



Data Sheet

AS/NZS 3678 300S0

Hot-Rolled – Plate

Issued: 21/11/2013

GENERAL DESCRIPTION

Hot rolled steel plate with nominal minimum yield strength, impact testing and additional requirements according to AS3678 appendix D. Intended for application in steel structures and fracture critical applications as specified in NZS3404:Part1:2009.

APPLICATIONS

- Structural members, NZS3404.1:2009
- Fracture critical members

STANDARDS

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

CHEMICAL COMPOSITION	10 – <32mm	32 – 40mm	10 – 32mm	32 – 40mm
	TYPICAL (wt %)		EXPECTED MAXIMUM (wt %) ^[1]	
Carbon (C)	0.16	0.15	0.22	0.22
Silicon (Si)	0.24	0.250	0.55	0.55
Manganese (Mn)	1.30	1.30	1.70	1.70
Sulphur (S)	0.017	0.016	0.030	0.030
Phosphorus (P)	0.020	0.012	0.040	0.040
Vanadium (V)	0.016	0.035	0.030	0.045

^[1] Values shown refer to relevant Australian/ New Zealand standard unless stated otherwise

MECHANICAL PROPERTIES	10– 12mm	>12 – 20mm	>20 – 40mm	10 – 12mm	>12 – 20mm	>20 – 40mm
	TYPICAL			EXPECTED MINIMUM		
Lower Yield strength(R_{eL}), MPa	350	340	320	310	300	280
Tensile strength(R_m), MPa	510	500	480	430	430	430
Elongation ($L_0=5.65\sqrt{S_0}$, mm), %	32	29	28	25	25	25

Material should be used promptly (within 6 months) to avoid the possibility of storage related corrosion and degradation. Mechanical properties are guaranteed at ambient/room temperatures. Please consult technical representatives at New Zealand Steel for high/low temperature use.

LIMITING RATIO REQUIREMENTS FOR S0 GRADE SEISMIC STEELS			
Item	Requirement	Requirement	Typical
1	Minimum percentage elongation after fracture ($L_0=5.56\sqrt{S_0}$, mm)	25%	29%
2	Maximum yield to tensile ratio (R_{eL}/R_m)	0.8	0.70
3	Maximum yield stress $<1.33 \cdot F_y$	400MPa	350MPa

Extract from AS3678:2011 table D1, F_y = Minimum specified yield strength @ 16mm

CHARPY IMPACT PROPERTIES (AS/NZS 3678 S0)			
Test temperature	Individual test minimum	Three test average minimum	Typical test average
0°C	50J	70J	110J

Impact testing applies to plate thicknesses ≥ 12 mm

New Zealand Steel Limited

Auckland

Tel. +64 9 375 8999

Fax. +64 9 375 8213

A BlueScope Steel Company

www.nzsteel.co.nz

nzsteel@bluescopesteel.com

Copyright © 2013 New Zealand Steel Limited

FABRICATING PERFORMANCE 1 = Limited 5 = Excellent	
METHOD	RATING
Bending	3
Welding	4

STANDARD PLATE SIZE	
WIDTH (mm)	LENGTH (mm)
1220 – 1250	2400
	3600
	6000
1510 - 1550	12000

DIMENSION CAPABILITIES	
THICKNESS (mm)	WIDTH (mm)
10.00 – 40.00	730 – 1540

Other dimensional combinations may be available by enquiry.

New Zealand Steel Limited

Auckland

Tel. +64 9 375 8999

Fax. +64 9 375 8213

A BlueScope Steel Company

www.nzsteel.co.nz

nzsteel@bluescopesteel.com

Copyright © 2013 New Zealand Steel Limited