

GENERAL DESCRIPTION

Structural weather resistant steel with nominal yield strength of 350MPa

AUSTRALIAN STANDARDS

AS/NZS 3678: 2011

AS/NZS 1365: 1996

TYPICAL USES

- Railway rolling stock and storage hoppers / bins
- Architectural features

FEATURES & BENEFITS

- Enhanced weather resistance
- Guaranteed minimum strength levels
- Good formability
- ACRS accreditation (ACRS Certificate No. 120802)

WARNINGS

- This material should be used in conjunction with the appropriate structural design and welding standards
- The weather resistance of this material is due to the formation of an impervious oxide layer through the use of alloy additions. Damage to this layer, or environmental conditions affecting the development of this layer, will impact on the effectiveness of the corrosion resistance
- Colour retention across welds can be achieved by appropriate electrode selection. Welds may be susceptible to hot cracking
- Weathering steels are not recommended without further protection for buried or submerged situations or for applications exposed to concentrated industrial fumes or severe marine conditions
- Oxide staining of surrounding areas may occur due to run-off from this material
- Refer to BlueScope Technical Bulletin No. 26 for more information regarding the use of this material

NORMAL / OPTIONAL SUPPLY CONDITIONS

	Normal	Optional
Thickness Range	8mm – 20mm	
Availability	By enquiry only	
Edge Condition	Trimmed	
Tolerances	AS/NZS 1365: 1996	
Ultrasonic Inspection		AS 1710: 2007
Surface Inspection	BlueScope Steel	Third party
Certification	BlueScope Steel)	Third party endorsed

Optional supply conditions may be subject to dimensional restrictions

CHEMICAL COMPOSITION

Element	Guaranteed Maximum %	Typical % Thickness (mm)
		8 ≤ t ≤ 20
Carbon	0.14	0.09
Silicon	0.75	0.45
Manganese	1.70	0.80
Phosphorus	0.16	0.09
Sulfur	0.030	0.010
Chromium	1.05	0.70
Nickel	0.55	0.20
Copper	0.50	0.25
Molybdenum	0.10	0.002
Aluminium	0.100	0.030
Titanium	0.040	0.015
CEQ (IIW)	0.49*	0.39

All values shown refer to the relevant Australian Standard unless otherwise stated

$$CEQ(IIW) = C + \frac{Mn}{6} + \frac{(Cr + Mo + V)}{5} + \frac{(Cu + Ni)}{15}$$

* Values shown refer to the BlueScope Steel internal standard

MECHANICAL PROPERTIES

Tensile Properties (Transverse)		Thickness (mm)		
		t ≤ 8	8 < t ≤ 12	12 < t ≤ 20
Yield Strength (MPa)	Guaranteed Min	340	340	340
	Typical	420 - 620	380 - 480	360 - 440
Tensile Strength (MPa)	Guaranteed Min	450	450	450
	Typical	510 - 640	490 - 580	480 - 530
Elong. On 5.65√S ₀ (%)	Guaranteed Min	20	20	20
	Typical	20 - 39	28 - 39	28 - 35

Charpy Impact Properties	Longitudinal at 0° on 10 x10 mm specimen	Absorbed Energy (joules)	
		Av. of 3	Ind.
	Guaranteed Min	27	20
	Typical	50 - 130	30 - 160

FORMABILITY

Thickness (mm)	Long	Trans
t ≤ 10	3.0t	2.0t
t > 10	4.5t	3.0t

Recommended min. inside radii

HARDNESS

Typical
140 - 190 BHN

WELDABILITY

Group
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Refer to WTIA Technical Note 1 or AS/NZS 1554.1