

REDCOR®

weathering steel (plate)

AS/NZS 3678 - WR350B, WR350LOB, WR350L20B

General description

WR350B is a low phosphorous structural weathering steel with nominal yield strength of 340MPa for thicknesses from 10 to 80mm with options for guaranteed impact performance at 0 and -20°C.

Typical uses

Heavy engineering structural elements such as bridges & bridge girders, towers, walls, heavy sculptures, frames, circular hollow section constructions, railway rolling stock.

Features & benefits

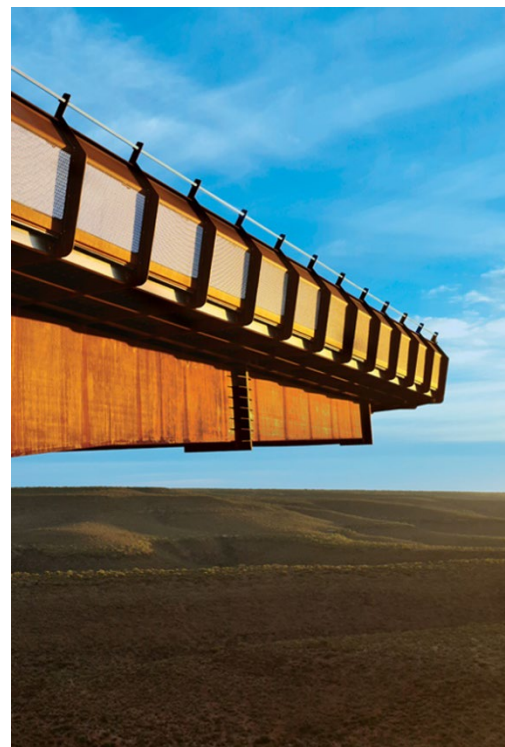
Reduced atmospheric corrosion when used in the correct environments

Guaranteed minimum strength levels

Good toughness

Lower phosphorous levels for improved weldability

ACRS accreditation (ACRS Certificate No. 120802)



Warnings

This material should be used in conjunction with the appropriate structural design and welding standards.

The weathering properties 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.

Free from coil break for 3 months after production.

Material should be stored under cover to avoid issues with storage related corrosion.

Refer to BlueScope Technical Bulletin TB-26 for more information regarding the use of this material.

Australian and International Standards

AS/NZS 3678:2016

AS/NZS 1365:1996 (R2016)

ISO 9001:2015 Quality System Certified

Normal / optional supply conditions

	Normal	Optional
Thickness Range	10mm – 80mm	-
Length Range	By enquiry only	-
Availability	By enquiry only	-
Edge Condition	Trimmed	-
Tolerances	AS/NZS 1365:1996 (R2016)	-
Ultrasonic Inspection	-	AS 1710-2007 (R2017)
Surface Inspection	BlueScope	-
Certification	BlueScope	Third party endorsed

Chemical composition

Element	Guaranteed Maximum %
Carbon	0.14
Silicon	0.75
Manganese	1.70
Phosphorus	0.04
Sulfur	0.030
Chromium	1.05
Nickel	0.55
Copper	0.50
Molybdenum	0.10
Aluminium	0.100*
Niobium**	0.025
Titanium	0.040
CEQ (IIW)	0.52

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 internal standard

** Niobium + Titanium + Vanadium \leq 0.15%

Mechanical properties

Tensile Properties (Transverse)		Thickness (mm)				
		9.95 < t ≤ 12	12 < t ≤ 20	20 < t ≤ 32	32 < t ≤ 50	50 < t ≤ 80
Yield Strength (MPa)	Guaranteed Min	340	340	340	340	340
Tensile Strength (MPa)	Guaranteed Min	450	450	450	450	450
Elongation 5.65√S ₀ (%)	Guaranteed Min	20	20	20	20	20

Charpy Impact Properties	Longitudinal on 10 x 10mm test piece	Test Temperature (°C)	Absorbed Energy (joules)	
			Avg. of 3	Individual
Guaranteed minimum	WR350L0B	0	27	20
Guaranteed minimum	WR350L20B	-20	27	20

Formability	Thickness (mm)	Longitudinal	Transverse
Recommended min inside Radius	t = 10	3.0t	2.0t
	10 < t ≤ 20	4.5t	3.0t
	t > 20	Hot Forming	

This product is not suitable for hot forming above 620°C

Fire resistance

Regulation	Deemed
National Construction Code NCC2022, Vol. 1, Part C2D10, 5b	Non-combustible

RedCor®

steel.com.au

To ensure you have the most current information

1800 024 402

steeldirect@bluescopesteel.com
For more information contact Steel Direct



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