INDUSTRIAL
01. Warehouse-Gudang Garam, Pekanbaru
02. TOYOTA Factory
03. UNILEVER Factory
04. TVS Factory
05. Holcim, Surabaya
06. PLTU, Makassar
07. JOTUN Factory
08. Gajah Tunggal Plant

COMMERCIAL
09. Summarecon Mall Serpong, Tangerang
10. IKEA
11. Mall Kelapa Gading, Jakarta
12. Kemayoran Exhibition, Jakarta
13. Pondok Indah Mall, Jakarta
14. Gramedia Expo, Surabaya
15. Bintaro Jaya X-Change Mall
16. Stadion Barombong, Makasar
17. Plaza Soreang, Bandung Jawa Barat

RESIDENTIAL
18. Inco Soroako, Sulawesi Selatan

FACILITIES
19. Bunda Hati Kudus, Cibubur
20. IIE Hall BSD, Tangerang
21. Soekarno Hatta Airport

PT NS BlueScope Lysaght Indonesia

Distributor/ Fabrikator :

*** PT. EVRANDO SUKSES BERSAMA**

BLUESCOPE LYSAGHT

LYSAGHT®
Roofing & Walling Solutions

DESIGN FLEXIBILITY

DURABILITY/ SECURITY

HI-TECH PRODUCTION

COLOUR CHOICES

RECYCLING

THERMAL EFFICIENCY

WARRANTY

Roofing & Walling Solutions

INTRODUCTION

PT NS Bluescope Lysaght Indonesia established since 1973 in Indonesia, has been manufacturing and supplying metalic coated and prepainted 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 prepainted 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.

Zincalume® Made Only By BlueScope Steel

clean Colorbond® Long lasting beauty

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

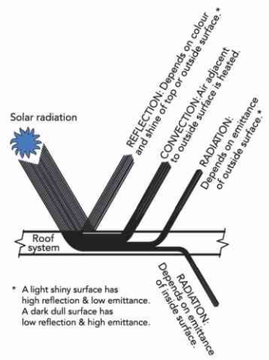
The long, straight lengths of LYSAGHT® Roofing & Walling can be lowered into place and easily aligned. Fixing is simple and fast.

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-Paintedand 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 Transmitted into a Building

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 cranage 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)						
BMT			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	0.63	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 no 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®	No connection to gutters (without edge stiffener)						
0.40mm BMT Span Type		900	1200	1500	1800	2100	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

LYSAGHT SPANDEK® Wind Capacities (KPA) - Limit State

Thickness (mm)	Type of Span	Fastener Per sheet	Limit State	Span (mm)						
BMT				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	2.35	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	0.76
			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

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 derect of standing seam profile. It is therefore not a cause for panel rejection.

LYSAGHT
Roofing & Walling Solutions

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

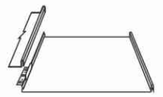
HIGH QUALITY ROOFING/WALLING PRODUCTS

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

BOLTLESS / CLIP

LYSAGHT KLIP-LOK®

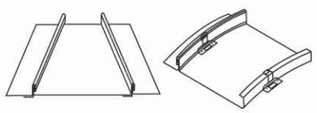
LYSAGHT® SELECT SEAM® SERIES NEW



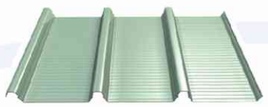
SEAMING

LYSAGHT® FLEX-LOK™ NEW

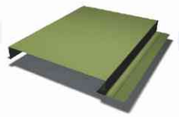
LYSAGHT LOCKED SEAM® NEW



LYSAGHT® KLIP-LOK OPTIMA®



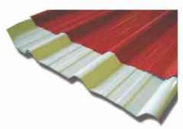
LYSAGHT® PRESTIGE® PANEL II NEW



LYSAGHT® ULTRA RIB™ NEW

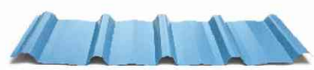
BOLT

LYSAGHT AUSDEK®



LYSAGHT SPANDEK®

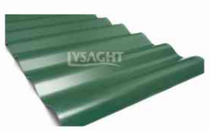
LYSAGHT® TRIMDEK®



LYSAGHT TRIMDEK CRIMP CURVED®

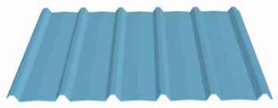
LYSAGHT® TRATAS™

LYSAGHT CUSTOM ORB®



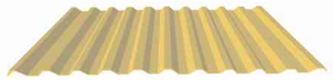
LYSAGHT V-CRIMP®

LYSAGHT® TRIMDEK OPTIMA® NEW



LYSAGHT® SPANDEK II®

LYSAGHT® SPANDEK OPTIMA™ NEW



Product Profile

Roll On-Site Based On Request

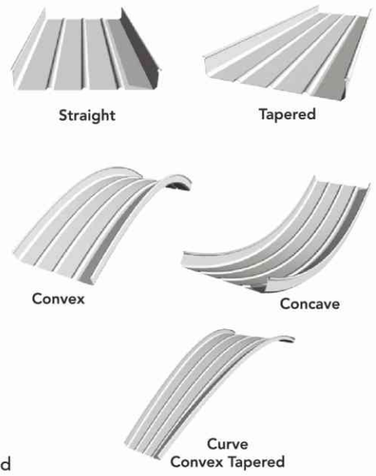
LYSAGHT® FLEX-LOK™

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 sophiscated roof geometries demanded by designers today. As such, LYSAGHT® FLEX-LOK™ is the architects, engineers and contractorsí 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

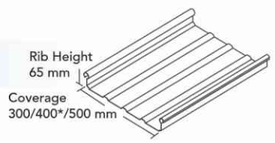


Standard BMT

0,55 mm, & 0,80 mm (FLEX-LOK™-Steel)
0,90 mm, 1,00 mm, & 1,200 mm (FLEX-LOK™-Aluminium)
Non standard based on request

Spesification of Steel

Coverage	Straight	300, 400*, 500
	Tapered	240 ~ 400
Minimum Recommended Roof Pitch		2.5%

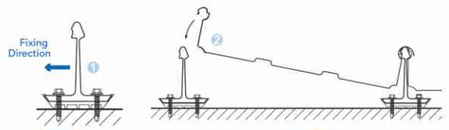


Minimum Radius of Curving	Smooth Pre-Curve	Convex	14 M
		Concave	18 M
	Spring Curve	Convex	55 M (0.60 mm)
			60 M (0.85 mm)
		Concave	80 M (0.60 mm)
			90 M (0.85 mm)
Recommended Support Spacing		1.5 m ~ 2.0 m	
Coating Mass		150 gram/m2	
Yield Strength		300 MPa	
Meets Australian Standard		AS 1397-2001 AS/NZS 2728-2007	

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

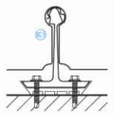
Fixing Clips

LYSAGHT® FLEX-LOK™



Step 1 :
Fixing clips. FLEX-LOK™ is ancored onto the purlins with heat insulated concealed clips. Pay attention to the correct direction.

Step 2 :
Fixing male and female ribs on the clips. Place the female rib overlapping on the male rib from the previous sheet.



Step 3 :
Lock up (seam) the ribs using machine on site.

Wind Capacities (KPA)

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

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

Thickness (mm) BMT	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:
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

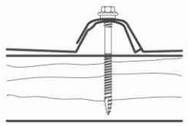
LYSAGHT TRIMDEK® Wind Capacities (KPA) - Limit State

Thickness (mm) BMT	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	2.70	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	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

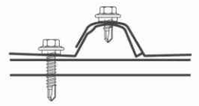
Note:
1. Serviceability limit state is based on a deflection limit of: (span/120) + Pitch/30)
2. Strength limit state capacities are based on the failure load (ultimate capacity)
3. To obtain the design strength capacity of the sheeting, a capacity reduction factor of 0.9 should be applied
4. The above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

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 self drilling for the Building and construction industry. Approved fasteners, color matched or plain are available from PT NS BlueScope Lysaght Indonesia.



Crest Fixing for Roofing & Walling (shown to timber)



Valley Fixing for Walling Only (shown to steel)

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

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 Apperance

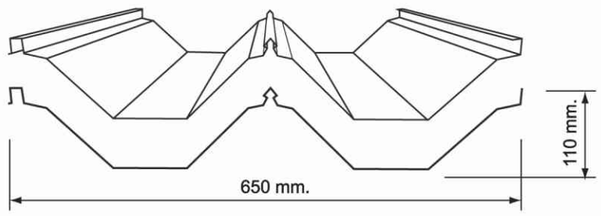
The stiff eners in profile circle node in the rib and electric seamers ensure the straight and good-looking roof at completion.

Low Roof Pitch

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

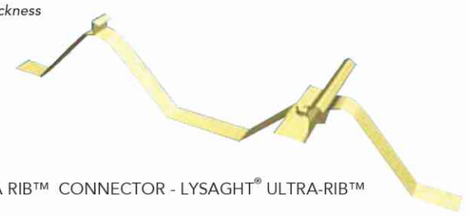
Site Mobile Roll-Former

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	Lenght dependend on customer's requirement
Tolerance	Lenght : +0mm, -15mm Cover width: +4mm, -4mm
Coating mass	150g/m²
Yield strength	300 MPa
ZINCALUME® steel meets Australian standard	AS1397-G300-AZ150
Clean COLORBOND® steel meets Australian standard	AS/NZS 2728

(*) Non-Standard thickness



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

Application

Roofing & Walling

Finishes available

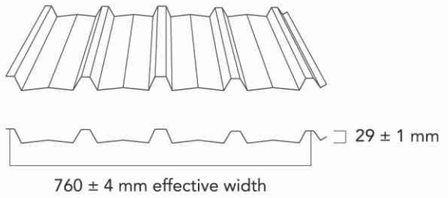
ZINCALUME®, clean COLORBOND® ABADI® & KIRANA®

Standard BMT

0.35 mm & 0.40 mm
Non standard based on request

Minimum Roof Slope

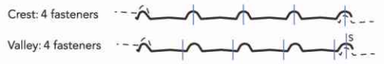
3 degrees (1:20)



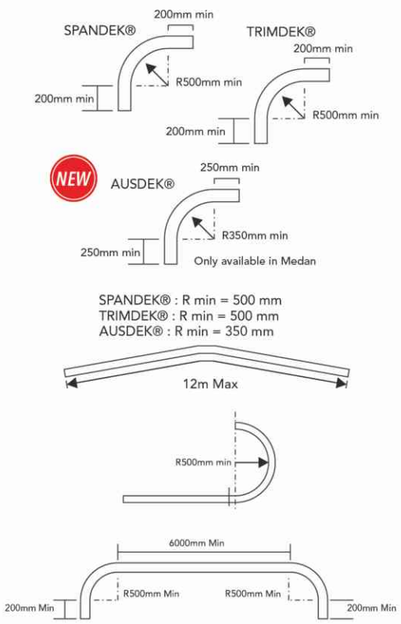
Max. Roof Length for Drainage

	Peak rainfall intensity mm/hr	Roof slope			
		1 in 20 (3°)	1 in 12 (5°)	1 in 7.5 (7.5°)	1 in 6 (10°)
TRIMDEK®	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



LYSAGHT CRIMP CURVE®



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

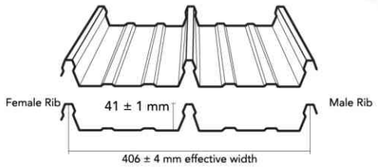
Finishes available
ZINCALUME®, clean COLORBOND®
ABADI® & KIRANA®

Standard BMT
0.45 mm
Non standard based on request

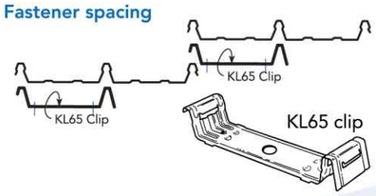
Minimum Roof Slope
2 degrees (1:30)

Max. Roof Length for Drainage

	Peak rainfall intensity mm/hr	Roof slope					
		1 in 50 (1°)	1 in 30 (2°)	1 in 20 (3°)	1 in 12 (5°)	1 in 7.5 (7.5°)	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



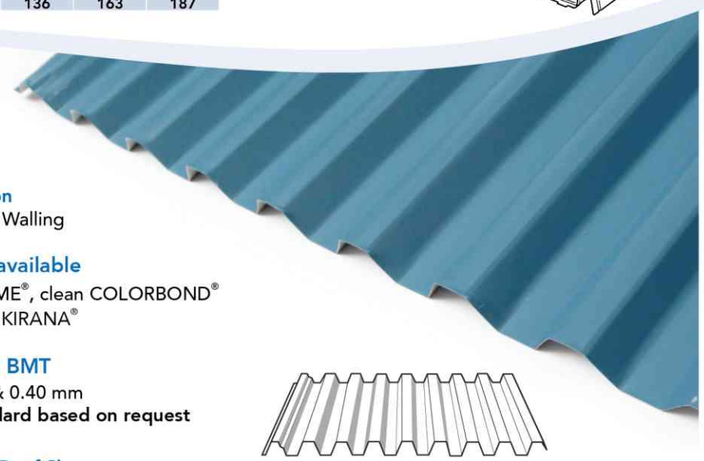
Fastener spacing



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

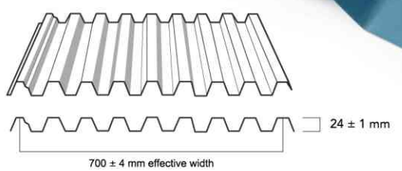
Finishes available
ZINCALUME®, clean COLORBOND®
ABADI® & KIRANA®

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 (7.5°)	1 in 6 (10°)
SPANDEK®	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



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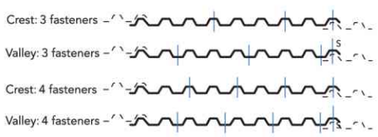


NEW PRODUCT

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 wail cladding for curved, pitched and tapered conditions LYSAGHT® LOCKED SEAM™ seies of standing seam profile is economical durable, which can be adapted to contemporary architecture.

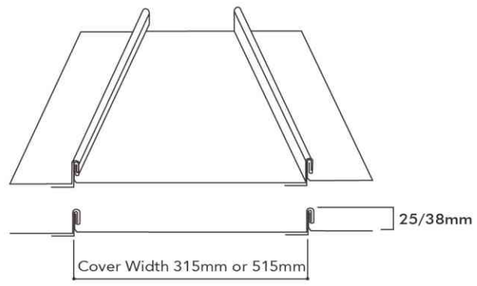
Typical Applications
LYSAGHT® LOCKED SEAM™ series of roof profile offers multiple design options in:
- Straight sheets
- Smooth curved sheets without crimped maks
- Tapered sheets
- Tapered curved sheets

The maximum length available is the maximum transportable length.

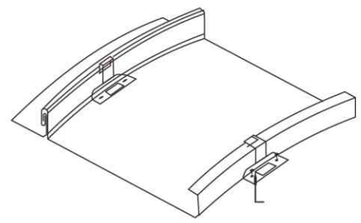
PRODUCT BENEFITS LYSAGHT® LOCKED SEAM™
- A modest and discreet roof
- Specially designed height at 25/38mm contributes to the modernty, lightness and regularity of the roof architecture
- Minimalism and simplicity effect
- Gives a distinctive appearance when used on more complex shapes

	LYSAGHT® LOCKED SEAM™
	0.55mm BMT STANDARD
THICKNESS	
Base Metal Thickness in mm (BMT)	0.55
Total Coated Thickness in mm (TCT)	±0.60
Cover width (mm)	315 or 515
Seam height (mm)	25/38
Nominal Weight (Kg/m2) in Clean COLORBOND® XRW steel	5.757 / 5.295
RECOMMENDED RADIUS	
Sheet Profile	Minimum Radius (mm)
Pre-curved	1500
Sprung curved	30000
Grade of steel	G300 (300N/mm2 yield strength)
Coating class (min)	AZ150
Minimum roof pitch	3° (without end-lap)

Note: Cover widths specified herein are applicable for non-cyclonic areas only For cyclonic area and high wind conditions, panel cover width will be configured separately.



LYSAGHT® LOCKED SEAM™ Profile



PRE-CURVE / SPRUNG CURVE

NEW PRODUCT

LYSAGHT® SELECT SEAM II™

Concealed Fastened Roof System

Features & Product Description

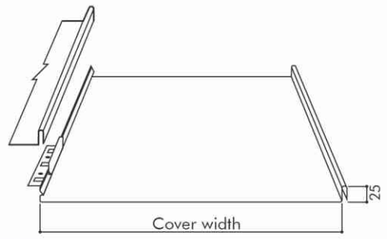
Sleek and aesthetically pleasing standing seam roof profiles form LYSAGHT® roofing and walling solutions are known for form and function attributes, which has made countless popular applications in residetial, institutional and commercial roofing projects. Minimum accessories are needed to install the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

	LYSAGHT® SELECT SEAM II™
Cover Width (mm)	520
Height of Seam (mm)	25
Roof Pitch (mm)	7.5° min
Grade of Steel	G300 (300MPa)
Metallic Coating	ZINCALUME® steel (zinc/aluminium alloy coated steel)

Typical Applications

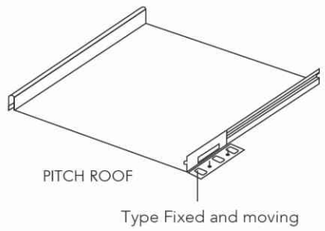
LYSAGHT® standing seam roofing profiles are widely used in roof, wall and fascia applicasions with capability to form both staight and curved rool with classic and sleek pitch.

Maximum length available is 12000mm.



LYSAGHT® SELECT SEAM II™

- Extremely high-performance snap-on profile
- Traditional standing seam panel aesthetics
- Excellent seal at seam height of 25mm
- 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 3°

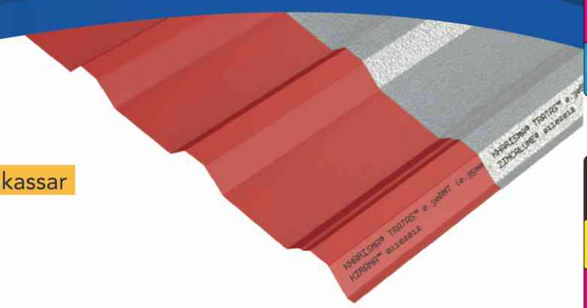


LYSAGHT® SELECT SEAM II™ Profile

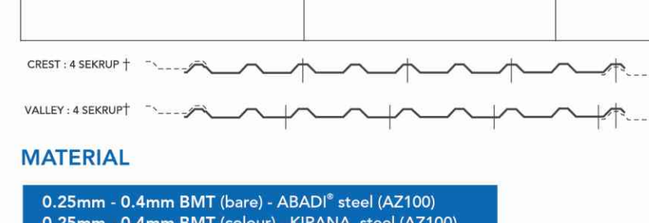
Available in Semarang, Pekanbaru, Palembang, Makassar

LYSAGHT® TRATAS™

Solution Roof and Wall Metal Cover



PRODUCT TECHNICAL DATA



Recommended maximum distance gording

Type of Span	BMT 0.30	BMT 0.40	BMT 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

- 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

ACCESORIES

STANDARD FLASHING

Type 1 : Ridge Capping (Nok Tipe 1)	Type 3 : Longitudinal Fascia Flashing	Type 4 : Transverse Fascia Flashing

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)

Type 5 : Longitudinal Parapet Flashing	Type 6 : Transverse Parapet Flashing	Type 7 : Corner Flashing

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

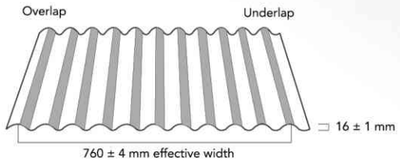
Finishes available
ZINCALUME®, clean COLORBOND®
ABADI® & KIRANA®

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

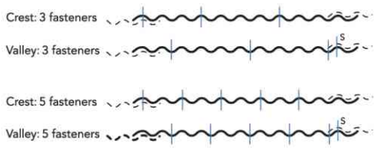
Minimum Roof Slope
5 degrees (1:12)

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



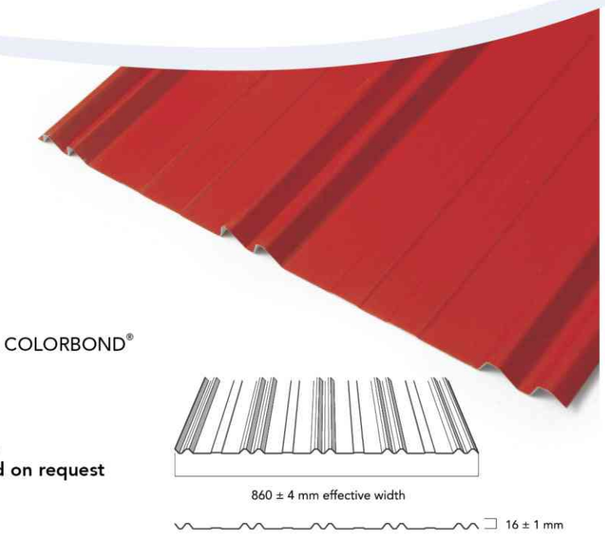
LYSAGHT V-CRIMP®

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



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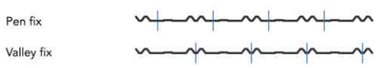


NEW PRODUCT

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 flatest product possible.
- Available perforated for acoustical applications.

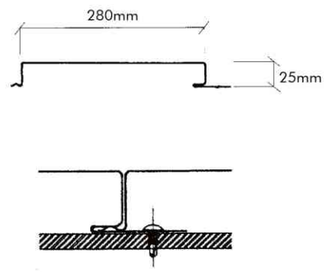
Custom-cut lengths are available in continuous length (up to 12000mm).

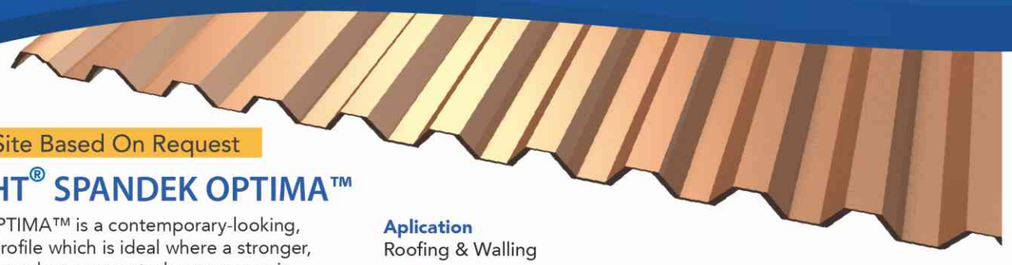
Typical Applications
- Vertical surface cladding
- Walling
- Fascias
- Feature wall, ceiling and fencing

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.

	0.55mm BMT Standard
THICKNESS	
Base Metal Thickness (BMT)	0.55mm
Total Coated Thickness (TCT)	± 0.60mm
Mass per unit area	6.74kg/m2
Cover Width	280mm
Panel Depth	25mm
Grade of steel	G300 (300N/mm2 yield strength)
Lengths	L < 6000 mm (Custom-cut* to size requirements in continuous lengths available)
Tolerances	Length + 0, -5mm Cover Width ±4mm Rib Height ±0.5mm
Coating class	AZ150 (minimum)
Packing	In strapped bundles of 50 sheets maximum not exceeding one tonne

LYSAGHT® PRESTIGE PANEL II™





Roll On-Site Based On Request

LYSAGHT® SPANDEK OPTIMA™

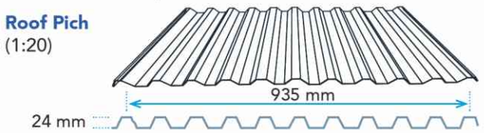
SPANDEK OPTIMA™ is a contemporary-looking, trapezoidal profile which is ideal where a stronger, bloder, more modern corrugated appearance is required. SPANDEK OPTIMA™ was originally designed as a strong attractive roofing material for industrial and commercial construction - however SPANDEK OPTIMA™ has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

Aplication
Roofing & Walling

Aplication
ZINCALUME®, clean COLORBOND®
ABADI & KIRANA™

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

Minimun Roof Pich
3 degree (1:20)

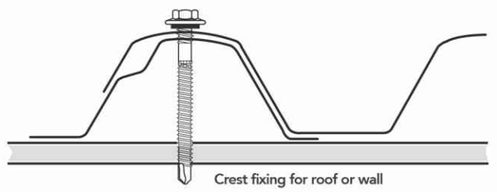


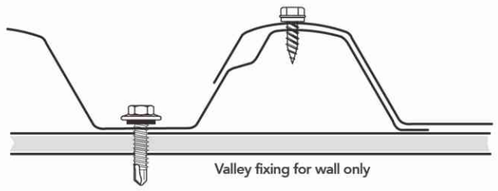
MAXIMUM SUPPORT SPACINGS

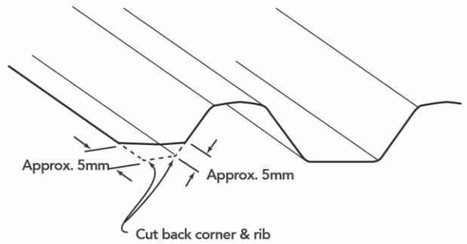
LYSAGHT® SPANDEK OPTIMA™		
Type of span		
Base Metal Thickness (mm)	0,35	0,40
Roof (mm)		
Single Span	975	1350
End Span	1225	1850
Internal Span	1300	2020
	150	190
Stiffened Overhang	250	400
Walls (mm)		
Single Span	2100	2180
End Span	2600	2900
Internal Span	3300	3300
Overhang	150	150

Roof- Screw fix through rib
Crest - 5 fixing

Wall- Screw fix through pan
Valley- 5 fixing



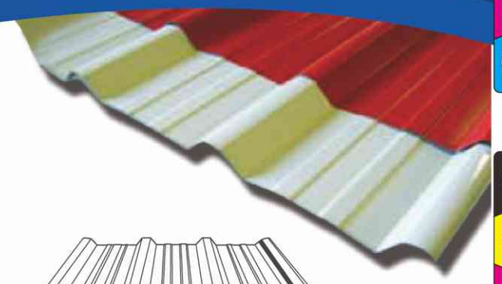




Maximum roof lengths for drainage measured from ridge to gutter (m)

Peak rainfall Roof intensity (mm/hr)	Slope (degrees)			
	3	5	7.5	10
100	122	147	170	191
150	82	98	113	127
200	61	73	85	95
250	49	59	68	76
300	41	49	57	64
400	31	37	43	48
500	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.



Available in Medan

LYSAGHT AUSDEK®

Square Ribbed Steel Roof & Wall Cladding

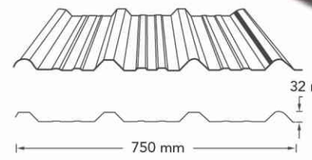
LYSAGHT AUSDEK® is trapezoidal ribbed profile with subtle fluting to the pans. Its bold and widely spaced ribs give pleasing visual affects. Its superior spanning capabilities, economical effective cover make LYSAGHT AUSDEK® an ideal and economical choice for housing, commercial and industrial applications. 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

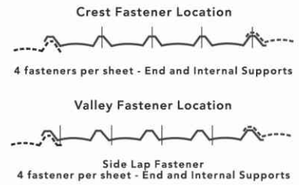
Finishes available
ZINCALUME®, clean COLORBOND®
ABADI® & KIRANA®

Standard BMT
0.30 mm, 0.35 mm & 0.40 mm
Non standard 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°.



Fastener spacing



Mass & Yield LYSAGHT AUSDEK®.

Thickness (mm)	Clean COLORBOND®		ZINCALUME® steel	
BMT	Kg/m	Kg/m2	Kg/m	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

	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

Available in Medan

LYSAGHT SPANDEK II®

Subtle Square Fluted Steel Cladding

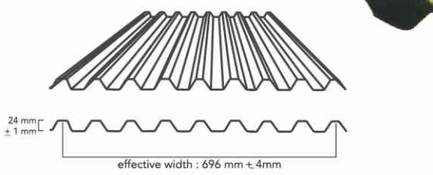
LYSAGHT SPANDEK II® is a proven product which has gained international acceptance as a contemporary looking symmetrical ribbed profile. LYSAGHT SPANDEK II® provide real cost savings throught its superior spanning capability permitting wider spans, less purlins and fasteners, LYSAGHT SPANDEK II® is an 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 standard 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°.



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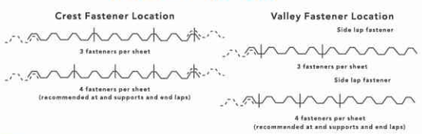


Mass & Yield LYSAGHT SPANDEK II®

Thickness (mm)	Clean COLORBOND®		ZINCALUME® steel	
BMT	Kg/m	Kg/m2	Kg/m	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

	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®

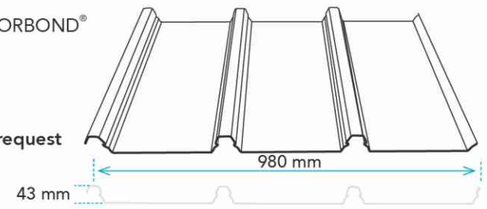
KLIP-LOK OPTIMA® is the new generation of high-strength cladding that spans wider and offers better uplift performance than other comparable profiles. Our extensive research shows that its conceal fixed system and long lengths make it the best profile for controlling thermal expansion and contraction.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

Aplication
Roofing & Walling

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

Standard BMT
0.40 mm & 0.45 mm
Non standard based on request

Minimum Roof Pich
2 degree (1 : 50)



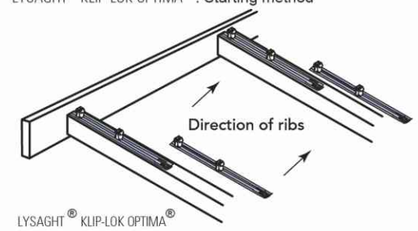
LYSAGHT® KLIP-LOK OPTIMA®		
Type of Span	**BMT (mm)** 0,40	0,45
Roofs (mm)		
Single Span	900	1110
End Span	1850	1880
Internal Span	2100	2380
Unstiffened Eaves Overhang	150	150
Stiffened Eaves Overhang	200	200
Walls (mm)		
Single Span	2000	2100
End Span	2200	2400
Internal Span	3300	3300
Overhang	150	150

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

Peak rainfall intensity (mm/hr)	Roof Slope (degrees) 2	3	4	5	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



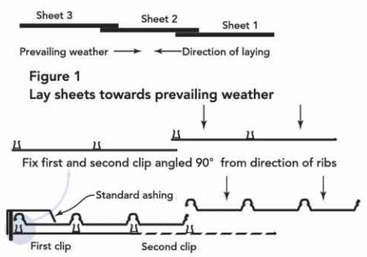


Figure 1
Lay sheets towards prevailing weather

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

Roll On-Site Based On Request

LYSAGHT® TRIMDEK® OPTIMA™

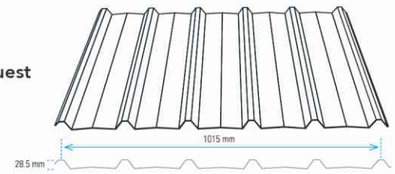
TRIMDEK OPTIMA® is subtle-fluted steel cladding, available in long lengths, so on most jobs you can have one sheet from ridge to gutter or full wall height without end laps. TRIMDEK OPTIMA® is made of high strength steel and despite its lightness, provides excellent spanning capacity. The strength spanning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

Aplication
Roofing & Walling

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

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

Minimun Roof Pich
3 degree (1:20)



MAXIMUM SUPPORT SPACINGS

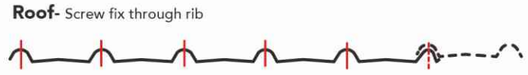
LYSAGHT® TRIMDEK OPTIMA®		
Type of span Base Metal Thickness (mm)	0,35	0,40
Roof (mm)		
Single Span	900	1110
End Span	1850	1880
Internal Span	2100	2380
Unstiffened Overhang	150	150
Stiffened Overhang	200	200
Walls (mm)		
Single Span	2000	2100
End Span	2200	2400
Internal Span	3300	3300
Overhang	150	150

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

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