

Data Sheet

MEDIUM STRENGTH PLATE G450

NZ STANDARD

- AS/NZS3678:450

INTERNATIONAL STANDARDS

- JISG 3106– SM520
- ASTM A572M-415
- ISO 630—Fe510

PRODUCT DESCRIPTION

A high strength structural steel product with nominal yield strength of 450MPa.

SUPPLY CONDITIONS

- Thickness Range 10mm—40mm
- Availability by special order
- Tolerances AS1365 or equivalent
- Ultrasonic Inspection AS1710 available on request

TYPICAL USES

- General fabrication
- Forestry equipment
- Transport equipment
- Structural members
- High-rise buildings
- Bridges
- Storage tanks

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CHEMICAL COMPOSITION

Element	Guaranteed Maximum	Typical %/ Thickness (mm)
		10 < t < 40
Carbon	0.22	0.13
Silicon	0.55	0.45
Manganese	1.80	1.50
Phosphorus	0.040	0.020
Sulphur	0.030	0.003
Nickel	0.50	0.20
Copper	0.60	0.30
Aluminium	0.100	0.035
Titanium (when added)	0.040	0.018
CEQ (IIW)	0.48	0.415

MECHANICAL PROPERTIES

Typical Properties (Transverse)		Thickness Range (mm)			
		10 ≤ t ≤ 12	12 < t ≤ 20	20 < t ≤ 32	32 < t ≤ 40
Guaranteed Min.	Yield Strength (MPa)	460	450	420	400
	Tensile Strength (MPa)	520	520	500	500
Typical	Yield Strength (MPa)	480-570	470-560	450-520	420-480
	Tensile Strength (MPa)	550-620	540-620	530-600	520-580

WELDABILITY

		Typical Group/ Thickness (mm)
		10 ≤ t ≤ 40
Group 5	5	4

FORMABILITY (recommended min inside radii)

10mm ≤ t ≤ 20mm	Long 4.5T	Trans 3.0T
t > 20mm	Hot form	

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