a subtle square fluted steel cladding. The fluting in the pans provides strength and long spanning capabilities. LYSAGHT TRIMDEK® is available in long lengths, therefore on most jobs you can have one sheet from ridge to gutter without end laps. The strength, spanning ability, lightness and rigidity of LYSAGHT TRIMDEK® permits wide support spacings to be used with safety.

#### Max. Roof Length for Drainage

TRIMDEK®	Peak rainfall intensity mm/hr	Roof slope			
		1 in 20 (3°)	1 in 12 (5°)	1 in 7.5 (7.5°)	1 in 6 (10°)
	100	257	320	382	439
	150	172	214	255	293
	200	129	160	191	220
	250	103	128	163	176
	300	86	107	127	146
	400	64	80	96	110
	500	51	64	76	88

#### Application

Roofing & Walling

#### Finishes available

ZINCALUME®, clean COLORBOND® ABADI® & KIRANA®

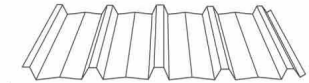
#### Standard BMT

0.35 mm & 0.40 mm

Non standard based on request

#### Minimum Roof Slope

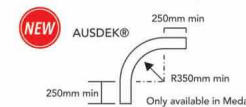
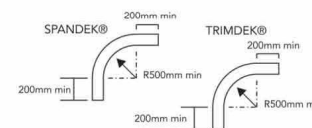
3 degrees (1:20)



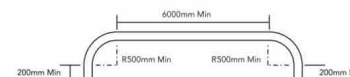
#### Fastener spacing



### LYSAGHT CRIMP CURVE®



SPANDEK® : R min = 500 mm  
TRIMDEK® : R min = 500 mm  
AUSDEK® : R min = 350 mm



Minimum radius of curvature for convex is 500mm and 550mm for concave to underside or pan of sheet, minimum straight length of sheet at one end of a curve is 200mm.

TRIMDEK® : R min = 500 mm

SPANDEK® : R min = 500 mm

AUSDEK® : R min = 350 mm **NEW** Only available in Medan

#### Standard BMT

0,40 mm

Non standard based on request

Maximum length of sheet that can be crimp curved for ridge application approximately 12000mm. The curve can either be convex or concave.

The sheet can be crimp curved to three quarters of a full circle but to facilitate side lapping, semi circle maximum is recommended.

When both ends are crimp curved, the maximum recommended straight distance between the two curves should be 6000mm.



Roll On-Site Based On Request

## LYSAGHT KLIP-LOK®

Concealed-Fixed Deck

LYSAGHT KLIP-LOK® is a strong durable, versatile, long length roof and wall cladding. LYSAGHT KLIP-LOK® combines the strength of steel, smart fluted pans and lock action rib design which, together with concealed fastening, enables its use on applications from low pitched roofs to vertical or as horizontal ribbed walling.

### Application

Roofing & Walling

### Finishes available

ZINCALUME®, clean COLORBOND® ABADI® & KIRANA®

### Standard BMT

0.45 mm

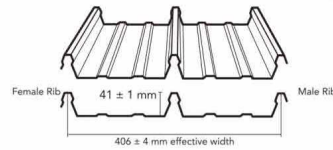
Non standard based on request

### Minimum Roof Slope

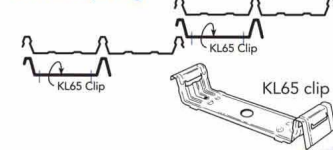
2 degrees (1:30)

### Max. Roof Length for Drainage

	Peak rainfall intensity mm/hr	Roof slope					
		1 in 50 (2°)	1 in 30 (3°)	1 in 20 (5°)	1 in 12 (7.5°)	1 in 7.5 (10°)	1 in 6 (10°)
KLIP-LOK® 406	100	375	467	548	682	813	934
	150	250	311	365	454	542	623
	200	188	234	274	314	406	467
	250	150	187	219	273	235	374
	300	125	156	183	227	271	311
	400	94	117	137	170	203	234
	500	75	93	110	136	163	187



### Fastener spacing



Roll On-Site Based On Request

## LYSAGHT SPANDEK®

Trapezoidal Steel Cladding

LYSAGHT SPANDEK® is a contemporary looking, trapezoidal profile which is ideal where a stronger, bolder, more modern corrugated appearance is required. SPANDEK® was originally designed as a strong attractive roofing material for industrial and commercial construction, however SPANDEK® has proven popular for homes and public buildings, underlining its versatility and pleasing appearance.

### Application

Roofing & Walling

### Finishes available

ZINCALUME®, clean COLORBOND® ABADI® & KIRANA®

### Standard BMT

0.35 mm & 0.40 mm

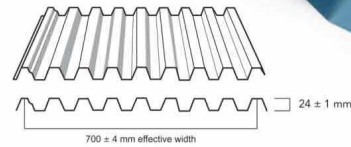
Non standard based on request

### Minimum Roof Slope

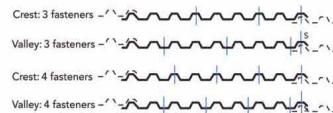
3 degrees (1:20)

### Max. Roof Length for Drainage

	Peak rainfall intensity mm/hr	Roof slope		
		1 in 20 (3°)	1 in 12 (5°)	1 in 7.5 (10°)
SPANDEK®	100	111	133	154
	150	74	89	103
	200	55	67	77
	250	44	53	62
	300	37	44	51
	400	28	33	39
	500	22	27	31



### Fastener spacing



## NEW PRODUCT

## LYSAGHT® LOCKED SEAM™

Flat Pan, Concealed-fix Roofing

### Features & Product Description

LYSAGHT® LOCKED SEAM™ series of roof profile is an engineered high quality and lightweight standing seam roof profile, designed as a fully-supported roof and wall cladding for curved, pitched and tapered conditions. LYSAGHT® LOCKED SEAM™ series of standing seam profile is economical durable, which can be adapted to contemporary architecture.

### Typical Applications

LYSAGHT® LOCKED SEAM™ series of roof profile offers multiple design options in:

- Straight sheets
- Smooth curved sheets without crimped maks
- Tapered sheets
- Tapered curved sheets

The maximum length available is the maximum transportable length.

### PRODUCT BENEFITS

#### LYSAGHT® LOCKED SEAM™

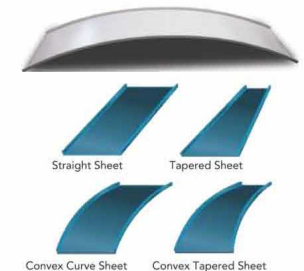
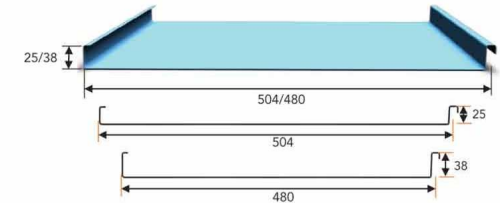
- A modest and discreet roof
- Specially designed height at 25/38mm contributes to the modernity, lightness and regularity of the roof architecture
- Minimalism and simplicity effect
- Gives a distinctive appearance when used on more complex shapes

### LYSAGHT® LOCKED SEAM™ - CURVE CAPACITY

Panel Type	Minimum Length (mm)	Maximum Length (mm)	Minimum Width (mm)	Maximum Width (mm)	Minimum Radius (mm)	Sprung Radius (mm)
Straight	800	12.000	535	605	-	-
Tapered	1.000	10.000	100	490	-	-
Straight Curved	800	12.000	535	535	1500	30.000
Tapered And Curved	1.000	10.000	300	490	1500	30.000

### General Specification

Raw Material	: Steel G-300
Finish Coat	: ZINCALUME®, Clean COLORBOND®
Yield Strength	: 300 MPa
Standard Thickness	: 0.55 mm BMT
Thickness Range	: 0.5 – 0.7 mm BMT
Feed	: 605 mm
Cover Width	: 504/480 mm
Rib Height	: 25/38 mm
Coating mass	: 150 g/m2
Material Source	: Local (by Bluescope Steel Indonesia)
ZINCALUME®	: AS1397-2001 AS
COLORBOND®	: NZS 2728-2007
Minimum Recommended Roof Pitch	: 3°
Recommended Support Spacing	: 600
Applications	: Roofing



**NEW PRODUCT**

## LYSAGHT® SELECT SEAM III™

Concealed Fastened Roof System

### Features & Product Description

Sleek and aesthetically pleasing standing seam roof profiles form LYSAGHT® roofing and walling solutions are known for form and function attributes, which has made countless popular applications in residential, institutional and commercial roofing projects. Minimum accessories are needed to install the roofing sheets with ease.

### Typical Applications

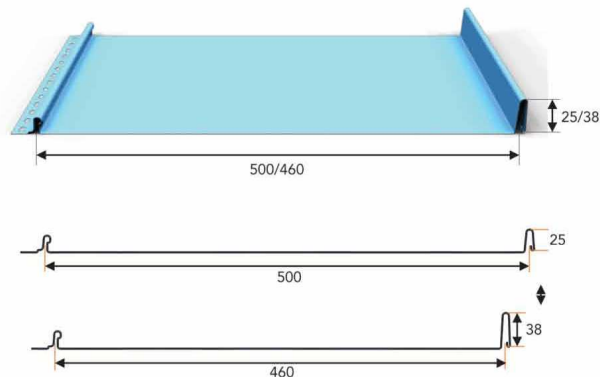
LYSAGHT® standing seam roofing profiles are widely used in roof, wall and fascia applications with capability to form both straight and curved roof with classic and sleek pitch.

Maximum length available is 12000mm.

### LYSAGHT® SELECT SEAM III™

- Extremely high-performance snap-on profile
- Traditional standing seam panel aesthetics
- Excellent seal at seam height of 25mm/38mm
- Does not require a preformed batten
- Easy to fix and install
- Utilized in roofing, mansards and fascia applications.
- Its simplicity only allows application in non-curved roofs
- Superior flatness
- Greater workability on site
- Recommended minimum roof pitch up to 5°

General Specification	
Raw Material	: Steel G-300
Finish Coat	: ZINCALUME®, COLORBOND®
Yield Strength	: 300 MPa
Standard Thickness	: 0.55 mm BMT
Thickness Range	: 0.5 – 0.7 mm BMT
Feed	: 605 mm
Cover Width	: 500mm / 460mm
Rib Height	: 25mm / 38mm
Coating mass	: 150 g/m2
Material Source	: Local (by Bluescope Steel Indonesia)
ZINCALUME®	: AS1397-2001 AS
COLORBOND®	: NZS 2728-2007
Minimum Recommended Roof Pitch	: 5°
Recommended Support Spacing	: 600mm
Applications	: Roofing

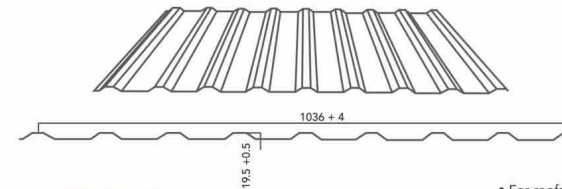


Available in Semarang, Pekanbaru, Palembang, Makassar

## LYSAGHT® TRATAS™

Solution Roof and Wall Metal Cover

### PRODUCT TECHNICAL DATA



### Recommended maximum distance gording

Type of Span	BMT		
	0.30	0.40	0.45
Roofs			
Single Span		600	700
End Span		750	900
Internal Span		850	1000
Walls			
Single Span	1400	1700	1800
End Span	1500	2000	2100
Internal Span	1900	2100	2100

### ACCESSORIES

#### STANDARD FLASHING

Type 1 : Ridge Capping (Nok Tipe 1)	Type 3 : Longitudinal Fascia Flashing	Type 4 : Transverse Fascia Flashing
Type 5 : Longitudinal Parapet Flashing	Type 6 : Transverse Parapet Flashing	Type 7 : Corner Flashing

- For roofs: the data are based on foot-traffic loading
- For walls: the data are based on pressures (see wind pressures table)
- Table data are based on supports of 1mm BMT

#### Note :

- Standard length = 4000 mm (4 m)
- Material and thickness follows the roof thickness / walls were booked
- The minimum recommended thickness 0.35 BMT (0.38 – 0.40 TCT)

### Finishes available

ZINCALUME®, ABADI® & KIRANA®

### STANDARD SEKRUP

Fixing Method	Steel <6.0 mm	Fastener	Drilling Capacity <6.0 mm
Crest Fixed	A3 12-14 x 50		
Valley Fixed (for Wall)	A3 12-14 x 20		
Side Laps dan Flashing	Steel <2.0 mm A3 12-15 x 20		Drilling Capacity <2.0 mm 



### MATERIAL

- 0.25mm - 0.4mm BMT (bare) - ABADI® steel (AZ100)
- 0.25mm - 0.4mm BMT (colour) - KIRANA steel (AZ100)
- 0.25mm - 0.4mm BMT (bare) - ZINCALUME® steel (AZ150)

Peak rainfall intensity (mm/hour)	Roof Slope					
	3°	4°	5°	7.5°	10°	12.5°
100	58	64	69	80	90	105
200	29	32	34	40	45	52
300	19	21	23	26	30	35
400	14	16	17	20	22	26



## LYSAGHT CUSTOM ORB®

Traditional Corrugated Steel Cladding

LYSAGHT CUSTOM ORB® is the traditional corrugated profile offers high strength, lightweight and excellent deformation resistance. It is equally at home in either traditional or contemporary styles. It can be aligned quickly and easily. Add up these features and you have a steel roof or wall cladding that simply offers outstanding value.

**Application**  
Roofing & Walling

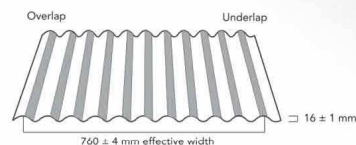
**Finishes available**  
ZINCALUME®, clean COLORBOND® ABADI® & KIRANA®

**Standard BMT**  
0.35 mm & 0.40 mm  
**Non standard based on request**

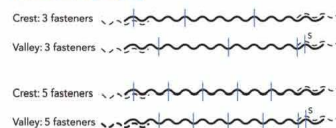
**Minimum Roof Slope**  
5 degrees (1:12)

### Max. Roof Length for Drainage

	Peak rainfall intensity mm/hr	Roof slope		
		1 in 12 (5°)	1 in 7.5 (7.5°)	1 in 6 (10°)
CUSTOM ORB®	100	29	34	38
	150	20	23	25
	200	15	17	19
	250	12	14	15
	300	10	11	13
	400	7	8	10
	500	6	7	8



### Fastener spacing



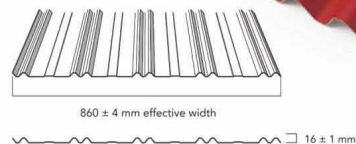
## LYSAGHT V-CRIMP®

LYSAGHT V-CRIMP® steel cladding is a tough double-V wall & fascia profile that resists deformation over long spans – which means it can really take the knocks. It can be used vertically and horizontally. Although used mainly for commercial or industrial walling, it does not take a lot of imagination to see how it could be used as an interesting feature in domestic applications.

**Application**  
Walling Only

**Finishes available**  
ZINCALUME®, clean COLORBOND® ABADI® & KIRANA®

**Standard BMT**  
0.35 mm & 0.40 mm  
**Non standard based on request**



### Fastener spacing



## NEW PRODUCT

## LYSAGHT® PRESTIGE PANEL II™

Subtle Square Fluted Steel Cladding

### Features & Product Description

The LYSAGHT® PRESTIGE Panel II™ is an improved version of its predecessor, a quality product which provides a wider choice of durable and functional wall claddings to building designs in the region.

- Roll-formed and available in three Clean COLORBOND® pre-painted steel systems with a wide range of colours to choose from.
- High-strength design can be used for exterior and interior walls, ceilings as well as soffits.
- Panels are factory corrective-leveled during roll-forming to provide the flattest product possible.
- Available perforated for acoustical applications.

Custom-cut lengths are available in continuous length (up to 12000mm).

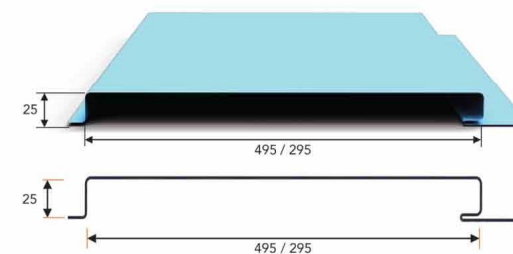
### Typical Applications

- Vertical surface cladding
- Walling
- Fascias
- Feature wall, ceiling and fencing

### Oil Canning

Flat metal surfaces (e.g. LYSAGHT® PRESTIGE Panel II™) will display waviness commonly referred to as oil canning. This is caused by steel mill tolerances. Oil canning is a characteristic, not a defect, resulting from panels manufactured from light gauge metal. Panels are to be factory corrective leveled to minimize oil canning. Oil canning is not a valid reason for panel rejection.

General Specification	
Raw Material	: Steel G300
Finish Coat	: ZINCALUME®, COLORBOND®
Yield Strength	: 300 MPa
Standard Thickness	: 0.55 mm BMT
Thickness Range	: 0.5 – 0.7 mm BMT
Coating mass	: 150 g/m2
Material Source	: Local (by Bluescope Steel Indonesia)
ZINCALUME®	: AS1397-2001 AS
COLORBOND®	: NZS 2728-2007
Applications	: Walling, Ceiling



	Walling	Ceiling
Feed (mm)	610 (1219 : 2)	406 (1219 : 3)
Cover Width (mm)	495	295
Rib Height (mm)	25	25

### LYSAGHT® PRESTIGE PANEL II™ - Support Spacing

Maximum Allowable Support Spacing (L/180)	300mm
Single Span (mm)	1950
Double Span (mm)	2650
Multiple Span (mm)	3250

Source : Bluescope Lysaght Singapore



Roll On-Site Based On Request

## LYSAGHT® SPANDEK OPTIMA™

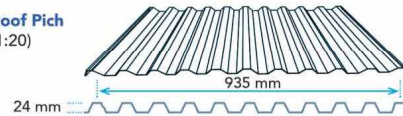
SPANDEK OPTIMA™ is a contemporary-looking, trapezoidal profile which is ideal where a stronger, bloder, more modern corrugated appearance is required. SPANDEK OPTIMA™ was originally designed as a strong attractive roofing material for industrial and commercial construction - however SPANDEK OPTIMA™ has proved equally popular for homes and public buildings, underlining its versatility and pleasing appearance. SPANDEK OPTIMA™ combines strength with lightness, rigidity and economy.

**Application**  
Roofing & Walling

**Application**  
ZINCALUME®, clean COLORBOND®  
ABADI & KIRANA™

**Standard BMT**  
0,35mm & 0,40mm  
**Non standart based on request**

**Minimun Roof Pich**  
3 degree (1:20)



## MAXIMUM SUPPORT SPACINGS

LYSAGHT® SPANDEK OPTIMA™		
Type of span		
Base Metal Thickness (mm)	0,35	0,40
Roof (mm)		
Single Span	975	1130
End Span	1225	1700
Internal Span	1300	2150
Stiffened Overhang	150	150
200	200	
Walls (mm)		
Single Span	2100	2150
End Span	2600	2500
Internal Span	3300	3300
Overhang	150	150

Maximum roof lengths for drainage measured from ridge to gutter (m)

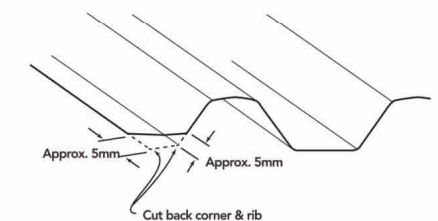
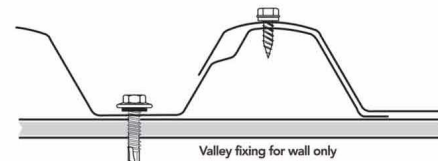
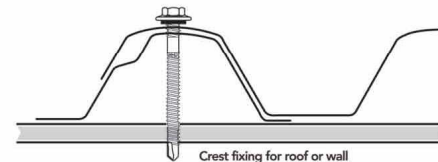
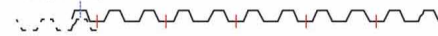
Peak rainfall intensity (mm/hr)	Roof Slope (degrees)				
	2	3	5	7.5	10
100	107	122	147	170	191
150	71	82	98	113	127
200	54	61	73	85	95
250	43	49	59	68	76
300	36	41	49	57	64
400	27	31	37	43	48
500	21	24	29	34	38

Penetrations will alter the flow of water on a roof. For assistance in design of roofs with penetrations, please seek advice from our information line.

**Roof- Screw fix through rib**  
Crest - 5 fixing



**Wall- Screw fix through pan**  
Valley - 5 fixing



Available in Medan

## LYSAGHT AUSDEK®

Square Ribbed Steel Roof & Wall Cladding

LYSAGHT AUSDEK® is trapezoidal ribbed profile with subtle fluting to the pans. Its bold and widely spaced ribs give pleasing visual affects. Its superior spanning capabilities, economical effective cover make LYSAGHT AUSDEK® an ideal and economical choice for housing, commercial and industrial applications. LYSAGHT AUSDEK® is also suitable for carports, verandas, fences and hordings. When used as wall cladding, hordings facades, fences, the trapezoidal ribs can be run vertically or horizontally

**Application**  
Roofing & Walling

**Finishes available**  
ZINCALUME®, clean COLORBOND®  
ABADI® & KIRANA®

**Standard BMT**  
0.30 mm, 0.35 mm & 0.40 mm  
**Non standart based on request**

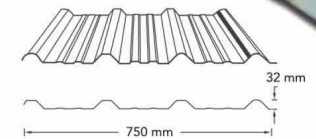
**Minimum Roof Pich**  
Long length and a special anti capillary side lap allow LYSAGHT AUSDEK® to be used safely on pitches as low as 3°.

Mass & Yield LYSAGHT AUSDEK®.

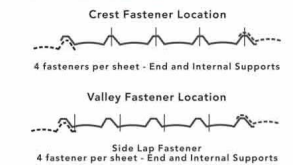
Thickness (mm)	Clean COLORBOND®		ZINCALUME® steel	
	BMT	Kg/m	Kg/m2	Kg/m2
0.30	2.72	3.62	2.66	3.55
0.35	3.08	4.10	3.02	4.03
0.40	3.44	4.58	3.38	4.51

Max. Roof Length for Drainage

AUSDEK®	Peak rainfall intensity mm/hr	Roof slope			
		1 in 20 (3°)	1 in 12 (5°)	1 in 7.5 (7.5°)	1 in 6 (10°)
AUSDEK®	100	257	320	382	439
	150	172	214	255	293
	200	129	160	191	220
	250	103	128	163	176
	300	86	107	127	146
	400	64	80	96	110
500	51	64	76	88	



**Fastener spacing**



Available in Medan

## LYSAGHT SPANDEK II®

Subtle Square Fluted Steel Cladding

LYSAGHT SPANDEK II® is a proven product which has gained international acceptance as a contemporary looking symmetrical ribbed profile. LYSAGHT SPANDEK II® provide real cost savings through its superior spanning capability permitting wider spans, less purlins and fasteners, LYSAGHT SPANDEK II® is an ideal choice for housing, commercial and industrial applications. When used as wall cladding, facade or similar application, trapezoidal ribs can be run vertically or horizontally.

**Application**  
Roofing & Walling

**Finishes available**  
ZINCALUME®, clean COLORBOND®  
ABADI® & KIRANA®

**Standard BMT**  
0.30 mm, 0.35 mm & 0.40 mm  
**Non standart based on request**

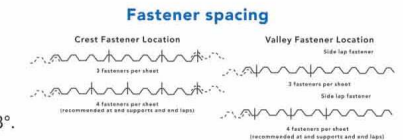
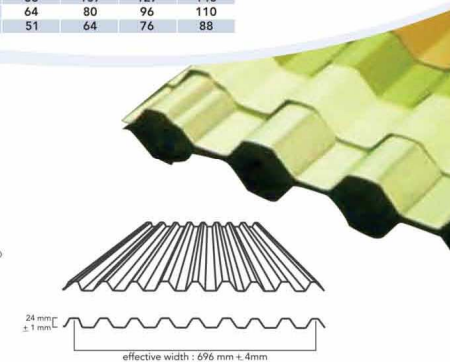
**Minimum Roof Pich**  
Long lengths and the special anti capillary side lap allow LYSAGHT SPANDEK II® to be used safely on applications from vertical wall cladding to roof pitches as low as 3°.

Mass & Yield LYSAGHT SPANDEK II®

Thickness (mm)	Clean COLORBOND®		ZINCALUME® steel	
	BMT	Kg/m	Kg/m2	Kg/m2
0.30	2.72	3.91	2.66	3.83
0.35	3.08	4.43	3.03	4.35
0.45	3.44	4.94	3.38	4.86

Max. Roof Length for Drainage

SPANDEK II®	Peak rainfall intensity mm/hr	Roof slope			
		1 in 20 (3°)	1 in 12 (5°)	1 in 7.5 (7.5°)	1 in 6 (10°)
SPANDEK II®	100	111	133	154	173
	150	74	89	103	115
	200	55	67	77	86
	250	44	53	62	69
	300	37	44	51	58
	400	28	33	39	43
500	22	27	31	35	



Roll On-Site Based On Request

## LYSAGHT® KLIP-LOK OPTIMA®

KLIP-LOK OPTIMA® is the new generation of high-strength cladding that spans wider and offers better uplift performance than other comparable profiles. Our extensive research shows that its conceal fixed system and long lengths make it the best profile for controlling thermal expansion and contraction. A patented innovation, the wide-cover KLIP-LOK OPTIMA® ensures economy as well as ease of installation and is suitable for both general and coastal environments.

**Application**  
Roofing & Walling

**Finishes available**

ZINCALUME®, clean COLORBOND®  
ABADI® & KIRANA®

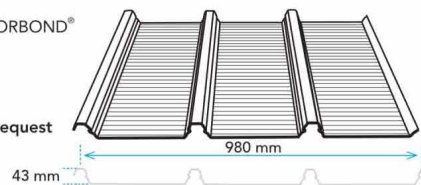
**Standard BMT**

0.40 mm & 0.45 mm

**Non standard based on request**

**Minimum Roof Pitch**

2 degree (1 : 50)



### LYSAGHT® KLIP-LOK OPTIMA® ( NO EDGE STIFFENERS)

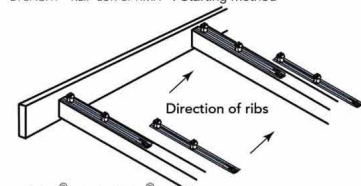
Type of Span	BMT (mm)	
	0,40	0,45
<b>Roofs (mm)</b>		
Single Span	800	925
End Span	800	1050
Internal Span	1200	1825
Unstiffened Eaves Overhang	150	150
Stiffened Eaves Overhang	400	400

Maximum roof lengths for drainage measured from ridge to gutter (m)

Peak rainfall intensity (mm/hr)	Roof Slope (degrees)					
	2	3	4	5	8	10
100	502	588	663	732	873	1003
150	334	392	442	488	582	669
200	251	294	331	366	436	502
250	201	235	265	293	349	401
300	167	196	221	244	291	334
400	125	147	166	183	218	251
500	100	118	133	146	175	201

Penetrations will alter the flow of water on a roof. For assistance in design of roofs with penetrations, please seek advice from our information line.

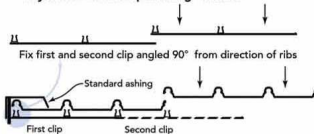
LYSAGHT® KLIP-LOK OPTIMA® : Starting method



LYSAGHT® KLIP-LOK OPTIMA®

Sheet 3 Sheet 2 Sheet 1  
Prevailing weather → ← Direction of laying

**Figure 1**  
Lay sheets towards prevailing weather



Place first sheet on clip and snap onto clip. Add subsequent clips and sheets as required.

Roll On-Site Based On Request

## LYSAGHT® TRIMDEK OPTIMA™

TRIMDEK OPTIMA™ is subtle-fluted steel cladding, available in long lengths, so on most jobs you can have one sheet from ridge to gutter or full wall height without end laps. TRIMDEK OPTIMA™ is made of high strength steel and despite its lightness, provides excellent spanning capacity. The strength spanning ability, lightness and rigidity of TRIMDEK OPTIMA™ means wide support spacing's can be used with safety.

**Application**  
Roofing & Walling

**Finishes available**

ZINCALUME®, clean COLORBOND®  
ABADI® & KIRANA®

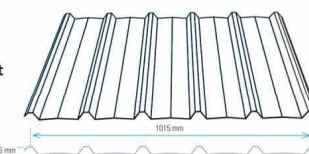
**Standard BMT**

0.35 mm & 0.40 mm

**Non standard based on request**

**Minimum Roof Pitch**

3 degree (1:20)



### MAXIMUM SUPPORT SPACINGS

#### LYSAGHT® TRIMDEK OPTIMA®

Type of span	Base Metal Thickness (mm)	
	0,35	0,40
<b>Roof (mm)</b>		
Single Span	975	1350
End Span	1255	1850
Internal Span	1300	1870
Unstiffened Overhang	150	150
Stiffened Overhang	200	250
<b>Walls (mm)</b>		
Single Span	2100	2150
End Span	2600	2950
Internal Span	3300	3300
Overhang	150	150

Maximum roof lengths for drainage measured from ridge to gutter (m)

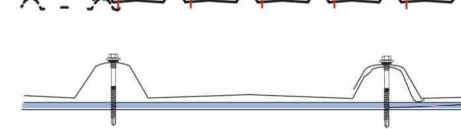
Peak rainfall intensity (mm/hr)	Roof Slope (degrees)					
	2	3	4	5	7.5	10
100	235	275	310	342	408	469
150	156	183	207	228	272	313
200	117	138	155	171	204	235
250	94	110	124	137	163	188
300	78	92	103	114	136	156
400	59	69	78	86	102	117
500	47	55	62	68	82	94

Penetrations will alter the flow of water on a roof. For assistance in design of roofs with penetrations, please seek advice from our information line.

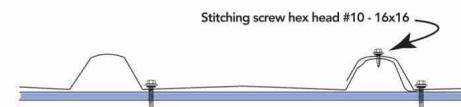
**Roof-** Screw fix through rib



**Wall-** Screw fix through pan



Crest fixing for roof or wall



Pan fixing for walls only

