

# TRIMDEK®

DESIGN AND INSTALLATION GUIDE

# LYSAGHT

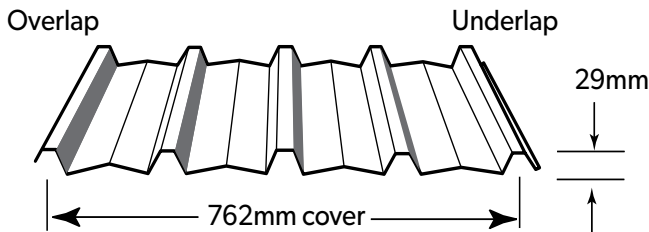


# LYSAGHT Trimdek®

LYSAGHT TRIMDEK® is a subtle square-fluted steel cladding, available in long lengths, so on most jobs you can have one sheet from ridge to gutter without end laps.

LYSAGHT TRIMDEK is made of high strength steel and despite its lightness, provides excellent spanning and rainwater carrying capacity.

The strength, spanning ability, lightness and rigidity of LYSAGHT TRIMDEK permits wide support spacings to be used with safety.



## Material specifications

- Next generation ZINCALUME® aluminium/zinc/magnesium alloy coated steel complies with AS1397:2011 G550, AM125 (550 MPa minimum yield stress, 125 g/m<sup>2</sup> minimum coating mass)
- COLORBOND® is pre-painted steel for exterior roofing and walling. It is the most widely used. The painting complies with AS/NZS 2728:2013 and the steel base is an aluminium/zinc alloy-coated steel complying with AS 1397:2011. Minimum yield strength is G550 (550MPa). Minimum coating mass is AM100 (100g/m<sup>2</sup>).
- COLORBOND® METALLIC is pre-painted steel for superior aesthetic qualities displaying a metallic sheen.
- COLORBOND® ULTRA is pre-painted steel for severe coastal or industrial environments (generally within about 100-200 metres of the source). The painting complies with AS/NZS 2728:2013 and the steel base is an aluminium/zinc alloy-coated steel complying with AS 1397:2011. Minimum coating mass is AM150 (150g/m<sup>2</sup>)
- COLORBOND® Stainless is a pre-painted steel and is used for severe and coastal environments. The painting complies with AS/NZS 2728:2013 and the steel base is a stainless steel complying with AISI/ASTM Type 430; UNS No. S43000.

Metallic finishes are available subject to enquiry.

The base metal thickness is 0.42 or 0.48mm.

The COLORBOND® pre-painted steel complies with AS/NZS2728:2013.

## Colours

TRIMDEK is available in an attractive range of colours in COLORBOND® factory pre-painted steel and in unpainted ZINCALUME® steel.

## COLORBOND® steel with THERMATECH® technology

The next generation COLORBOND® steel incorporates THERMATECH® technology, which provides a new level of thermal protection by absorbing less heat. Average reduction in solar absorption across all standard colours is 5%.

Now 14 of the 20 standard COLORBOND® steel colours are 'medium to light' under the BASIX colour classification, which means reflective foil at the roof may not be required.

It also means a drop of roof insulation R-rating may be applicable.

## Maximum Support Spacings

The maximum recommended support spacings are based on testing in accordance with AS1562.1:1992, AS4040.1:1992 and AS4040.2:1992.

Roof spans consider both resistance to wind pressure and light roof traffic (traffic arising from incidental maintenance). Wall spans consider resistance to wind pressure only.

The pressure considered is based on buildings up to 10m high in Region B, Terrain Category 3,  $M_s=0.85$ ,  $M_i=1.0$ ,  $M_t=1.0$  with the following assumptions made:

## Roofs:

$C_{pi}=+0.20$ ,  $C_{pe}=-0.90$ ,  $K_1=2.0$  for single + end spans,  $K_1=1.5$  for internal spans.

## Walls:

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

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

## Maximum support spacings (mm)

Type of Span	BMT	
	0.42	0.48
<b>Roofs</b>		
Single Span	1100	1600
End Span	1300	1850
Internal Span	1900	2600
Unstiffened Overhang	150	200
Stiffened Overhang	300	350
<b>Walls</b>		
Single Span	2400	2700
End Span	3000	3000
Internal Span	3000	3000
Overhang	150	200

• For roofs: the data is based on foot-traffic loading.

• For walls: the data is based on pressures (see wind pressures table).

• Table data is based on supports of 1mm BMT.

## Lengths

Sheets are supplied custom cut.

## Tolerances

Length: + 0mm, - 15mm, Width: + 4mm, - 4mm

## Simple, low-cost fixing

Long, straight lengths of LYSAGHT TRIMDEK can be lowered into place and aligned easily. Fixing with hexagon headed screws is simple and fast.

## LYSAGHT trimdek®: Limit State wind pressure capacities (kPa)

Span Type	Limit State	Span (mm)									
		600	900	1200	1500	1800	2100	2400	2700	3000	
<b>Base metal thickness 0.42mm</b>											
SINGLE	Serviceability	4.98	3.91	2.83	1.87	1.16	0.75	0.53			
	Strength	10.25	8.35	6.45	4.75	3.60	3.00	2.75			
END	Serviceability	4.18	3.63	3.08	2.55	2.06	1.62	1.22	0.85	0.50	
	Strength	6.35	5.85	5.30	4.80	4.30	3.80	3.25	2.75	2.25	
INTERNAL	Serviceability	5.05	4.18	3.42	2.83	2.36	1.94	1.56	1.23	0.97	
	Strength	9.50	7.95	6.55	5.25	4.30	3.65	3.30	3.05	2.85	
<b>Base metal thickness 0.48mm</b>											
SINGLE	Serviceability	7.27	5.06	3.34	2.06	1.15	0.71	0.50	0.42		
	Strength	12.00	11.60	9.60	7.75	6.10	4.75	3.60	2.65		
END	Serviceability	6.29	5.13	3.96	2.93	2.13	1.54	1.12	0.82	0.58	
	Strength	9.40	8.00	6.55	5.30	4.35	3.65	3.25	2.95	2.75	
INTERNAL	Serviceability	7.37	5.96	4.66	3.54	2.72	2.22	1.92	1.64	1.38	
	Strength	9.90	8.55	7.35	6.25	5.40	4.75	4.30	3.85	3.45	

Supports must be not less than 1.0mm BMT.

### Limit states wind pressures

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

Testing was conducted in accordance with AS 1562.1:1992 Design and installation of sheet roof and wall cladding—Metal, and AS 4040.2:2002 Resistance to Wind Pressure for Non-cyclonic Regions.

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

The pressure capacities for strength have been determined by testing the cladding to failure (ultimate capacity). These pressures are applicable when the cladding is fixed to a minimum of 1.0mm, G550 steel.

For material less than 1.0mm thick, seek advice from our information line.

### Walking on roofs

Generally, keep your weight evenly distributed over the soles of both feet to avoid concentrating your weight on either heels or toes. Always wear smooth soft-soled shoes; avoid ribbed soles that pick up and hold small stones, swarf and other objects.

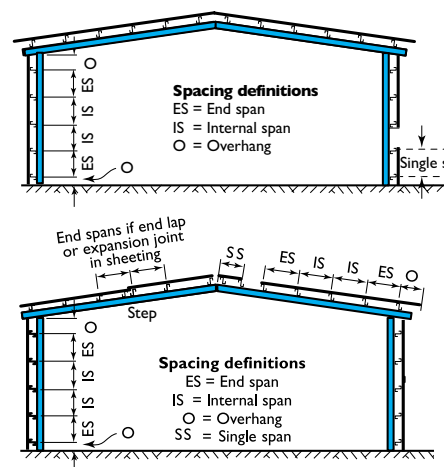
### Metal & timber compatibility

Lead, copper, bare steel and green or some chemically-treated timbers are not compatible with this product; thus don't allow any contact of the product with those materials, nor discharge of rainwater from them onto the product. If there are doubts about the compatibility of products being used, ask for advice from our information line.

### Cutting

For cutting thin metal on site, we recommend a circular saw with a metal-cutting blade because it produces fewer damaging hot metal particles and leaves less resultant burr than a carborundum disc. Cut materials over the ground and not over other materials.

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



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

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.

### Minimum roof pitch

Long lengths and a special anti-capillary groove in the side lap allows you to use LYSAGHT TRIMDEK on roof pitches as low as 2-degrees (1 in 30).

Peak rainfall intensity mm/hr	Roof slope					
	1°	2°	3°	5°	7.5°	10°
100	-	220	257	320	382	439
150	-	146	172	214	255	293
200	-	110	129	160	191	220
250	-	88	103	128	163	176
300	-	73	86	107	127	146
400	-	55	64	80	96	110
500	-	44	51	64	76	88

### Masses

	BMT (mm)	kg/m	kg/m <sup>2</sup>	m <sup>2</sup> /t
ZINCALUME®	0.42	3.26	4.28	234
COLORBOND®	0.42	3.32	4.35	230
ZINCALUME®	0.48	3.70	4.86	206
COLORBOND®	0.48	3.76	4.93	203

## Maintenance

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

## Safety, storage and handling

Handling Safety - LYSAGHT product may be sharp and heavy.

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

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

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

## Adverse conditions

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

## Sealed joints

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

## Non-cyclonic areas

The information in this brochure is suitable for use only in areas where a tropical cyclone is unlikely to occur as defined in AS 1170.2:2011.

For information on the use of LYSAGHT products in cyclonic conditions, refer to the Design Capacities for Cyclonic Areas brochure (formerly Cyclonic Area Design Manual) which is available by ringing Steel Direct on 1800 641 417 or on our website: [www.lysaght.com](http://www.lysaght.com).



## Fasteners without Insulation

	<b>Fix to Steel</b> Single & lapped steel thickness ≥0.55 up to 1.0mm BMT	<b>Fix to Steel</b> Single thickness steel ≥1.0mm BMT up to 3.0mm BMT	<b>Fix to Steel</b> Total lapped thickness of ≥1.0mm BMT up to 3.8mm BMT	<b>Fix to Timber</b> Hardwood J1-J3	<b>Fix to Timber</b> Softwood J4
<b>Crest Fixed</b>	RoofZips M6-11x50	12-14x45, Metal Tek's HG, HH or AutoTek's M5.5-14x50	12-14x45, Metal Tek's HG, HH or AutoTek's M5.5-14x50	12-11x65, Type 17 HG, HH	12-11x65, Type 17 HG, HH or RoofZips M6-11x65
<b>Pan Fixed</b>	10-16x16, Metal Tek's, HH or M5-16x25 Designer Head or RoofZips M6-11x25	10-16x16, Metal Tek's, HH or M5-16x25 Designer Head	10-16x16, Metal Tek's, HH	10-12x25, Type 17, HH M5-16x25 Designer Head or 12-11x25, Type 17, HH	10-12x30, Type 17, HH M5-16x25 Designer Head or RoofZips M6-11x25

**Side laps** (If required) 10-16x16, Metal Tek's, HH or Roof Zips M6-11x25 or M5-16x25 Designer Head or Sealed blind rivet ø4.8mm aluminium

- Notes: 1] For other steel thicknesses not specified please seek advice from screw manufacturer.  
 2] Values given are: gauge/threads per inch/ lengths (mm). HH = Hex. Head, WH = Wafer Head, HG = Hi-Grip  
 3] Care is required during installation to prevent stripping of thin material. (Single ply.)  
 4] Screw specification as above or equivalent fastener.  
 5] All screws with EPDM sealing washer.

# Installation

## Fastening sheets to supports

TRIMDEK profile is pierce-fixed to timber or steel supports. This means that fastener screws pass through the sheeting.

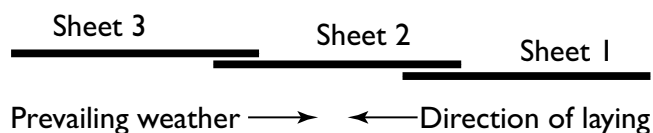
You can place screws for LYSAGHT TRIMDEK through the crests or in the pans. To maximise watertightness, always place roof screws through the crests.

For walling, you may use either crest- or pan-fixing.

Always drive the screws perpendicular to the sheeting, and in the centre of the corrugation or rib. Don't place fasteners less than 25mm from the ends of sheets.



Fasteners must be positioned 25mm or more from end of sheet.



## Side-laps

The edge of TRIMDEK with the anti-capillary groove is always the underlap (see figures on this page). It is generally considered good practice to use fasteners along side-laps however, when cladding is supported as indicated in Maximum support spacings, side-lap fasteners are not usually needed for strength.

## End laps

End-laps are not usually necessary because TRIMDEK is available in long lengths.

If you want end-laps, seek advice from our information line on the sequence of laying and the amount of overlap.

## Ends of sheets

It is usual to allow roof sheets to overlap into gutters by about 50mm. If the roof pitch is less than 25° or extreme weather is expected, the pans of sheets should be turned-down at lower ends, and turned-up at upper ends by about 80°.

## Laying procedure

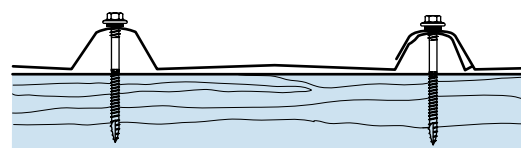
For maximum weather-tightness, start laying sheets from the end of the building that will be in the lee of the worst-anticipated or prevailing weather. Before lifting sheets on to the roof, check that they are the correct way up and the overlapping side is towards the edge of the roof from which installation will start. Also, it is much easier and safer to turn sheets on the ground than up on the roof.

Place bundles of sheets over or near firm supports, not at mid span of roof members.

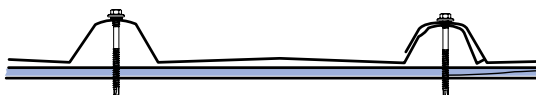
Refer to the LYSAGHT Roofing & Walling Installation Manual for more detailed information on laying roof sheets.

## Sheet-ends on low slopes

When TRIMDEK is laid on slopes of 5° degrees or less, cut back the corner of the under-sheet, at the downhill end of the sheet, to block capillary action.



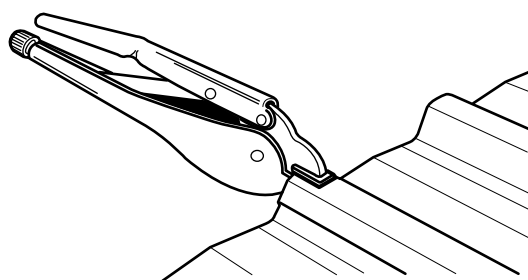
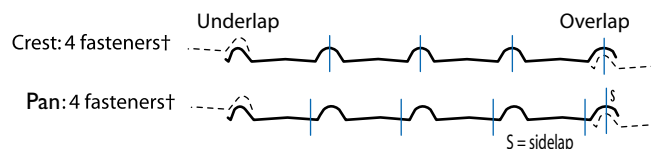
TRIMDEK to timber support



Crest fixing for roofs or walls.



Pan fixing for walls only.



Clamp one end of the sheet whilst fixing the other end.

## Sheet coverage

Width of wall (m)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	30	40	50
Number of sheets	4	6	7	8	10	11	12	14	15	16	18	19	20	21	23	24	25	27	40	53	66

## Product Descriptions

All descriptions, specifications, illustrations, drawings, data, dimensions and weights contained in this catalogue, all technical literature and websites containing information from Lysaght are approximations only.

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