

General Description

MECSPEC-GAL® is cold-formed structural hollow Pipe and Tube made from pre-galvanized coated steel. It is manufactured using the ERW (Electric Resistance Welded) process, external weld upset is removed and the zinc coating along the weld zone is restored using hot metal spray.

The product meets the requirements of AS 1450 – Steel tubes for mechanical purposes.

Certification

The MECSPEC-GAL® product range is made by Orrcon Manufacturing, an ISO9001 accredited business. MECSPEC-GAL® is manufactured to comply with the requirements of AS 1450 and produced from quality hot dipped galvanized steel supplied by BlueScope Steel Australia. A statement of product conformity can be provided on request.

Coating

Designation: AS 1397 Z275, achieving minimum zinc coating thickness of 19 micron per side and is equivalent to ZB135/135 coating class as per AS/NZS 4792.

Coating has a spangled appearance and has a consistent and uniform thickness. Coating performance is guaranteed to maintain adhesion at a minimum 1t bend radius (180° bend along L-axis).

Durability: Extra long term durability may be achieved when exposed to a low atmospheric corrosive environment. The weight of the zinc coating provides medium term durability in medium to high atmospheric corrosive environments, such as protected coastal locations where surfaces are rain-washed to rinse off salt. Refer to AS/NZS2312.2 for further details.

Atmospheric Category (AS 2312)	Durability (years)
C1 Very Low	Extra long term: 25+
C2 Low	Extra long term: 25+
C3 Medium	Medium to long term: 9 to 25
C4 High	Medium term: 5 to 9
C5 Very High	Short term: 2 to 5

Durability is the estimated time to first major maintenance within the service life of the structure to restore the protection to the base material and is not subject to aesthetic considerations.

Other factors that influence durability, include: design, local variations in environmental conditions and non-atmospheric exposure conditions, such as chemicals, soil and concrete. Additional protective measures, such as organic coating and/or routine maintenance may be required, subject to: the specified design, aesthetics and service life requirements of the structure.

Available Product Range

Sizes available in CHS Extra Light
20NB (26.9 OD x 2.0) XL
25NB (33.7 OD x 2.0) XL
32NB (42.4 OD x 2.0) XL
40NB (48.3 OD x 2.3) XL
50NB (60.3 OD x 2.3) XL
65NB (76.1 OD x 2.3) XL

Sizes available in CHS Light
20NB (26.9 OD x 2.3) L
25NB (33.7 OD x 2.6) L
32NB (42.4 OD x 2.6) L
40NB (48.3 OD x 2.9) L

Sizes available in CHS Medium
20NB (26.9 OD x 2.6) M
25NB (33.7 OD x 3.2) M
32NB (42.4 OD x 3.2) M
40NB (48.3 OD x 3.2) M

Sizes available in SHS	
20 x 20 x 1.6	6,500mm
20 x 20 x 2.0	6,500mm
25 x 25 x 1.6	6,500mm
25 x 25 x 2.0	6,500mm
25 x 25 x 2.5	6,500mm
30 x 30 x 1.6	8,000mm
30 x 30 x 2.0	8,000mm
30 x 30 x 2.5	8,000mm
35 x 35 x 1.6	8,000mm
35 x 35 x 2.0	8,000mm
35 x 35 x 2.5	8,000mm
40 x 40 x 1.6	8,000mm
40 x 40 x 2.0	8,000mm
40 x 40 x 2.5	8,000mm

Standard length is 6,500mm and 7,200mm. MOQ and extra apply for non-standard length. 50NB and 65NB Light are subject to enquiry. Standard pack configuration only.

MOQ and extra apply for non-standard length. Standard pack configuration only.



Typical Applications

Orrcon Steel's MECSPEC-GAL® Pipe and Tube is suitable for general purpose mechanical applications, including:

- ▶ Agricultural applications
- ▶ Portable ramps
- ▶ Fencing and gates
- ▶ Sign posts and road furniture
- ▶ Traffic and pedestrian control
- ▶ Walkways
- ▶ Stairways
- ▶ Handrails
- ▶ Playground and gym equipment
- ▶ Park benches
- ▶ Bench frames
- ▶ Box trailers
- ▶ Vehicle jacks
- ▶ Wheel barrows and trolleys
- ▶ Aerial and antenna supports
- ▶ Letter boxes supports

Mechanical Properties

Mechanical Property	Specification (min)		
	C250 Pipe	C350 Pipe	C350 SHS
Yield Strength	250 MPa	350 MPa	350 MPa
Tensile Strength	350 MPa	450 MPa	450 MPa
Elongation based on $5.65\sqrt{S_0}$	22%	20%	16%

Chemistry

Element	C	Si	Mn	P	S	CE
Specification (max %)	0.22	0.45	1.60	0.05	0.05	0.44

*Coil is manufactured by BlueScope to AS1397, at a specified Z275 coating class.

Tolerances – Complies with AS 1450, key measures shown

Attribute	Specification
Length	-0, +100mm
Thickness	± 10%
External Dimensions	≤ 50mm; ± 0.2mm > 50mm; ± 0.3mm
Straightness	≤ Length (in mm) / 600
Squareness (RHS/SHS)	Adjacent sides 90° ± 2° maximum
Twist	≤ 2 + 0.5mm/m length
End Condition	Shear cut with dimple

Weldability

BlueScope steel coil to AS1397 confers guaranteed zinc-coating performance and steel weldability to group number 5, as per AS/NZS 1554.1.

Additional care is warranted when welding pre-galvanized zinc coatings to manage fume exposure and weld quality. Refer Weld Australia (formerly WTIA) Technical Notes: TN 07 Health and Safety in Welding and TGN-BC-03 Welding of Mill Applied Galv Steel Sections.

Contact us for more about this product

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For MECSPEC-GAL® Pipe's availability please contact your Orrcon Steel representative.

Please note that not all products are available in all regions.

Please ensure you have the current data sheet for this product as displayed at orrconsteel.com.au/resources/technical-resources.