

BISALLOY® ARMOUR 80A STEEL

Introduction

BISALLOY® ARMOUR 80A steel is a specialised armour grade of quenched and tempered steel armour plate suitable for use in military applications where the maximum resistance to high rates of shock loading is required.

Brinell hardness

| Thickness (mm) | Specification | Typical |
|---------------------|---------------|---------|
| 5 - 50 ¹ | - | 255 HB |

Tensile properties

| Property | Specification |
|------------------------|---------------|
| 0.2% Proof Stress | 690 MPa |
| Tensile Strength | 790 MPa |
| Elongation in 50 mm GL | 18% |

Charpy impact values

| Thickness (mm) | Test Piece | Test Temp | Min. Energy (Transverse) | Min. Energy (Longitudinal) |
|----------------|------------|-----------|--------------------------|----------------------------|
| ≥12 | 10 x 10 | -40°C | - | 40J |

Chemistry

The chemical analysis is as follows:

Chemical composition

| Thickness (mm) | Weight % | C | P | Mn | Si | S | Cr | Mo | B | CE(IIW)** | CET** |
|----------------|----------|------|-------|-----|------|-------|------|------|-------|-----------|-------|
| 5 - <30 | Maximum | 0.18 | 0.025 | 1.2 | 0.60 | 0.008 | 1.00 | 0.25 | 0.002 | 0.44 | 0.26 |
| 30 - 50 | Maximum | 0.18 | 0.025 | 1.3 | 0.60 | 0.008 | 1.00 | 0.25 | 0.002 | 0.54 | 0.32 |

** Typical average

Thickness tolerance

| Thickness (mm) | Special Tolerance |
|----------------|-------------------|
| 5 - 25 | -0.0 + 1.0 |
| 25 - 50 | -0.0 + 1.2 |

Test frequency

| Per Plate | Per Batch | By Agreement |
|-----------|------------------------|--|
| Hardness | Charpy (L), Charpy (T) | Thickness, Tensile, Ballistic Properties, Product Analysis |

Other

| Equivalent Specification | Surface Finish |
|--------------------------|----------------|
| NIL | Shotblasted |

Fabrication

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

¹ Other thicknesses may be available on application

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**