3103 Aluminium Technical Datasheet

Commercial Aluminium Alloy

Applications
- Heat exchangers
- Heating & cooling systems
- Aircraft & military components
- Vehicle radiators
- Corrugated roofing
- Cooking utensils & kitchen equipment
- Air conditioning evaporators

Product Description
3103 aluminium alloy is a commercial aluminium which is close in properties to 3003. With very good resistance to atmospheric corrosion and excellent mechanical properties, 3103 is a versatile alloy which is used in the aerospace, oil and gas industry and automotive sector amongst others. The material has improved mechanical properties over 1000 series aluminium alloys, especially at elevated working temperatures. This feature widens the use of the alloy as a construction cladding material.

Key features:
- Medium strength alloy
- Good resistance to atmospheric corrosion
- Properties very close to 3003
- Very good weldability

Related Material Specifications
- AlMn1

Weldability
Very good

Corrosion Resistance
Very good

Availability
Plate, Sheet

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th>Weight (%)</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>Mg</th>
<th>Si</th>
<th>Zn</th>
<th>Cr</th>
<th>Ti+Zr</th>
<th>Al</th>
<th>Other</th>
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<td>0.90</td>
<td>0.70</td>
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<td>0.05</td>
<td>0.50</td>
<td>0.20</td>
<td>0.10</td>
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<td>0.05</td>
</tr>
<tr>
<td>max.</td>
<td>1.50</td>
<td>0.70</td>
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<td>0.20</td>
<td>0.10</td>
<td>0.10</td>
<td>Bal</td>
<td>0.15</td>
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</tbody>
</table>

Mechanical Properties

- Tensile Strength: 140 MPa min
- Elongation A50 mm: 8% min
- Shear Strength: 90 MPa
- Hardness Vickers: 46 HV
- Proof Stress: 110 Mpa min

Physical Properties

- Density: 2.73 g/cm³
- Melting Point: 655°C
- Thermal Expansion: 23.1 x 10⁻⁶ /K
- Modulus of Elasticity: 69.5 GPa
- Thermal Conductivity: 160 W/m.K
- Electricity Resistivity: 42% IACS

The properties above are for material in the H14 condition

Technical Assistance
Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

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