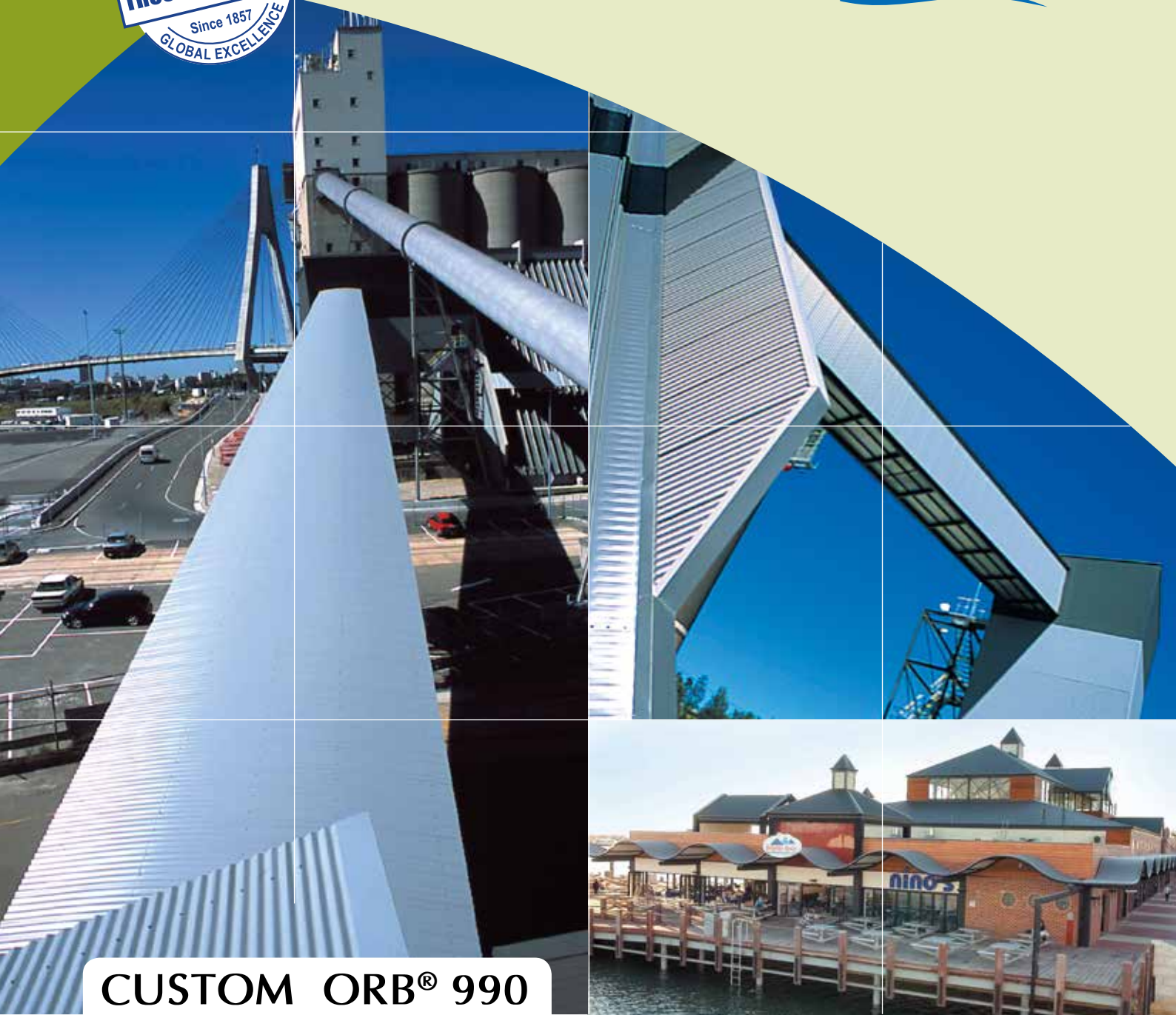




YSAGHT[®]



CUSTOM ORB[®] 990

Attractive Appearance | Design Flexibility | Wide Span | Strong & Light Weight | Economical


**TATA BLUESCOPE
STEEL**



CUSTOM ORB® 990

LYSAGHT CUSTOM ORB® 990 is a corrugated profile, equally at home with traditional and contemporary designs. It is a long, wide, strong, lightweight and economical profile that can be aligned quickly and easily. With all these features CUSTOM ORB® 990 simply offers outstanding value for money.

CUSTOM ORB® 990 is made of high strength steel and despite its lightness it provides excellent spanning capacity and remarkable recovery after deformation.

Features:

Simple, low-cost fixing

CUSTOM ORB® 990 can be fixed with hex head screws, which is fast and simple. The standard overlap is one and a half corrugations.

Curving

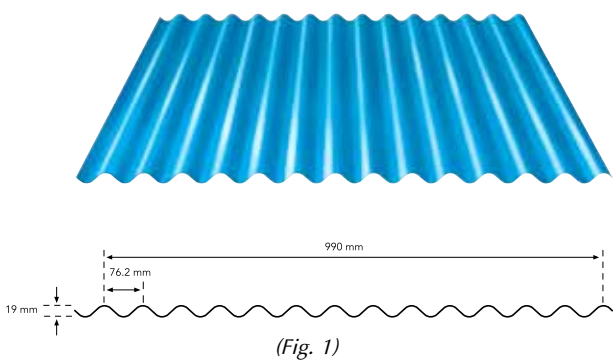
CUSTOM ORB® 990 can be curved for stylish architectural designs. For bull nosing use 0.60 mm BMT, G300 MPa.

Minimum Roof Pitch

A special anti-capillary forming in the side lap allows the use of CUSTOM ORB® 990 on roof pitches as low as 5 degrees (1 in 12). Sheet lengths of up to 24 m can be used before an expansion joint is required.

Profile

CUSTOM ORB® is a 990 mm wide coverage profile with nominal 19 mm deep ribs with a pitch of nominal 76.2 mm centre to centre distance. (Refer Fig. 1)

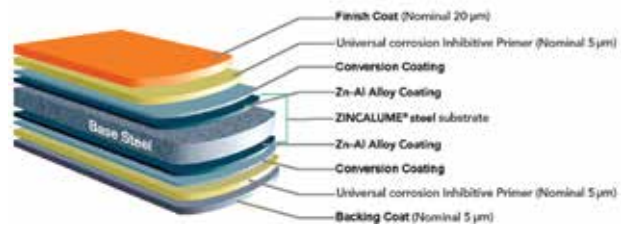


Material Specification

CUSTOM ORB® 990 is manufactured from COLORBOND® XRW steel, high tensile steel with minimum 550 MPa yield strength, metallic hot-dipped coated with Al-Zn alloy (55% Aluminium, 43.5% Zinc, 1.5% Si) as per AS1397/IS15961 standards and ZINCALUME® AZ150 (min. 150 g/m² total on both sides) with Super Durable Polyester COLORBOND® XRW steel* quality paint system of approved color,

suitable for exterior application conforming to AS/NZS 2728 type-4 / IS15965 class 3 of Tata BlueScope Steel make. The sheets have a total coating thickness of 35 microns, super durable polyester COLORBOND® XRW quality paint system of 20 microns on exposed surface and 5 micron reverse polyester coat on back surface and over 5 micron primer coat on both surfaces. The paint system is made of stable resin & inorganic pigments for paint durability and is lead free, making it suitable for rainwater harvesting. The sheets have a brand marking of the coated steel manufacturer along with relevant details on back side at regular interval confirming genuineness of the material.

*Standard offering includes COLORBOND® XRW steel but other options like COLORBOND® Ultra steel, COLORBOND® XPD steel and COLORBOND® Metallic steel can also be used as per prevailing site conditions and respective specification.



Cross Sectional View of COLORBOND® steel

Lengths

Sheets are supplied custom cut

Tolerances

Length: + 10 mm, - 10 mm

Width: + 4 mm, - 4 mm

Masses

CUSTOM ORB® 990				
BMT*	TCT*	Product	kg/m	kg/m ²
0.35	0.40	ZINCALUME® steel	3.56	3.60
0.35	0.40	COLORBOND® steel	3.63	3.67
0.40	0.45	ZINCALUME® steel	4.04	4.08
0.40	0.45	COLORBOND® steel	4.11	4.15
0.45	0.50	ZINCALUME® steel	4.52	4.56
0.45	0.50	COLORBOND® steel	4.59	4.64

* Dimensions are in mm

(Table 1)

Maximum Support Spacings (in millimetres)

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. (Refer Table 2)

The pressure considered (in accordance with IS 875.3) is based on buildings up to 10 m high, Zone 3 (Basic wind speed $V^b = 47\text{m/s}$), Class A, Terrain category 3, $K_1 = 1.0$, $K_2 = 0.91$, $K_3 = 1.0$, with the following assumptions made;

Roofs:

$C_{pe} = - 1.20$ (internal cladding spans)

$C_{pe} = - 2.0$ (single and end cladding spans)

$C_{pi} = + 0.2$

Walls:

$C_{pe} = - 0.80$ (internal cladding spans)

$C_{pe} = - 1.20$ (single and end cladding spans)

$C_{pi} = + 0.2$

These spacings may vary for particular projects, depending on specific structure characteristics.

Limit state wind pressure

The Wind pressure capacity table is determined by full-scale tests conducted at BlueScope Steel’s NATA-registered testing laboratory, using the direct pressure

Maximum Support Spacings (mm)			
Type of span	Total Coated Thickness (mm)		
	0.40	0.45	0.50
Roofs			
Single Span	450	650	750
End Span	550	750	1250
Internal Span	800	1050	1400
Unstiffened eaves overhang	100	150	200
Stiffened eaves overhang	200	250	300
Walls			
Single Span	1400	1500	1450
End Span	1100	1650	2150
Internal Span	1350	2050	2350
Overhang	150	200	250

· For roofs, the data are based on foot-traffic loading
 · For walls, the data are based on pressures (see pressure table)
 · Tables are based on supports of 1 mm BMT
 · Please contact Tata BlueScope Steel office before adopting for design

(Table 2)

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 Noncyclonic Regions.)* (Refer Table 3)

CUSTOM ORB® 990: Limit state wind pressure capacities (KPa)										
Span Type	Fasteners per sheet per support	Limit State	Span (mm)							
			600	900	1200	1500	1800	2100	2400	2700
CUSTOM ORB® 990 - 0.40 mm Base Metal Thickness (0.45 mm Total Coated Thickness)										
SINGLE	4	Serviceability	1.33	1.16	0.91	0.62	0.29	-	-	-
		Strength*	9.60	5.76	3.94	3.11	3.04	-	-	-
	6	Serviceability	2.36	2.06	0.95	0.45	0.25	-	-	-
		Strength*	9.60	9.60	7.56	5.97	5.27	-	-	-
END	4	Serviceability	1.09	0.88	0.66	0.47	0.33	0.22	0.15	0.10
		Strength*	4.94	4.64	3.88	3.18	2.07	1.46	1.19	0.99
	6	Serviceability	3.07	2.97	2.17	0.92	0.47	0.22	0.11	0.11
		Strength*	9.60	9.60	5.96	3.19	2.50	2.01	1.57	1.32
INTERNAL	4	Serviceability	1.46	1.07	0.80	0.62	0.52	0.47	0.43	0.39
		Strength*	8.47	6.56	4.98	3.77	3.09	2.51	2.19	1.97
	6	Serviceability	3.73	3.47	2.55	1.45	1.01	0.55	0.47	0.32
		Strength*	9.60	9.60	9.60	7.52	5.07	4.23	3.49	2.90
CUSTOM ORB® 990 - 0.45 mm Base Metal Thickness (0.50 mm Total Coated Thickness)										
SINGLE	4	Serviceability	1.81	1.37	1.04	0.73	0.49	-	-	-
		Strength*	10.80	8.28	5.56	4.48	4.32	-	-	-
	6	Serviceability	5.79	3.12	1.79	0.99	0.46	-	-	-
		Strength*	10.80	10.80	9.41	7.54	6.98	-	-	-
END	4	Serviceability	1.61	1.38	1.20	1.06	0.91	0.76	0.60	0.44
		Strength*	9.38	7.47	5.72	4.25	3.38	2.77	2.39	2.09
	6	Serviceability	6.34	4.06	2.54	1.60	1.08	0.73	0.49	0.33
		Strength*	10.80	10.80	9.86	8.17	6.19	4.82	3.87	3.29
INTERNAL	4	Serviceability	1.75	1.63	1.48	1.28	1.08	0.86	0.68	0.53
		Strength*	10.51	8.73	7.18	5.90	4.75	3.80	3.06	2.52
	6	Serviceability	7.20	4.65	3.45	2.48	1.74	1.18	0.78	0.51
		Strength*	10.80	10.80	10.80	10.26	8.93	7.09	5.58	4.39

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

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*Non standard colours and sizes are also available on special request.

The above data has been derived from tests conducted at our research centre and reproduction of the same in any form is strictly prohibited.

(Table 3)

CUSTOM ORB® 990 - Design Advantages

- Smooth sinusoidal profile offers design flexibility for roof and wall cladding application
- Wider profile makes it easier to cover large area in shortest possible time
- Strong yet, lightweight with ease in fixing and installation
- Wall panels can be installed in horizontal as well as in vertical direction
- Can be curved for stylish architectural design (by using G300 grade material)
- Appealing architectural appearance and multiple colour choice



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Note:

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