7010 Aluminium
Technical Datasheet

Commercial Aluminium Alloy

Applications
- High strength aerospace parts
- Closed die forgings for the aerospace industry
- Large forged bars for the aerospace industry

Key features:
- Very high strength alloy
- Very high fatigue strength
- Stress corrosion resistant
- Not suitable for high temperature applications
- Corrosion protection recommended

Product Description
7010 aluminium alloy offers a balance between mechanical properties (strength, toughness, fatigue) and resistance to stress corrosion. The alloy which is of European origin has properties similar to the American Grade 7050. The alloy benefits from high strength, high fatigue strength and is stress corrosion resistant. 7010 is used in the aerospace industry in the production of high strength parts.

Related Material Specifications
- AMS 4203
- AMS 4205

Corrosion Resistance
Stress corrosion resistant but corrosion protection recommended.

Availability
Bar, plate and forgings

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th></th>
<th>Al</th>
<th>Zn</th>
<th>Mg</th>
<th>Cu</th>
<th>Fe</th>
<th>Zr</th>
<th>Si</th>
<th>Mn</th>
<th>Ti</th>
<th>Cr</th>
<th>Ni</th>
<th>Other</th>
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<tbody>
<tr>
<td>min.</td>
<td>Bal</td>
<td>5.70</td>
<td>2.10</td>
<td>1.50</td>
<td>0.10</td>
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<td>0.12</td>
<td>0.10</td>
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<td></td>
<td></td>
<td>0.050</td>
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<tr>
<td>max.</td>
<td>Bal</td>
<td>6.70</td>
<td>2.60</td>
<td>2.0</td>
<td>0.15</td>
<td>0.16</td>
<td>0.12</td>
<td>0.10</td>
<td></td>
<td></td>
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</tbody>
</table>

Mechanical Properties

**T7452 condition. 125/150 mm thickness:**
- Tensile test at ambient temperature, longitudinal direction
  - UTS: > 475 N/mm²
  - 0.2 % Yield strength: > 400 N/mm²
  - Elongation (5d): > 8 %
  - Klc (L-T direction): > 27 MPa/m

**T74 condition. 100/125 mm thickness:**
- Tensile test at ambient temperature, longitudinal direction
  - UTS: > 485 N/mm²
  - 0.2 % Yield strength: > 420 N/mm²
  - Elongation (5d): > 7 %
  - Klc (L-T direction): > 27 MPa/m

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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