

AS/NZS 3678 - 300

XLERPLATE® steel

DATE: AUGUST 2009

PRODUCT DESCRIPTION

- A medium strength structural steel plate product with nominal yield strength of 300 MPa

SUPPLY CONDITIONS

- Thickness Range: 8mm – 60mm
- Availability: By Enquiry
- Edge Condition: Untrimmed (Mill Edge) / Trimmed
- Tolerances: AS/NZS 1365
- Ultrasonic Inspection: AS1710 available
- Surface Inspection: BlueScope Steel (third party available)
- Certification: BlueScope Steel (third party endorsed available)

(1) Optional supply condition. May be subject to size range restrictions.

TYPICAL USES

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

FEATURES & BENEFITS

- Guaranteed minimum strength levels
- Excellent weldability
- Excellent formability

WARNINGS

- This material should be used in conjunction with the appropriate structural design and welding standards.
- An untrimmed (Mill) edge may contain minor surface discontinuities as a result of the rolling process (refer Clause 7 AS/NZS 3678). It is recommended that a minimum of 50mm be removed from each untrimmed edge.
- Where impact testing is required refer to AS/NZS 3678 - 300L15.

NEAREST OVERSEAS SPECIFICATIONS

ASTM A36 ISO 630-E275B JISG 3101-SS400 JISG 3106-SM400A EN 10025-2-S275JR

For more information contact:

BlueScope Steel Direct

Phone: 1800 800 789

Email: steeldirect@bluescopesteel.com

Website: www.xlerplate.com.au

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CHEMICAL COMPOSITION			
Element	Guaranteed Maximum % ⁽²⁾	Typical % Thickness (mm)	
		8 ≤ t ≤ 40	40 < t ≤ 60
Carbon	0.22	0.14	0.15
Silicon	0.55	0.20	0.30
Manganese	1.70	1.10	1.20
Phosphorus	0.040	0.020	0.020
Sulfur	0.030	0.010	0.010
Aluminium	0.100	0.025	0.025
Titanium	0.040	0.018	0.018
CEQ (IIW) ⁽¹⁾	0.44	0.33	0.36

$$(1) \text{ CEQ (IIW)} = C + \frac{\text{Mn}}{6} + \frac{(\text{Cr} + \text{Mo} + \text{V})}{5} + \frac{(\text{Cu} + \text{Ni})}{15}$$

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

MECHANICAL PROPERTIES				
Tensile Properties (Transverse)		Thickness Range (mm)		
		8 < t ≤ 12	12 < t ≤ 20	20 < t ≤ 60
Guaranteed Min.	Yield Strength (MPa)	310	300	280
	Tensile Strength (MPa)	430	430	430
	Elong. on 5.65 √ So (%)	21	21	21
Typical	Yield Strength (MPa)	320 - 410	310 - 390	290 - 370
	Tensile Strength (MPa)	440 - 540	440 - 510	440 - 490
	Elong. on 5.65 √ So (%)	24 - 34	24 - 36	24 - 34
Charpy Impact Properties - Longitudinal		Typically would expect to meet		27J MIN. Avg. of 3 and 20J MIN. Individual at 0°C

WELDABILITY			
Group	Guaranteed Maximum	Typical Group / Thickness (mm)	
		8 ≤ t ≤ 40	40 < t ≤ 60
Group 4 ⁽³⁾	4	2	3

(3) Refer to WTIA Technical Note 1 or AS/NZS 1554.1

FORMABILITY (recommended min. inside radii)			HARDNESS
6 < t ≤ 10	Long 2.25T	Trans 1.5T	Typical
10 < t ≤ 20mm	Long 3.0T	Trans 2.0T	130 - 170 BHN
20 < t ≤ 50mm	Long 6.0T	Trans 4.0T	
t > 50mm	Hot form		

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