TRIMDEK®

DESIGN AND INSTALLATION GUIDE

LYSAGHT TRIMDEK®

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

TRIMDEK® cladding 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 TRIMDEK® cladding permits wide support spacings to be used with safety.

MATERIAL SPECIFICATIONS

Next generation ZINCALUME® aluminium/zinc/magnesium alloy coated steel complies with AS 1397:2011 G550, AM125 (550 MPa minimum yield stress, 125g/m^2 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 (550 MPa). Minimum coating mass is AM100 (100g/m^2).

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^2).

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/NZS 2728:2013.

COLOURS

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

LENGTHS

Sheets are supplied custom cut.

MASSES

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

TOLERANCES

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

MAXIMUM SUPPORT SPACINGS

The maximum recommended support spacings are based on testing in accordance with AS 1562.1:1992, AS 4040.1:1992 and AS 4040.2:1992.

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_l=2.0 for single + end spans, K_l=1.5 for internal spans.

WALLS:

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

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

MAXIMUM SUPPORT SPACINGS (MM)

	BMT	
Type of Span	**0.42mm**	**0.48mm**
Roofs		
Single span	1100	1600
End span	1300	1850
Internal span	1900	2600
Unstiffened overhang	150	200
Stiffened overhang	300	350
Walls		
Single span	2400	2700
End span	3000	3000
Internal span	3000	3000
Overhang	150	200

For roofs: the data are based on foot-traffic loading.
For walls: the data are based on pressures (see wind pressure table).
Table data are based on supports of 1mm BMT. Refer to the TOPSPAN® Quick Selection Guide for support thickness less than 1.0 mm BMT, or seek advice from our information line.

TRIMDEK® LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.42 BMT

Span Type	Limit State	Span (mm)								
		600	900	1200	1500	1800	2100	2400	2700	3000
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

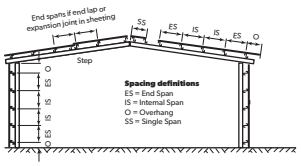
TRIMDEK® LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.48 BMT

Span Type	Limit State	Span (mm)								
		600	900	1200	1500	1800	2100	2400	2700	3000
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

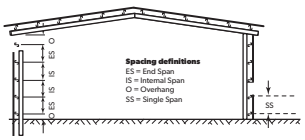
Support must not be less than 1mm BMT.

SPAN TYPES

Roofing & Walling Profiles



Walling Profiles Only



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.

LIMIT STATES WIND PRESSURES

TRIMDEK® cladding 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 (span/120) + (maximum fastener pitch/30).

The pressure capacities for strength have been determined by testing the cladding to failure (ultimate capacity). These pressures are applicable when the cladding is fixed to a minimum of 1.0mm, G550 steel. For material less than 1.0mm thick, refer to the TOPSPAN® Quick Selection Guide, or seek advice from our information line.

ADVERSE CONDITIONS

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

MAXIMUM ROOF LENGTH FOR DRAINABLE (M)

Peak Rainfall Intensity (mm/hr)	Roof Slopes (degrees)					
	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

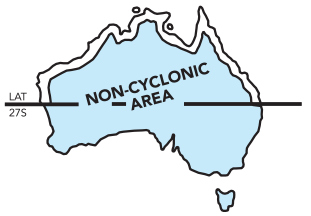
MINIMUM ROOF PITCH

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

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



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 TRIMDEK® cladding 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.

SIDE-LAPS

The edge of TRIMDEK® cladding 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® cladding 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°.

SHEET-ENDS ON LOW SLOPES

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

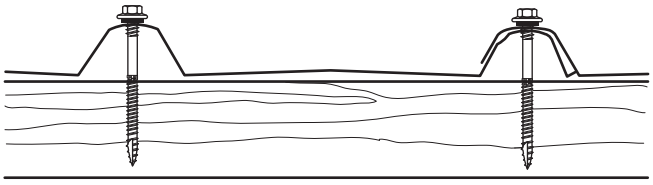
LAYING PROCEDURE

Consider which end of the building is best to start from 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. It is much easier and safer to turn sheets on the ground than up on the roof.

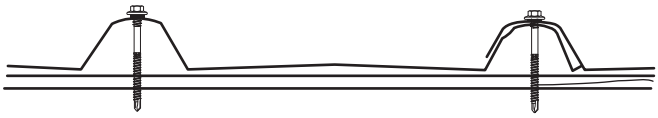
Place bundles of sheets over or near firm supports, not at mid span of roof members.

Industry practice is to start laying sheets from the end of the building in the line of the prevailing weather wherever possible

Refer to the LYSAGHT® Roofing & Walling Installation Manual for more detailed information.

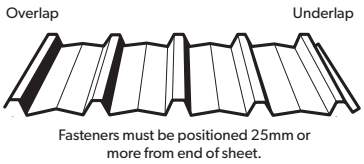


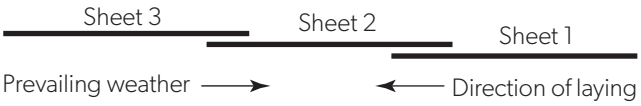
TRIMDEK® cladding to timber support.



Crest fixing for roofs or walls.

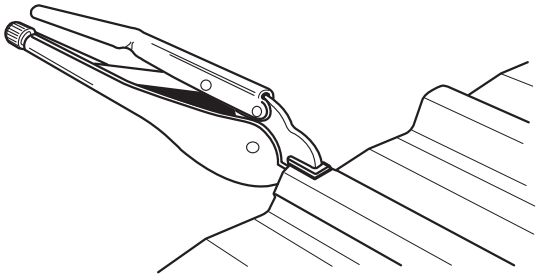
Pan fixing for walls only.





Crest fixing: 4 fasteners per sheet per support.

Pan fixing: 4 fasteners per sheet per support.



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

FASTENERS WITHOUT INSULATION

	Fix to Steel Single & lapped steel thickness ≥0.55 up to 1.0mm BMT	Fix to Steel Single steel thickness ≥1.0mm BMT up to 3.0mm BMT	Fix to Steel Total lapped thickness ≥1.00 BMT up to 3.8mm BMT	Fix to Timber Hardwood J1-J3	Fix to Timber Softwood J4
Crest Fixed	Roof Zips M6-11x50	12-14x45, Metal Teks HG, HH or AutoTeks 12-14x50	12-14x45, Metal Teks HG, HH or AutoTeks 12-14x50	12-11x65, Type 17 HG, HH	12-11x65, Type 17 HG, HH or Roof Zips M6-11x65
Pan Fixed	10-16x16, Metal Teks, HH or 10-16x25 Designer Head or Roof Zips M6-11x25	10-16x16, Metal Teks, HH or 10-16x25 Designer Head	10-16x16, Metal Teks, HH	10-12x25, Type 17, HH 10-16x25 Designer Head or 12-11x25, Type 17, HH	10-12x30, Type 17, HH 10-16x25 Designer Head 12-11x25, Type 17, HH or Roof Zips M6-11x25
Side-laps	(If required) 10-16x16, Metal Teks, HH or Roof Zips M6-11x25 or 10-16x25 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.

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.

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.

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.

SEALED JOINTS

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

SIMPLE, LOW-COST FIXING

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

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. They are intended by Lysaght to be a general description for information and identification purposes and do not create a sale by description. Lysaght reserves the right at any time to:

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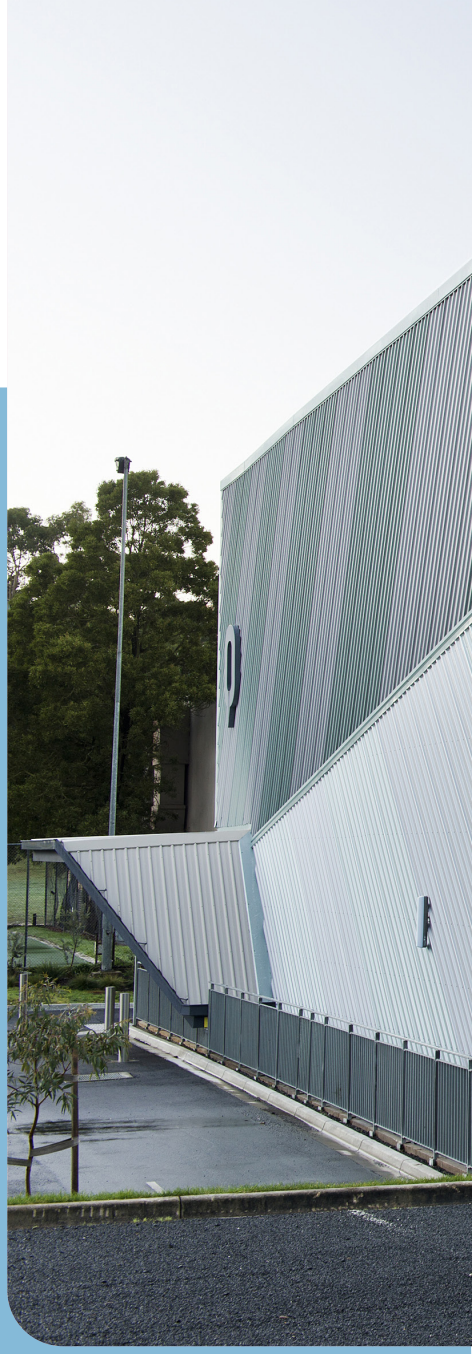

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