5083 ALUMINIUM

COMMERCIAL ALUMINIUM ALLOY

PRODUCT DESCRIPTION

Known as an alloy which offers exceptional performance characteristics in the most extreme environments, 5083 benefits from superior corrosion resistance in industrial, chemical and seawater environments. It has the highest strength of all non-heat treatable alloys. The material also retains excellent strength after welding. 5083 should not be used in temperatures above 65°C.

KEY FEATURES

- Excellent extreme environment performance
- Exceptional strength after welding
- Highest strength of all non-heat treatable alloys

APPLICATIONS

- Pressure vessels, shipbuilding
- Vehicle bodies, tipper trucks, mine skips and cages
- Rail cars

CHEMICAL COMPOSITION (weight %)

<table>
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<tr>
<th></th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>Mg</th>
<th>Si</th>
<th>Zn</th>
<th>Cr</th>
<th>Ti</th>
<th>Al</th>
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<tbody>
<tr>
<td>Min</td>
<td>0.40</td>
<td>4.00</td>
<td>0.05</td>
<td>0.15</td>
<td></td>
<td>0.05</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>1.00</td>
<td>0.40</td>
<td>0.10</td>
<td>4.90</td>
<td>0.40</td>
<td>0.25</td>
<td>0.25</td>
<td>0.15</td>
<td>Bal</td>
</tr>
</tbody>
</table>

MECHANICAL PROPERTIES

- Tensile Strength: 300 MPa
- Elongation A50 mm: 23%
- Shear Strength: 175 MPa
- Hardness Vickers: 75 HV
- Proof Stress: 145 MPa

PHYSICAL PROPERTIES

- Density: 2.65 g/cm³
- Melting Point: 570°C
- Thermal Expansion: 25 x10^-6/K
- Modulus of Elasticity: 72 GPa
- Thermal Conductivity: 121 W/m.K

* The properties above are for material in the Soft O/H111 condition

MATERIAL SPECIFICATIONS

- GM41
- A95083
- AlMg 4.5 Mn
- Al Mg 4.5 Mn 0.7

AVAILABILITY

Plate and sheet.

All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.

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www.thamesstock.com sales@thamesstock.com

Thames Stockholders
Unit 5W, Woodall Road, Redburn Industrial Estate
Ponders End, Enfield, Middlesex EN3 4LQ

+44 (0)20 8805 3282 +44 (0)20 8804 8164

www.thamesstock.com sales@thamesstock.com

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