

## BISALLOY® ARMOUR RHA300 STEEL

### Introduction

BISALLOY® ARMOUR RHA300 steel (Rolled Homogeneous Armour) - quenched and tempered steel armour plate suitable for use in military applications where light weight and maximum resistance to high rates of shock loading is required.

### Brinell hardness

| Thickness (mm)      | Specification | Typical |
|---------------------|---------------|---------|
| 5 - 50 <sup>1</sup> | 260-310 HB    | 280 HB  |

### Tensile properties

| Property               | Typical  |
|------------------------|----------|
| 0.2% Proof Stress      | 900 MPa  |
| Tensile Strength       | 1000 MPa |
| Elongation in 50 mm GL | 16%      |

### Charpy impact values

| Thickness (mm) | Test Piece | Test Temp | Min. Energy (Transverse) | Min. Energy (Longitudinal) |
|----------------|------------|-----------|--------------------------|----------------------------|
| 5              | 10 x Thk   | -40°C     | By Agreement             | By Agreement               |
| 6 - <8         | 10 x 5     | -40°C     | 24J                      | 24J                        |
| 8 - <12        | 10 x 7.5   | -40°C     | 37J                      | 37J                        |
| ≥12            | 10 x 10    | -40°C     | 49J                      | 49J                        |

### Chemistry

The chemical specification conforms to the requirements of MIL-DTL-12560, although it is tighter than the requirements of that specification so as to optimise the material's performance. Product chemical analyses are taken on a per-heat basis. Chemical analysis is as follows:

#### Chemical composition

| Thickness (mm)      | Weight % | C    | P     | Mn   | Si   | S     | Ni   | Cr   | Mo   | B     | CE(IIW) | CET   |
|---------------------|----------|------|-------|------|------|-------|------|------|------|-------|---------|-------|
| 5 - 50 <sup>1</sup> | Maximum  | 0.32 | 0.025 | 1.50 | 0.60 | 0.005 | 0.50 | 1.20 | 0.30 | 0.002 | 0.61*   | 0.40* |

### 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 |

# PRODUCT DATA SHEET



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### Other

| Equivalent Specification  | Surface Finish |
|---------------------------|----------------|
| MIL - DTL - 12560 class 2 | Shotblasted    |

### Fabrication

For advice on fabrication refer to relevant Bisalloy technical brochures.  
Contact Bisalloy direct or visit [www.bisalloy.com.au](http://www.bisalloy.com.au)

\* Typical for 12mm plate

† 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**



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