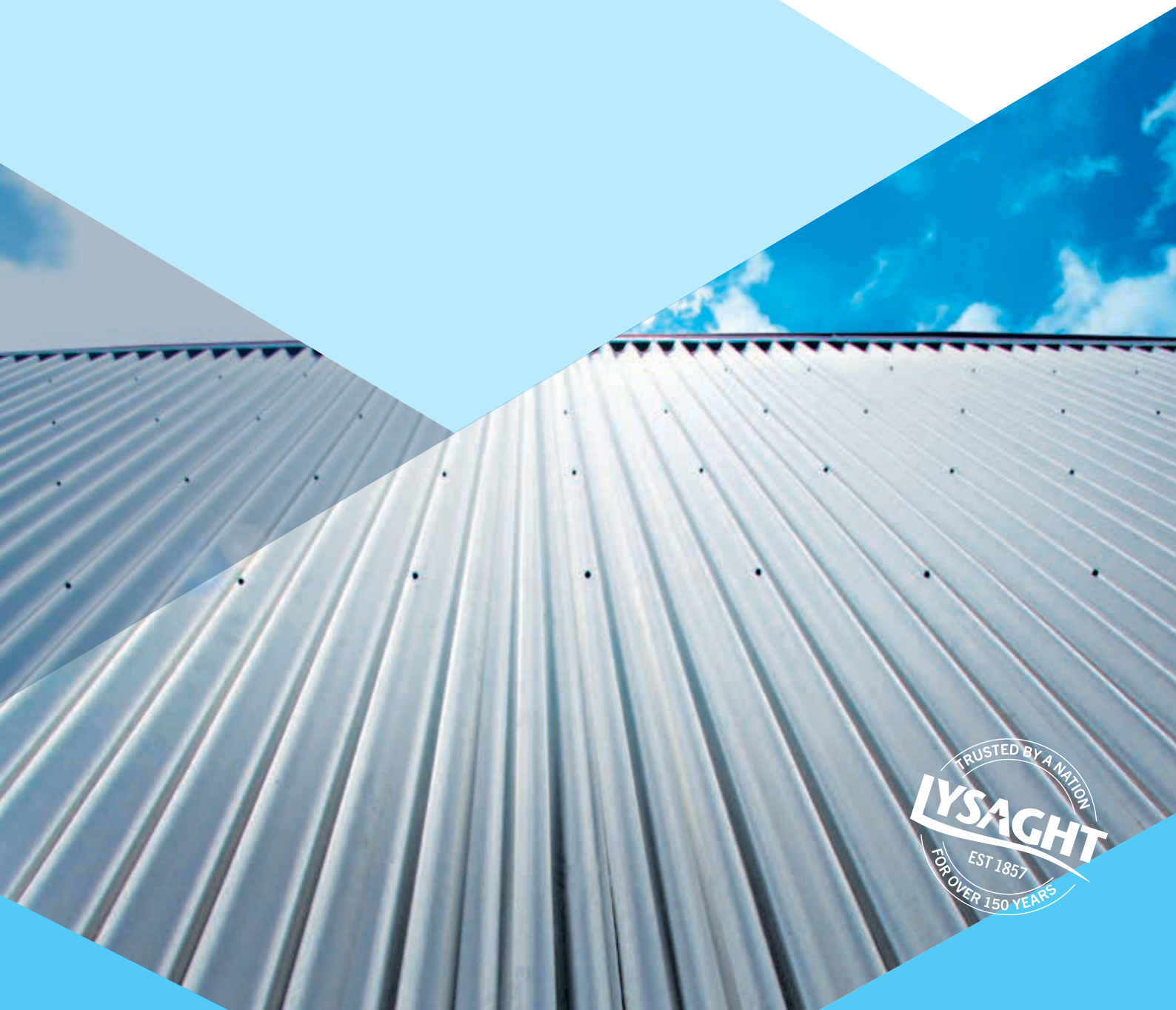
CUSTOM ORB ACCENT® 35

DESIGN AND INSTALLATION GUIDE



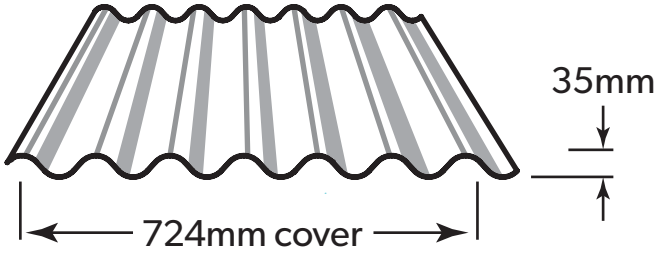
LYSAGHT CUSTOM ORB ACCENT® 35

COMMERCIAL CORRUGATED STEEL CLADDING

With corrugations 120% deeper and 50% wider than traditional corrugated profiles CUSTOM ORB ACCENT® 35 is ideally suited to the large cladding areas in modern industrial, commercial, residential and recreational buildings.

The combination of deeper, wider ribs also delivers real performance benefits over the life of a building. Stronger than traditional corrugated not only means it's tougher, thereby reducing the potential for damage during installation and maintenance, but also means it can span greater distances leading to potential structural cost savings in building design.

CUSTOM ORB ACCENT® 35 also extends the design possibilities for corrugated roofing with exceptional water carrying capacity that means it can be used at roof pitches down to 2 degrees (1 in 30).



MATERIAL SPECIFICATIONS

ZINCALUME® aluminium/zinc alloy-coated steel complying with AS 1397:2011 G550 (550 MPa minimum yield stress), AZ150 (150g/m^2)

Next Generation ZINCALUME® aluminium/zinc/magnesium alloy-coated steel complies with AS 1562.1 and AS 1397 G550, AM125 (550 MPa minimum yield stress, 125g/m^2 minimum coating mass).

COLORBOND® steel base metal thickness is 0.48mm.

The COLORBOND® Metallic and/or pre-painted steel complies with AS/NZS 2728:2007.

ZINCALUME® steel/COLORBOND® coated steel provides a minimum of twice the life of conventional galvanised steel in the same environment for the same coating thickness. Both COLORBOND® Metallic and COLORBOND® Ultra steel have minimum order quantities and longer lead times.

COLOURS

CUSTOM ORB ACCENT® 35 is available in unpainted ZINCALUME® coated steel and is also available in pre-painted COLORBOND® steel colours of SURFMIST®, SHALE GREY®, WOODLAND GREY® and WINDSPRAY®.

COLORBOND® STEEL WITH THERMATECH® TECHNOLOGY

THERMATECH® solar reflectance technology is now included in the standard COLORBOND® steel palette. COLORBOND® steel with THERMATECH® technology reflects more of the sun's heat, allowing both roofs and buildings stay cooler in summer. In moderate to hot climates, compared to roofing materials of similar colour with low solar reflectance, COLORBOND® steel with THERMATECH® can reduce annual cooling and energy consumption by up to 20%.

LENGTHS

Sheets are supplied custom cut. Sheet lengths of up to 23m can be used before an expansion joint is required.

MASSES

The mass will vary slightly depending upon the metallic coating and the COLORBOND® system selected. Indicative masses are 4.0kg/m and 5.5kg/m^2.

TOLERANCES

Length: + 10mm, – 10mm, 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 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 spans and end spans, K_l=1.5 for internal spans.

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

MAXIMUM SUPPORT SPACING (MM)

	BMT
Type of Span	**0.48mm**
Roofs	
Single span	1300
End span	1600
Internal span	2400
Unstiffened eaves overhang	200
Stiffened eaves overhang	600
Walls	
Single span	2100
End span	2700
Internal span	2700
Overhang	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 minimum 1mm BMT.

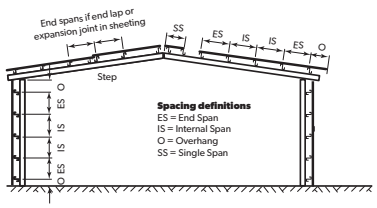
CUSTOM ORB ACCENT® 35: LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.48MM BMT

Span Type	Limit State	Span (mm)							
		600	900	1200	1500	1800	2100	2400	2700
Single	Serviceability	8.97	7.97	6.59	4.50	2.80	1.44		
	Strength	11.88	11.88	11.88	8.00	5.80	4.19		
End	Serviceability	6.3	5.61	3.50	2.38	1.81	1.49	1.26	1.19
	Strength	11.61	11.61	9.00	.08	5.42	4.08	3.00	2.19
Internal	Serviceability	3.65	3.42	2.67	2.08	1.61	1.20	1.00	0.90
	Strength	10.17	10.17	8.60	7.02	5.66	4.30	3.55	3.31

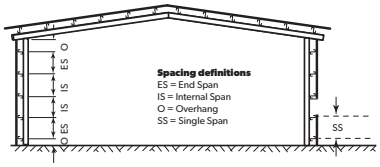
Table data are based on supports of minimum 1mm BMT.

SPAN TYPES

Roofing & Walling Profiles



Walling Profiles Only



LIMIT STATES WIND PRESSURES

CUSTOM ORB ACCENT® 35 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 4040.2:1992 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, 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)

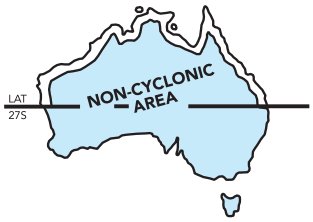
Peak Rainfall Intensity (mm/hr)	Roof Slopes (degrees)					
	1	2	3	5	7.5	10
100	-	90	103	124	143	161
150	-	60	69	82	95	107
200	-	45	51	62	72	64
250	-	36	41	49	57	64
300	-	30	34	41	48	54
400		23	26	31	36	40
500	-	18	21	25	29	32

MINIMUM ROOF PITCH

Use CUSTOM ORB ACCENT® 35 for roof pitches as low as 2° (1 in 30).

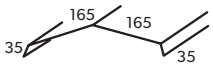
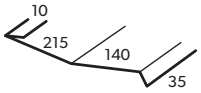
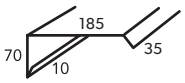
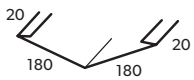
NON-CYCLONIC AREAS

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.



CUSTOM ORB ACCENT® 35 FLASHINGS AND CAPPINGS

Standard flashings and cappings are available. (See below.)

Standard Flashing	Description
	Ridge Capping
	Tile Flashing
	Apron Flashing
	Barge Capping
	Valley Gutter

INSTALLATION

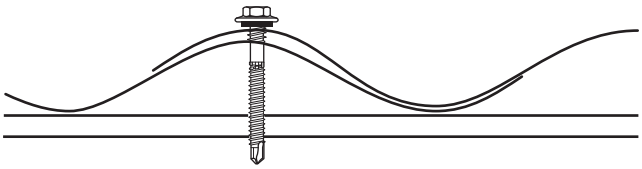
FASTENING SHEETS TO SUPPORTS

CUSTOM ORB ACCENT® 35 is pierce-fixed to timber or steel supports. This means that fastener screws pass through the sheeting.

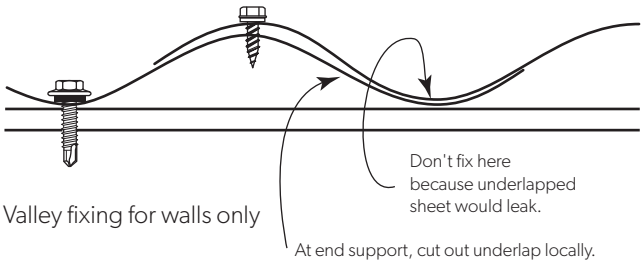
You can place screws through the crests or in the valleys. To maximise watertightness, always place roof screws through the crests. For walling, you may use either crest or valley-fixing.

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.



Crest fixing for roof or walls



Valley fixing for walls only

SIDE-LAPS

CUSTOM ORB ACCENT® 35 is overlapped at the sides 1.5 corrugations. It is generally considered good practice to use additional side-lap fasteners along side-lap between the support, 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 CUSTOM ORB ACCENT® 35 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. The valleys of sheets should be turned-up at upper ends.

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.

Lay sheets toward prevailing weather. Also, 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.

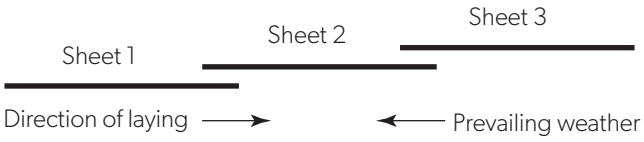
Place bundles of sheets over or near firm supports, not at mid span of roof members.

Crest: 3 fasteners per sheet for internal supports

Crest: 6 fasteners per sheet for end supports (including single spans)

Valley: 3 fasteners per sheet for internal and end supports

Valley: 6 fasteners per sheet for end supports (including single spans)



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	40	50
Number of Sheets	5	6	7	9	10	11	13	14	15	17	18	20	21	22	24	25	26	28	41	55	69

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 M6-11x65	12-14x68, Metal Teks HG, HH	12-14x68, Metal Teks HG, HH	12-11x65, Type 17 HG, HH	12-11x65, Type 17 HG, HH or Roof Zips M6-11x65 HG, HH
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 12-11x25, Type 17, HH 10-16x25 Designer Head 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

Always walk on or near the support lines. 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 according to our maintenance guidelines.

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 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.

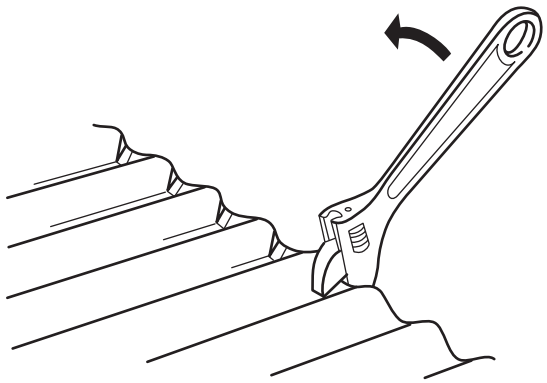
METAL & TIMBER COMPATIBILITY

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. 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 does a carborundum disc.

Cut materials over the ground and not over other materials.



TURNING-UP CUSTOM ORB ACCENT® 35

This section describes how you can treat the ends of sheets to maximise waterproofing, or to stop vermin entering.

At the high end of roofing, wind can drive water uphill, under the flashing or capping, into a building. To minimise this problem, you turn up the valleys (or pans) at the high end of roofing. (The process is called turning-up (or stop-ending).

All roofing on low slopes (≤25°) should be turned-up.

During the turn-up operation, care should be exercised to prevent tearing or puncturing the steel sheets.

You can turn-up sheets before or after they are fixed on the roof. If you do the latter, you must have sufficient clearance for the turn-up tool at the top end of the sheets (about 50mm).

With a shifting spanner or other appropriate tool closed down to approximately 2mm, grip the valley corrugations 27mm in from the end of the sheet and turn up as far as possible. Be careful not to tear the sheet.

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

CUSTOM ORB ACCENT® 35 can be fixed with hex head screws ensuring fast and simple installation. The standard overlap is 1.5 corrugations.

SWARF

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.

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