LYSAGHT INTEGRITY 820

For non-cyclonic areas

The INTEGRITY® cladding system provides the benefits of long spanning, pierced-fix cladding, with the waterproofing characteristics of a concealed-fix profile.

The system uses state-of-the-art sealing plates engineered to combine with *Higrip* fasteners and EPDM washers to provide superior watertightness.

All overlapping ribs have specially formed capillary grooves to prevent water entering at the side laps.

Highest weather integrity

The INTEGRITY cladding system boasts the patented INTEGRITY sealing plate for the highest INTEGRITY weather seal. The sealing plate bonds to the cladding, aiding the location of the fastener. The *Higrip* fasteners ensure that the cladding and the sealing plate remain locked together for their entire service life. The result is a waterproof seal where the fastener penetrates the sheet, with no possibility of dislodgment during installation.

Colour Range

INTEGRITY 820 is available in an attractive range of colours in COLORBOND® steel and in unpainted ZINCALUME® steel.

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

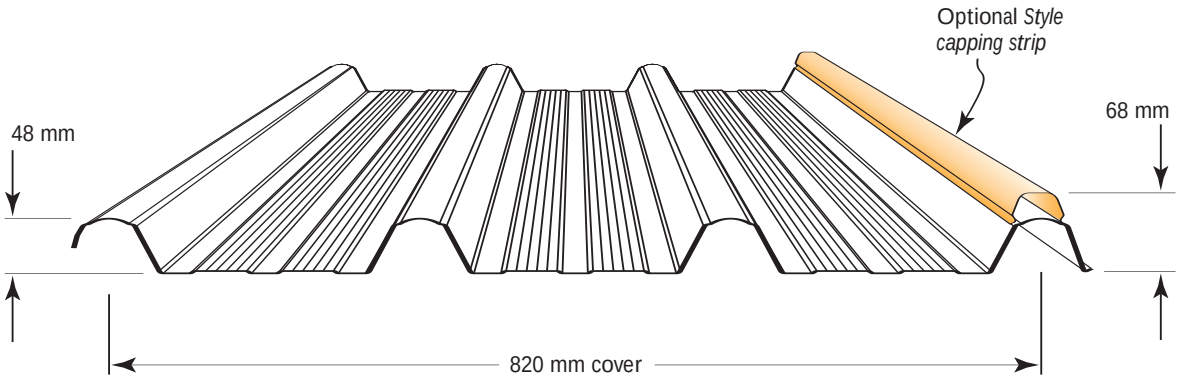
The standard COLORBOND® offers a range of colours suitable for all building projects, but COLORBOND® METALLIC finish provides superior aesthetic qualities, and COLORBOND® ULTRA finish is intended for severe coastal or industrial environments.

Minimum roof pitch

Long lengths and a special anti-capillary groove in the side lap allow you to use INTEGRITY 820 on roof pitches as low as 1 degree for 0.48 mm BMT, or 2 degrees for 0.42 mm BMT. Excellent rainwater carrying capacity is retained.

Roofing & Walling Solutions
Rainwater Solutions
Structural Solutions
Fencing Solutions
Home Improvements
House Framing Solutions
Customer Support

LYSAGHT INTEGRITY 820



Masses

BMT		kg/m	kg/m2	m2/t
0.42	ZINCALUME®	3.78	4.61	217
0.42	COLORBOND®	3.84	4.69	213
0.48	ZINCALUME®	4.29	5.23	191
0.48	COLORBOND®	4.36	5.31	188

Material specifications

- ZINCALUME® aluminium/zinc alloy-coated steel complying with AS 1397—2001 G550, AZ150 (550 MPa minimum yield stress, 150 g/m² minimum coating mass);

  or

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

The base metal thickness is 0.42 or 0.48 mm.

The COLORBOND® prepainted steel complies with AS/NZS 2728:1997

Lengths

Sheets are supplied custom cut.

Tolerances

Length: + 0 mm, – 15 mm

Cover width: + 4 mm, – 4 mm

Cladding and style capping strip

G550, AZ150 (550 MPa minimum yield stress, 150 g/m² minimum coating mass). The base metal thickness is 0.42 or 0.48 mm.

Style capping strips

If you want the look of concealed-fixing, where the heads of the screws are hidden, you can fit optional *Style capping strips.* These strips are clipped to cap-type sealing plates instead of the standard sealing plates.

Style capping strips can be manufactured in a colour that matches or contrasts with your INTEGRITY 820 roof.

Sealing plates

G300, AZ150. The base metal thickness is 1.0 mm.

Walking on roofs

When walking along the length of INTEGRITY 820, walk only in the pans. When walking across the width of the sheeting, walk over or close to the roofing supports.

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 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°	75°	10°
100	-	410	480	598	713	820
150	-	273	320	399	476	547
200	-	205	240	299	357	410
250	-	164	192	239	285	328
300	-	137	160	199	238	273
400	-	102	120	150	178	205
500	-	82	96	120	143	164

Maximum support spacings (mm)

Type of span	BMT 0.42	BMT 0.48
Roofs		
Single span	2100	2500
End span	2300	2550
Internal span	2800	3050
Unstiffened eaves overhang	150	200
Stiffened eaves overhang	300	350
Walls		
Single span	2600	2700
End span	3400	3600
Internal span	3600	3600
Overhang	150	200

- 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.

Maximum support spacings

The maximum recommended support spacings are based on testing in accordance with AS1562.1-1992, AS4040.0-1992 and AS4040.1-1992.

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 10 m 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, KI=2.0 for single and end spans, K_l=1.5 for internal spans.

Walls:

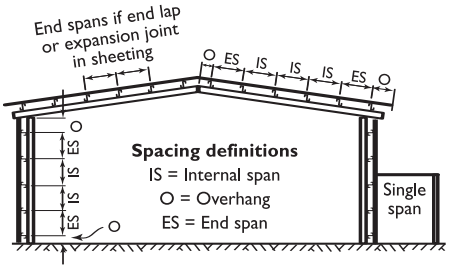
C_{pi}=+0.20, C_{pe}=-0.65, K_l=2.0 for single and end spans, K_l=1.5 for internal spans

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

INTEGRITY 820: Limit state wind pressure capacities (kPa)

Span type	Limit State	Span (mm)									
		900	1200	1500	1800	2100	2400	2700	3000	3300	3600
Base metal thickness 0.42 mm											
SINGLE	Serviceability	2.27	1.89	1.53	1.23	0.97	0.76	0.54	-	-	-
	Strength*	7.00	5.80	4.60	3.65	2.85	2.25	1.55	-	-	-
END	Serviceability	2.18	1.98	1.78	1.59	1.41	1.24	1.08	0.93	0.78	0.65
	Strength*	6.45	5.50	4.65	3.85	3.15	2.60	2.15	1.85	1.65	1.50
INTERNAL	Serviceability	2.45	2.23	2.02	1.82	1.64	1.48	1.32	1.17	1.03	0.89
	Strength*	8.60	7.30	6.10	5.00	4.00	3.20	2.65	2.25	1.95	1.80
Base metal thickness 0.48 mm											
SINGLE	Serviceability	3.71	3.04	2.42	1.91	1.52	1.21	0.89	0.51	-	-
	Strength*	8.45	6.80	5.25	4.05	3.15	2.50	1.80	0.95	-	-
END	Serviceability	3.65	3.20	2.77	2.37	2.00	1.69	1.43	1.22	1.04	0.88
	Strength*	7.70	6.55	5.45	4.40	3.55	2.85	2.35	2.10	1.95	1.85
INTERNAL	Serviceability	3.50	3.21	2.90	2.54	2.19	1.87	1.62	1.43	1.29	1.17
	Strength*	9.45	7.85	6.45	5.30	4.35	3.65	3.15	2.75	2.50	2.30

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



Limit states wind pressures

INTEGRITY 820 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 Pressures 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 1.0 mm, G550 steel.

For material less than 1.0 mm 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 timber 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. Supporting members should be coated to avoid problems with underside condensation. If there are doubts about the compatibility of other products being used, ask for advice from our information line.

Maintenance

Optimum product life will be achieved if all external walls 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.

Storage and handling

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

Handle materials carefully to avoid damage: don't drag materials over rough surfaces or each other; carry tools, don't drag them; 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 does 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.

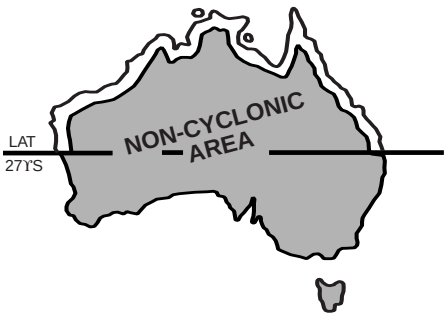
Sealed joints

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—1989 *SAA Loading Code, Part 2: Wind Loads.*

Ask for advice from our information service on designs to be used in cyclonic areas.



Installation

Fixing sheets to supports

INTEGRITY 820 is pierce-fixed to steel supports. This means that fastener screws pass through the sheeting.

To achieve the unique watertightness of INTEGRITY 820 , always place roof screws through the crests using the special integrity sealing plate.

Always drive the screws perpendicular to the sheeting.

Don't place fasteners less than 25 mm from the ends of sheets.

End lapping

End-laps are not usually necessary because INTEGRITY 820 is available in long lengths. If end-laps are used, complete each run of sheets from gutter to ridge, before placing the next run. For roofs, maximum and minimum end-laps are detailed on our website.

Ends of sheets

It is usual to allow roof sheets to overlap into gutters by about 50 mm. For roof pitches less than 25 degrees, the pans of sheets at gutter ends and ridge ends must be turned-down and turned-up respectively.

Lay sheets toward 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.

To align the first bullnosed sheet use a level on the gutter-end.

Fixing

The rib where a screw is to go must be free from moisture and debris.

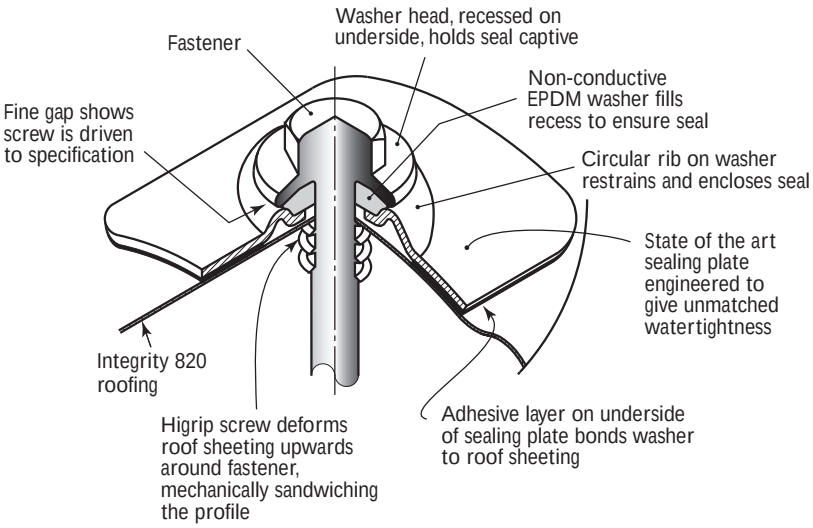
INTEGRITY sealing plates are self-adhesive. Peel the backing off an integrity sealing plate, and place the plate on the rib. Dispose of the backing in an environmentally friendly way.

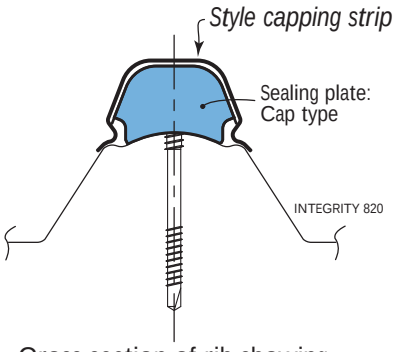
Drive the roofing screw through the hole in the sealing plate, using an electric screwdriver. Make sure the torque setting is adjusted to leave just a fine gap between the head of the washer-face and the top of the sealing plate (see drawing).

Fasteners

Fasteners without insulation		
	Fixing to steel up to 0.75 mm BMT	Fixing to steel 0.75 to 3 mm BMT
Crest fixed	Self drilling, self tapping hex head screws with washer head, HiGrip, Shankguard and EPDM seal & INTEGRITY® sealing plate 12-11 x 65	Self drilling, self tapping hex head screws with washer head, HiGrip, Shankguard and EPDM seal & INTEGRITY® sealing plate 12-14 x 68

3 fasteners per sheet per support
at single, end and internal supports





Cross section of rib showing
optional *Style capping strip*

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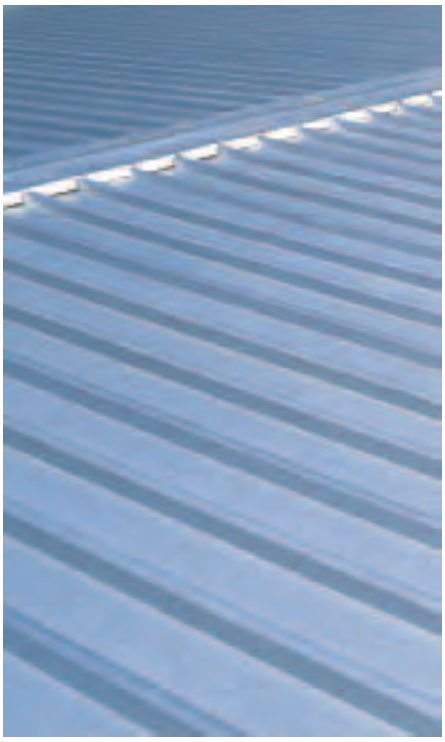
LYSAGHT INTEGRITY 820 provides superior watertightness.

It is long-spanning, pierced-fixed, with the waterproofing characteristics of a concealed-fix profile.



BLUESCOPE LYSAGHT

Information, brochures and your local distributor

1800 641 417

Please check the latest information which is always available at www.lysaght.com

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