

BISALLOY® STRUCTURAL 80 PRESSURE VESSEL STEEL

Introduction

BISALLOY® STRUCTURAL 80 Pressure Vessel steel is a high strength steel alternative for designers of unfired pressure vessels that meets the requirements of AS1210 and achieves a light weight structure.

Applications

BISALLOY® STRUCTURAL 80 Pressure Vessel steel has been approved by statutory authorities and complies with the requirements of AS1210 for pressure applications and is supplied ultrasonically tested to AS1710-Level 1. Its high strength offers substantial weight reductions in the following areas:

- Transportable road tankers
- Storage tanks (Spherical and cylindrical)
- Railroad tankers (LPG/Liquid ammonia)
- Refinery and petrochemical equipment (Tube plates/Channel covers)

BISALLOY® STRUCTURAL 80 Pressure Vessel steel is manufactured in accordance with AS/NZS 3597 Grade 700PV.

Mechanical properties

Hardness (Typical)		Tensile				Charpy V-Notch Impact			
Plate Thickness (mm)	Brinell Hardness (HB 3000/10)	Plate Thickness (mm)	0.2% Proof Stress (MPa) Min	Tensile Strength (MPa)	% Elongation (50 mm G.L.) Min	Plate Thickness (mm)	Lateral Expansion (mm) Min	Test Temp. (°C)	Test Directions
6 - 100	255	6 - 65	690	790 - 930	18	6 - 100	0.38	By Agmnt max. 0°C	T
		70 - 100	620	720 - 900	16				

Chemical composition

Thickness (mm)	Weight %	C	P	Mn	Si	S	Cr	Mo	B	CE(IIW)*	CET*
6 - <30	Maximum	0.18	0.025	1.2	0.60	0.008	1.00	0.25	0.002	0.44	0.26
≥30 - 80	Maximum	0.18	0.025	1.3	0.60	0.008	1.00	0.25	0.002	0.54	0.32
>80 - 100	Maximum	0.18	0.025	1.5	0.60	0.008	1.20	0.25	0.002	0.58	0.34

*Typical average. Low heat input butt welding required to ensure transverse weld tensile properties are achieved. Alternate chemistry may be specified when necessary

PLEASE NOTE: Every care has been taken to ensure the accuracy of information contained in this manual which supersedes earlier publications, however Bisalloy Steels shall not be liable for any loss or damage whatsoever caused from the application of such information. Typical values are provided for reference information only and no guarantee is given that a specific plate will provide these properties. Information is subject to change without notice. **Published August 2020**