

BISPLATE[®] 80

Shaping Australia's Future





BISPLATE® 80

BISPLATE® 80 – a low alloy, high strength steel plate with a yield stress approximately three times that of carbon steel and featuring low carbon, excellent notch toughness and good weldability and formability.

Applications

Utilising the high strength properties of BISPLATE® 80 allows reduction in section thickness without loss of structural integrity. The following lists some applications where the strength advantage has been realised:

- Transport equipment *(Low loaders)*
- High-rise buildings *(Columns)*
- Mining equipment *(Dump truck trays/Longwall roof supports)*
- Lifting equipment *(Mobile cranes/Container handling equipment)*
- Bridges
- Storage tanks
- Excavator buckets
- Induced draft fans



Available Sizes

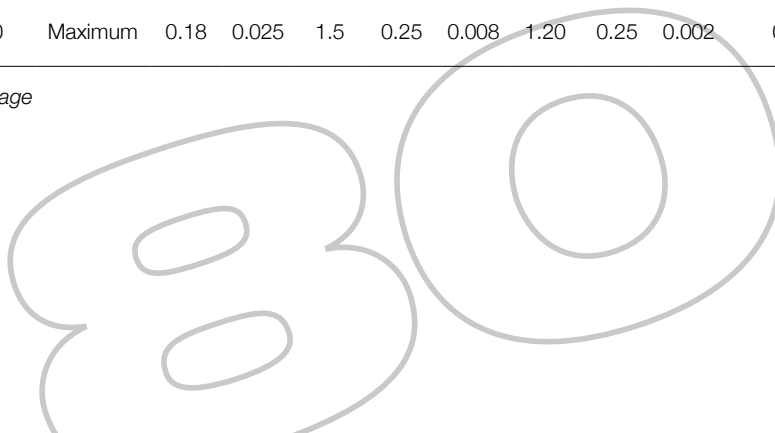
Thickness (mm)	Size (Width mm x Length m)
5	1525 x 8
6	1525 x 8 and 2485 x 8
8	2485 x 8
10 - 25	2485 x 8 and 3100 x 8
32 - 50	2485 x 8
60	2485 x 6
70 - 80	1900 x 6
90 - 100	1525 x 6

(Other widths/lengths available on enquiry)

Chemical Composition, Weight % (Max)

Thickness (mm)		C	P	Mn	Si	S	Cr	Mo	B	CE(IIW)*	CET*
5 - <16	Maximum	0.18	0.025	1.5	0.25	0.008	0.25	0.25	0.002	0.40	0.29
≥16 - 80	Maximum	0.20	0.025	1.5	0.25	0.008	0.30	0.25	0.002	0.50	0.35
>80 - 100	Maximum	0.18	0.025	1.5	0.25	0.008	1.20	0.25	0.002	0.58	0.34

**Typical Average*





Mechanical Properties*

Properties	Specification	Typical
0.2% Proof Stress	690 MPa (Min)	750 MPa
Tensile Strength	790 - 930 MPa	830 MPa
Elongation in 50 mm G.L.	18% (Min)	26%

*Dependent on Plate Thickness, typicals shown are for 20mm plate thickness.

Charpy Impact Properties

Charpy Impact Longitudinal, -20°C			
	Plate Thickness (mm)	Test Piece Size (mm x mm)	Energy (J)
Specification	20 mm	10 x 10	40 (Min)
Typical	20 mm	10 x 10	160

Note: Values in the tables above are an extract of the full data, please contact Bisalloy Steels for more information.

Hardness

Typical 255 HB

Testing

BISPLATE® 80 is manufactured in accordance with AS/NZS 3597 Grade 700
All testing is NATA approved

Reference Specifications

Welding according to AS/NZS 1554 parts 4 and 5, WTIA Technical Note 15

Equivalent Specifications

BISPLATE® 80 is equivalent to:

- ASTM A514
- ISO 4950-3 Grade E690
- ISO 9328-4 Grade P690TQ
- JIS G3128
- EN 10137-2 Grade S690Q

Manufacturing

In accordance with AS/NZS 1365

Tolerances

Tighter tolerances may be available on negotiation

Surface Finish

Shotblasted

Plate Colour Code

Pink

Fabrication

BISPLATE® 80 is a high strength steel manufactured with a controlled carbon equivalent for optimum weldability. BISPLATE® 80 can be successfully welded to itself and a range of other steels, provided low hydrogen consumables are used and attention is paid to preheat, interpass temperature, heat input and the degree of joint restraint. Stress relieving can be achieved at 540°C – 570°C. Heating above this temperature should be avoided to minimise any adverse effects on mechanical properties. Cold forming can be successfully conducted, provided due account is taken of the increased strength of the steel.

For advice on fabrication refer to relevant Bisalloy technical brochures, contact Bisalloy direct or visit www.bisalloy.com.au





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For over 30 years, Bisalloy has proved it's in its element as Australia's manufacturer of quenched and tempered steel plate. Plate that not only meets standards, but has become the standard, in Australia and overseas.



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Images included in this manual are for illustrative purposes only. Images are indicative only of the type of applications which may use a Bisalloy Steels product.

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