

GENERAL DESCRIPTION

A medium strength structural steel plate product with nominal yield strength of 250MPa

AUSTRALIAN STANDARDS

AS/NZS 3678: 2011
AS/NZS 1365: 1996

TYPICAL USES

- General fabrication
- Structural members
- High-rise buildings
- Bridges
- Storage tanks

FEATURES & BENEFITS

- Guaranteed minimum strength levels
- Excellent weldability
- Excellent formability
- ACRS accreditation (ACRS Certificate No. 120802)

WARNINGS

- This material should be used in conjunction with the appropriate structural design and welding standards
- An untrimmed (Mill) edge may contain surface discontinuities associated with the rolling process (refer to Clause 9 of AS/NZS 3678:2011). The plate supplied may include an amount outside of the nominal ordered width, in accordance with relevant Australian Standards. The area of the supplied plate which is outside of the nominal (customer ordered) width must not be used. Customers are advised to remove an equal width from each side of the plate when trimming

NORMAL / OPTIONAL SUPPLY CONDITIONS

	Normal	Optional
Thickness Range	5mm – 150mm	
Availability	Plate is available in standard sizes	For sizes outside standard plate offer refer to XLERPLATE® steel size schedule 1
Edge Condition	Untrimmed (Mill Edge)*	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

* Plates less than 8mm in thickness are supplied with trimmed edges

Plate – PL
Structural - S

CHEMICAL COMPOSITION

Element	Guaranteed Maximum %	Typical % Thickness (mm)			
		5 ≤ t < 32	32 ≤ t < 50	50 ≤ t ≤ 115	115 < t ≤ 150
Carbon	0.22	0.155	0.14	0.15	0.15
Silicon	0.55	0.15	0.20	0.30	0.35
Manganese	1.70	0.65	1.10	1.20	1.35
Phosphorus	0.040	0.020	0.020	0.020	0.020
Sulfur	0.030	0.010	0.012	0.010	0.003
Chrome	0.25	0.023	0.023	0.023	0.023
Nickel	0.50	0.021	0.021	0.021	0.021
Copper	0.40	0.017	0.017	0.017	0.017
Molybdenum	0.10	0.002	0.002	0.002	0.002
Aluminium	0.100	0.025	0.035	0.025	0.035
Titanium	0.040	-	0.018	0.018	0.018
CEQ (IIW)	0.44	0.27	0.32	0.36	0.39

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

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

MECHANICAL PROPERTIES

Tensile Properties (Transverse)		Thickness (mm)					
		5 ≤ t ≤ 8	8 < t ≤ 12	12 < t ≤ 50	50 < t ≤ 80	80 < t ≤ 115	115 < t ≤ 150
Yield Strength (MPa)	Guaranteed Min	280	260	250	240	230	230
	Typical	290 – 480	260 - 360	260 - 380	250 - 370	240 - 370	240 - 340
Tensile Strength (MPa)	Guaranteed Min	410	410	410	410	410	410
	Typical	420 - 540	420 - 500	420 - 510	440 - 520	440 - 510	450 - 510
Elong. On 5.65√S ₀ (%)	Guaranteed Min	22	22	22	22	22	22
	Typical	23 - 47	28 - 45	28 - 42	28 - 40	25 - 38	27 - 38

Charpy Impact Properties	Longitudinal at 0°C on 10 x 10mm Specimen	Absorbed Energy (joules)	
		Av. Of 3	Ind.
	Guaranteed Min	27	20
	Typical	50 - 200	30 - 250

WELDABILITY

Group	Guaranteed maximum	Typical Group / Thickness (mm)		
		5 ≤ t < 32	32 ≤ t < 50	50 ≤ t ≤ 150
Group 4	4	1	2	3

Refer to WTIA Technical Note 1 or AS/NZS 1554.1

FORMABILITY

Thickness (mm)	Long	Trans
t ≤ 6	1.5t	1.0t
6 < t ≤ 10	2.25t	1.5t
10 < t ≤ 20	3.0t	2.0t
20 < t ≤ 50	6.0t	4.0t
t > 50	Hot form	

Recommended min. inside radii

HARDNESS

Typical
120 – 160BHN