6082 Aluminium
Technical Datasheet

Applications
- Roof trusses
- Highly stressed applications
- Milk churns
- Bridges
- Cranes
- Ore skips

Product Description
6082 aluminium alloy has the highest strength of all the 6000 series alloys. Often referred to as a 'structural alloy', 6082 is used predominantly in highly stressed applications such as trusses, cranes and bridges. The alloy offers excellent corrosion resistance and has replaced 6061 in many applications. The extruded finish is not as smooth and therefore not as aesthetically pleasing as other alloys in the 6000 series.

 Availability
Bar, plate, sheet, tube, extrusions

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th>Element</th>
<th>Mn</th>
<th>Fe</th>
<th>Mg</th>
<th>Si</th>
<th>Cu</th>
<th>Zn</th>
<th>Ti</th>
<th>Cr</th>
<th>Al</th>
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</thead>
<tbody>
<tr>
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<td>0.60</td>
<td>0.70</td>
<td>0.10</td>
<td>0.20</td>
<td>0.10</td>
<td>0.25</td>
<td>Bal</td>
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<tr>
<td>max.</td>
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<td>0.50</td>
<td>1.20</td>
<td>1.30</td>
<td>0.10</td>
<td>0.10</td>
<td>0.25</td>
<td>Bal</td>
<td></td>
</tr>
</tbody>
</table>

Mechanical Properties
- Tensile Strength: 260 MPa
- Proof Stress: 170 MPa
- Shear Strength: 170 MPa
- Elongation A50 mm: 19%
- Brinell Vickers: 75 HV

Physical Properties
- Density: 2.70 g/cm³
- Melting Point: 555 °C
- Thermal Expansion: 24 x10⁻⁶ /K
- Modulus of Elasticity: 70 GPa
- Thermal Conductivity: 180 W/m.K

Key features:
- Medium strength alloy
- Highest strength of the 6000 series alloys
- Excellent corrosion resistance
- Also known as a structural alloy
- Has replaced 6061 in many applications

Related Material Specifications
- AA6082
- DIN 3.2315
- ISO: Al Si1MgMn
- HE30
- EN AW-6082
- A96082

Corrosion Resistance
Excellent

Machinability
Good

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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