

# Spandek®

## Trapezoidal steel cladding



- Contemporary-looking, trapezoidal profile which is ideal where a stronger, bolder, sharper corrugated appearance is required
- SPANDEK combines strength with lightness, rigidity and economy.
- The long, straight lengths of SPANDEK can be lowered into place and easily aligned.
- A special anti-capillary groove in the side lap allows you to use SPANDEK on roof pitches as low as 3 degrees (1 in 20).

**YSAGHT**

# Lysaght Spandek

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 proved equally popular for homes and public buildings, underlining its versatility and pleasing appearance.

SPANDEK combines strength with lightness, rigidity and economy.

## Masses

BMT	kg/m	kg/m <sup>2</sup>	m <sup>2</sup> /t
0.42 ZINCALUME®	3.26	4.66	215
0.42 COLORBOND®	3.32	4.74	211
0.48 ZINCALUME®	3.70	5.29	189
0.48 COLORBOND®	3.76	5.37	186

## Material specifications

- ZINCALUME® aluminium/zinc alloy-coated steel complying with AS-1397—2001 G550, AZ150 (550MPa minimum yield stress, 150g/m<sup>2</sup> minimum coating mass);

or

- Stainless steel standard grade designation is AISI/ASTM Type 430; UNS No. S43000

Stainless steel is available in a limited range of colours, and is available subject to enquiry.

The base metal thickness is 0.42 or 0.48mm.

The COLORBOND® prepainted steel complies with AS/NZS2728:1997.

## Colours

SPANDEK is available in an attractive range of colours in COLORBOND® pre-painted steel and in unpainted ZINCALUME® aluminium/zinc alloy coated steel.

ZINCALUME® steel provides a minimum of twice the life of conventional galvanised steel in the same environment.

The standard COLORBOND® steel offers a full range of contemporary colours suitable for all building projects. COLORBOND® Metallic steel provides superior aesthetic qualities, and COLORBOND® Ultra steel is intended for severe coastal or industrial environments.

Both COLORBOND® Metallic and Ultra steel are available in a limited range of colours, and are available subject to enquiry.

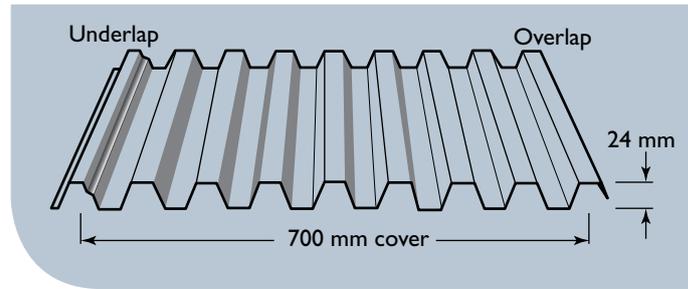
## Lengths

Sheets are supplied custom cut.

## Tolerances

Length: + 0mm, - 15mm

Width: + 4mm, - 4mm



## Maximum support spacings (mm)

Type of span	BMT	
	0.42	0.48
<b>Roofs</b>		
Single span	1300	2000
End span	1800	2200
Internal span	2400	3000
Unstiffened eaves overhang	300	400
Stiffened eaves overhang	600	700
<b>Walls</b>		
Single span	2500	3000
End span	3000	3000
Internal span	3300	3300
Overhang	300	400

- 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.
- Spacing is based on 4 fasteners per sheet per support.

## 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.

## 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,  $M_s=0.85$ ,  $M_l=1.0$ ,  $M_t=1.0$  with the following assumptions made:

### Roofs:

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

### Walls:

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

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

## 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.

Peak rainfall intensity mm/hr	Roof slope					
	1°	2°	3°	5°	7.5°	10°
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



## LYSAGHT SPANDEK: Limit State wind pressure capacities (kPa)

Span type	Fasteners per sheet per support		Span (mm)								
			900	1200	1500	1800	2100	2400	2700	3000	3300
<b>Base metal thickness 0.42 mm</b>											
SINGLE	3	Serviceability	2.04	1.64	1.27	0.96	0.72	0.54	0.41	0.30	—
		Strength*	8.35	6.85	5.45	4.30	3.50	2.95	2.60	2.30	—
	4	Serviceability	4.24	3.07	2.02	1.20	0.68	0.42	0.33	0.30	—
		Strength*	10.25	8.35	6.60	5.20	4.25	3.70	3.40	3.20	—
END	3	Serviceability	2.05	1.82	1.61	1.40	1.20	1.02	0.83	0.65	—
		Strength*	5.85	4.40	3.20	2.35	1.85	1.55	1.45	1.40	—
	4	Serviceability	3.75	3.19	2.67	2.20	1.78	1.40	1.05	0.72	—
		Strength*	6.90	5.65	4.55	3.75	3.15	2.70	2.40	2.20	—
INTERNAL	3	Serviceability	1.96	1.81	1.66	1.52	1.37	1.23	1.08	0.93	0.79
		Strength*	6.90	5.80	4.70	3.70	2.85	2.25	1.80	1.60	1.50
	4	Serviceability	4.74	4.05	3.38	2.75	2.20	1.73	1.36	1.08	0.87
		Strength*	8.55	6.80	5.40	4.35	3.55	2.95	2.55	2.30	2.20
<b>Base metal thickness 0.48 mm</b>											
SINGLE	3	Serviceability	2.50	2.08	1.69	1.34	1.04	0.79	0.58	0.38	—
		Strength*	9.00	7.55	6.25	5.10	4.25	3.60	3.10	2.70	—
	4	Serviceability	5.07	3.53	2.35	1.48	1.00	0.70	0.52	0.40	—
		Strength*	12.00	10.35	8.30	6.65	5.40	4.60	4.00	3.60	—
END	3	Serviceability	3.05	2.58	2.15	1.78	1.47	1.20	0.96	0.75	—
		Strength*	7.55	5.65	4.05	3.35	2.85	2.50	2.25	2.10	—
	4	Serviceability	5.34	4.37	3.50	2.76	2.16	1.65	1.22	0.83	—
		Strength*	9.75	7.65	5.85	4.50	3.70	3.20	2.95	2.85	—
INTERNAL	3	Serviceability	2.72	2.40	2.09	1.79	1.53	1.30	1.10	0.95	0.82
		Strength*	9.00	7.05	5.50	4.30	3.40	2.75	2.35	2.10	2.00
	4	Serviceability	6.50	5.44	4.43	3.49	2.66	1.99	1.49	1.14	0.90
		Strength*	11.40	9.70	8.05	6.55	5.25	4.20	3.50	3.05	2.80

\* A capacity reduction factor of  $\phi = 0.9$  has been applied to strength capacities. Supports must be not less than 1 mm BMT.

### Limit states wind pressures

SPANDEK 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 BlueScope 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 4040.2:1992 Resistance to Wind Pressure for Non-cyclonic Regions.

The pressure capacities for service-ability 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.

### Adverse conditions

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

### 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.

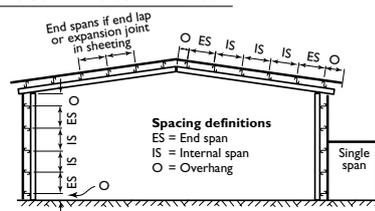
### Maintenance

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.

### 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

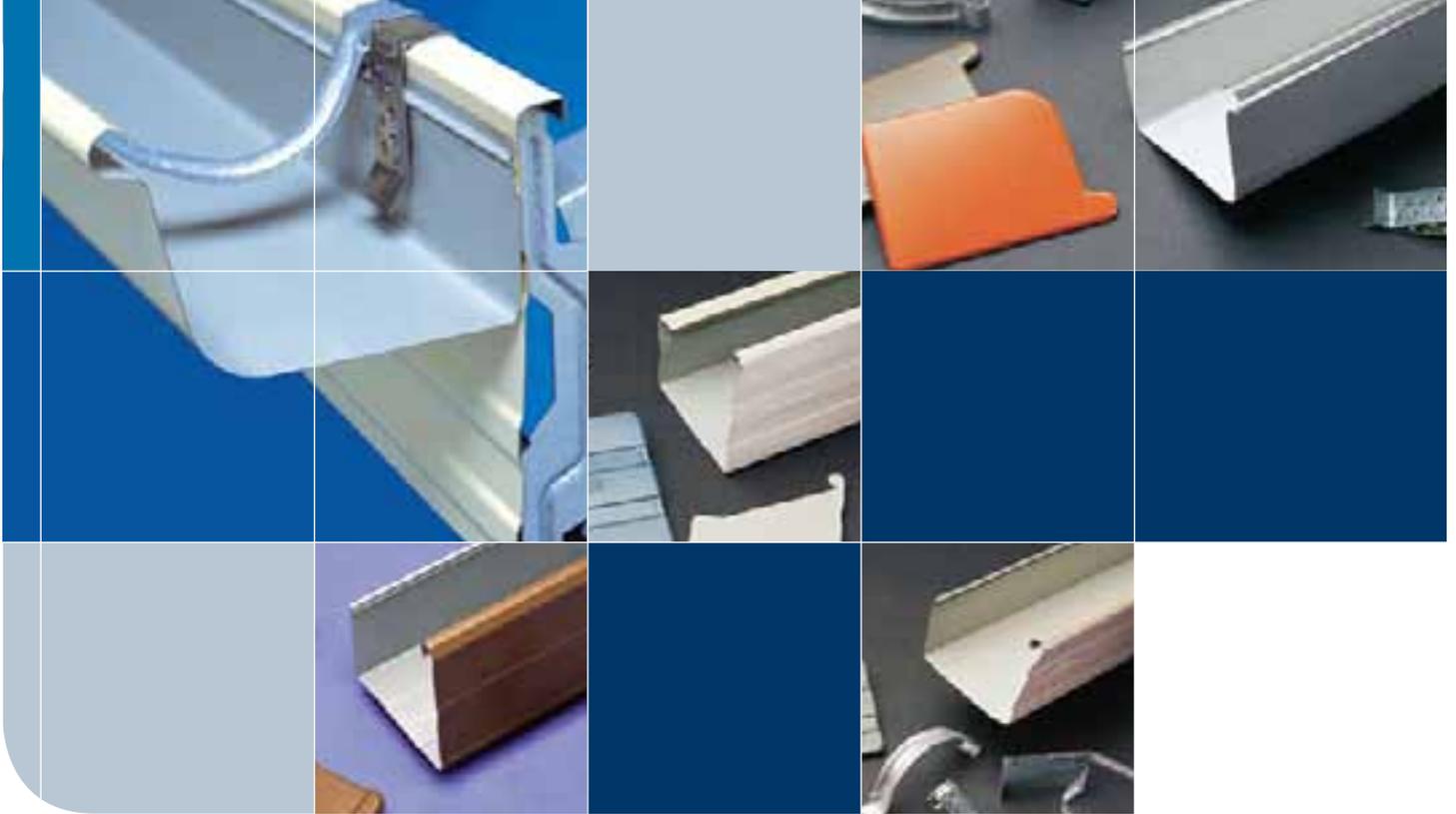
For sealed joints use screws or rivets and neutral-cure silicone sealant branded as suitable for use with galvanised or ZINCALUME® steel.

### 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—2002.

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).





## The Perfect finishing touch

### LYSAGHT rainwater goods

Whether you're renovating a classic Australian house or searching for a distinctive look for a new home, add the perfect finishing touch to your SPANDEK roof with our extensive range of rainwater goods. LYSAGHT rainwater goods provide the perfect finishing touch.

Our rainwater goods are manufactured from ZINCALUME® steel with COLORBOND® prepainted steel available, so they'll stand up to years of the harshest Australian climate.

The choice of colours and styles is extensive, covering everything you could need from gutters and downpipes, to fascia, flashings and cappings, as well as fasteners and fixing clips.

### Gutters and downpipes

We manufacture the perfect guttering system for your home, whatever the style. You can choose from QUAD, TRIMLINE®, SHEERLINE®, EMLINE® gutters or a number of other designs.

All designs can be complemented with our complete range of square and round downpipes and rainwater accessories.

To ensure quick and easy installation there is also a full range of matching fixing clips.

### Fascia

LYSAGHT NOVALINE® fascia is attractive and easy to install. It is strong, lightweight and can be used as a complete system. Special clips are also available to fix QUAD and TRIMLINE® gutters to the fascia.

### Flashings and cappings

We supply flashings and cappings standard or custom made. The finish can be plain ZINCALUME® steel or COLORBOND® steel.

### Mix and match

The wide choice of COLORBOND® steel colours and LYSAGHT profiles allows you to mix and match with ease.

### One call gets it all

We provide everything you need, with one phone call, one order and no running around. So for your next project, it makes sense to insist on steel sheeting and rainwater goods from BlueScope Lysaght.

### Why you should always insist on LYSAGHT

When you specify LYSAGHT products you have the added advantage of dealing with a company whose expertise and experience with steel stretches back for well over a century. A company with a reputation for consistently producing top quality products.

Our products are backed by a performance warranty for up to 25 years. The BlueScope Lysaght warranty guarantees in writing that your products will perform exactly to specifications when installed in accordance with our recommendations.

# Installation

## SPANDEK Fasteners without insulation

	Fixing to steel up to 0.75 mm BMT	Fixing to steel >0.75 to 3 mm BMT	Fixing to timber
<b>Crest fixed</b>	Roofzips® (M5.5-11x50) OR Self drilling screws with hex. washer-head, EPDM seal, <i>Higrip &amp; shank protection</i> 12-11x50 (M5.5-11x50)	Roofzips® (M5.5-11x50) OR Self drilling screws with hex. washer-head, EPDM seal, <i>Higrip &amp; shank protection</i> 12-14 x 45 (M5.5-14x45)	Roofzips® (M6-11x65) OR Type 17 Self drilling screws with hex. washer-head, EPDM seal, <i>Higrip &amp; shank protection</i> SOFTWOOD: 12-11 x 65 (M5.5-11x65) HARDWOOD: 12-11 x 50 (M5.5-11x50)
<b>Valley fixed</b>	Self drilling screws with hex. washer-head & EPDM seal 10-12x20 (M4.8-12x20) OR Self drilling screws with hex. washer-head & EPDM seal 10-16x16 (M4.8-16x16)	Self drilling screws with hex. washer-head & EPDM seal 10-16x16 (M4.8-16x16)	Roofzips® (M6-11x65) OR Type 17 Self drilling screws with hex. washer-head & EPDM seal SOFTWOOD: 10-12 x 30 (M4.8-12x30) HARDWOOD: 10-12 x 20 (M4.8-12x20)
<b>Side lap &amp; accessories</b>	Self drilling hex head screws with washer and EPDM seal	10-16 x 16 OR EPDM seal: 8-15 x 15	

## Sheet coverage

Width of roof (m)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	30
Number of sheets	5	6	8	9	10	12	13	15	16	18	19	20	22	23	25	26	28	29	43

## Fastening sheets to supports

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

You can place screws for SPANDEK through the crests or in the valleys. To maximise watertightness, always place roof screws through the crests. For walling, you may use either crest- or valley-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 SPANDEK with the anti-capillary groove is always the underlap (see figures on this page and on page 2). 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 lapping

End-laps are not usually necessary because SPANDEK 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 valleys of sheets should be turned-down at lower ends, and turned-up at upper ends by about 80°.

## Laying procedure

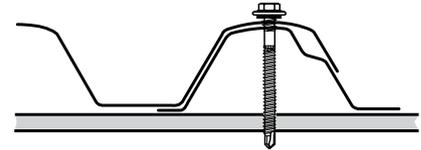
For maximum weather-tightness, start laying sheets from the end of the building that will be in the lee of the worst-anticipated or prevailing weather.

It is much easier and safer to turn sheets on the ground than up on the roof.

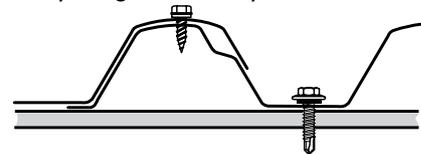
Before lifting sheets on to the roof, check that they are the correct way up and the overlapping side is towards the edge of the roof from which installation will start.

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

## Crest fixing for roof or walls



## Valley fixing for walls only



Crest: 3 fasteners†



Valley: 3 fasteners†



Crest: 4 fasteners†



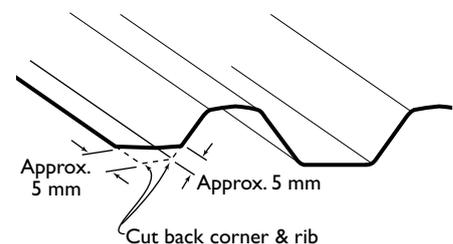
Valley: 4 fasteners†



† Fasteners per sheet per support. Most common practice is: 3 fasteners for internal spans and 4 fasteners for single and end spans.  
S = Side-lap

## Sheet-ends on low slopes

When SPANDEK 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.





### **Disclaimer, warranties and limitation of liability**

This publication is intended to be an aid for all trades and professionals involved with specifying and installing LYSAGHT products and not to be a substitute for professional judgement.

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**[www.lysaght.com](http://www.lysaght.com)**

Information, brochures and your local distributor

**1800 641 417**

Please check the latest information which is always available at [www.lysaght.com](http://www.lysaght.com)

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