

C450 grade structural tube



Advantages of C450

Orrcon Steel Manufacturing's C450L0 grade product range affords end-users with higher strengths that enable the design of lighter, efficient and sustainable structures without sacrificing performance. Excellent weldability, formability and assured AS/NZS 1163 compliance delivers confidence and cost-effective outcomes for demanding applications.

C450L0 designates cold formed structural hollow section grade with a minimum yield strength of 450MPa and guaranteed impact properties at 0°C.

The higher strength of C450 grade compared to C350 grade material means:

- Highest yield and tensile strength of all the AS/NZS 1163 grades.
- Design flexibility in high strength-weight ratio applications, eg. trailers, chassis and modular buildings.
- Opportunity for material and construction cost savings in high wind-load and cyclonic design structures.
- Possible substitution for open sections in structural designs. Refer Orrcon Steel Manufacturing's Section Translation Guide (STG®), please visit: <https://sectiontranslation.com.au>.
- No loss of ease of welding. Procedures no different from other grades – C450 is a prequalified steel type in AS/NZS 1554.1.

Orrcon Steel made AS/NZS 1163 Pipe and Tube means:

- Australian milled and hot rolled steel in our C450 range.
- ACRS third party product conformity certification.
- Full traceability through pack tag and individual length print mark.
- Fully compliant Test Certificate from an ILAC (MRA) accredited laboratory (NATA).
- Support for project sustainability outcomes through SSA certification and product EPD's.



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For C450® Pipe's availability please contact your Orrcon Steel Manufacturing 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 <https://orrconmanufacturing.com.au/resources/technical-resources/>.

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Product Range

Finish & Thickness Available	Section Type	Section Size (mm)	Nominal Wall Thickness (mm)
SMARTCOTE® PTD 1.6mm to 9.0mm	SHS	40 x 40	1.6, 2.0, 4.0
		50 x 50	1.6, 2.0, 2.5, 3.0, 3.5, 4.0
		65 x 65	
		75 x 75	
		89 x 89	2.5, 3.0, 3.5, 4.0
		100 x 100	2.5, 3.0, 3.5, 4.0, 5.0, 6.0, 9.0
		125 x 125	3.0, 3.5, 4.0, 5.0, 6.0, 9.0
		150 x 150	5.0, 6.0, 9.0
		200 x 200	
ALLGAL® 2.0mm to 4.0mm	RHS	50 x 20	1.6, 2.0, 2.5, 3.0
		50 x 25 & 50 x 30	
65 x 35		1.6, 2.0, 2.5, 3.0, 3.5, 4.0	
75 x 25			
76.2 x 38.1			
75 x 50			
100 x 50		1.6, 2.0, 2.5, 3.0, 3.5, 4.0	
125 x 75			
150 x 50			
150 x 100		3.0, 3.5, 4.0, 5.0, 6.0, 8.0, 9.0	
200 x 100		4.0, 5.0, 6.0, 9.0	
250 x 150		5.0, 6.0, 9.0	
PREGAL Z100 1.6mm to 3.5mm			

* Additional section sizes available subject to enquiry, including CHS

General Product Information

1. The range is 100% Australian milled and manufactured with guaranteed quality, weldability and traceability.
2. C450 grade sections can achieve higher yield and tensile strength to weight ratio compared to alternative structural sections. Therefore, designs using lighter C450 sections may reduce overall weight and total cost on a like-for-like basis.
3. Manufactured to comply with AS/NZS 1163 to grade C450L0 and is suitable for design in accordance with AS 4100 - Steel Structures standard and AS 3990 - Mechanical Equipment - Steelwork.
4. Structural hollow sections in compliance with L0 requirements of AS/NZS 1163 provides guaranteed impact performance at zero degrees Celsius.
5. Orrcon Steel Manufacturing's structural tube is pack tagged and individually length marked to maintain traceability to NATA accredited laboratory issued material test certificates.
6. Standard length available are 12.000m and/or 8.000m available. Non-standard lengths subject to enquiry.
7. Minimum Order Quantities may apply, please contact your sales representative to discuss.
8. Orrcon Steel Manufacturing maintains ISO9001 QMS certification and ACRS conformity to AS/NZS 1163 for product compliance assurance. While, Orrcon Steel Manufacturing's SSA Certification and EPD Credential support customers meeting Green Star sustainability targets with documentation ready for submission.
9. Orrcon Steel Manufacturing uses Hot Rolled Coil feed grades supplied by BlueScope Steel to a trusted quality achieving AS/NZS 1365 class A flatness.
10. Steel chemistry tested by NATA accredited laboratory, with controlled silicon and phosphorous limits as per GAA recommendations for suitability of galvanizing.
11. SMARTCOTE® paint finish in a blue water-based acrylic is designed to be welded with minimal spatter and ease of removal by abrasive blasting or chemical treatment (hot caustic) prior to painting or hot dip galvanizing, respectively.
12. Alternate surface finishes, such as light oil, no oil, or paint are also available upon request.

Steel Grade Information

GRADE	MIN YIELD STRENGTH (MPa)	MIN TENSILE STRENGTH (MPa)	ELONGATION % (d _o /t) CHS			ELONGATION % (b/t) (d/t) RHS/SHS		
			≤15	>15 ≤ 30	>30	≤15	>15 ≤ 30	>30
C450L0	450	500	12	14	16	10	12	14

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