

## General Description

ULTRASPEC-GAL® is a pre-galvanized, cold-formed structural steel hollow Pipe and Tube range that is building code compliant.

It is manufactured from AS 1397 Z275 steel coil by the ERW (Electric Resistance Welded) process. The external weld upset is removed and the zinc coating along the weld zone is restored using hot metal spray.

## Quality Compliance

ULTRASPEC-GAL® is manufactured by Orrcon Steel and meets the requirements of AS/NZS 1163 grade C350L0, as standard. It is produced from quality hot dipped galvanized steel supplied by BlueScope Steel Australia. Material test certificates that guarantee compliance to AS/NZS 1163 and the Building Code are supplied with orders on request.

ULTRASPEC-GAL® complies with durability requirements of the BCA and meets minimum corrosion protection requirements, as specified under NASH standard for Residential and Low-rise Steel Framing.

## 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	Long term to very long term: 10 to 25
C4 High	Medium term: 5 to 10
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
SHS 20x20mm to 100x100mm
RHS 50x25mm to 125x75mm
Thickness available in 1.6, 2.0, 2.5 and 3.0mm

MOQ's apply unless within the defined stock range of your local steel supplier.

Standard pack configuration only.



## Typical Applications

Orrcon Steel's ULTRASPEC-GAL® Tube is suitable for structural steel building applications\*, including:

- ▶ Roof and wall framing
- ▶ Floor bearers
- ▶ Floor joists
- ▶ Ceiling and roof battens
- ▶ Posts and stumps
- ▶ Verandah beams and rafters
- ▶ Carport beams Rafters

\*As referenced in: Steel framing components as outlined in NASH standard – Residential and Low-rise Steel Framing Part 2: Design Solutions. Refer also to AS 4312 and ISO 9223.

## Mechanical Properties – Grade C350 L0

Mechanical Property	Specification, min	Typical Range
Yield Strength	350 MPa	390 MPa – 530 MPa
Tensile Strength	430 MPa	500 MPa – 580 MPa
Elongation %, RHS / SHS d = nominal dimension of longer side t = nominal thickness	d/t < 15 = 12%	≥ 16%
	15 < d/t < 30 = 14%	≥ 18%
	30 < d/t = 16%	≥ 20%

ULTRASPEC-GAL® tubular steel sections meet the Charpy V Notch impact requirements within AS/NZS 1163 for L0 specification.

## Chemistry – Grade C350 L0

Element	C	Si	Mn	P	S	Cr	Mo	Al	Ti	CE <sub>IIW</sub>
Specification (max %)	0.20	0.25	1.60	0.03	0.03	0.30	0.10	0.10	0.04	0.43

Boron limits are less than 0.0005%. The following elements may be present to the limits stated: Cu (0.25%) and Ni (0.25%). Other limits as per AS/NZS 1163 apply.

## Dimensional Tolerances – Complies with AS/NZS 1163

Attribute	Specification
Length	-0, +15mm
Thickness	± 10%
Linear Mass	≥ 96% of nominal mass
Outer dimensions	± 1%, with a minimum of ± 0.5mm
Corner Radius	1.5t to 3.0t (t = nominal thickness)
Twist	2.0mm + 0.5mm/m length
Concavity / Convexity	Max 0.8% or 0.5mm, whichever is greater
Straightness	0.15% of total length
Squareness	90 ± 1°

## 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

**1300 677 266**  
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For ULTRASPEC-GAL® availability please contact your Orrcon Steel representative.

Please ensure you have the current data sheet for this product as displayed at [orrconsteel.com.au/resources/technical-resources](http://orrconsteel.com.au/resources/technical-resources)

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