7075 aluminium alloy is a very high strength aerospace aluminium and is commonly used in applications where the strength of the material is critical and where the need for good corrosion resistance is not important. Offering superior stress corrosion resistance, 7075 provides very high yield and tensile strengths which is dictated by the particular chosen temper.

### Chemical Composition (weight %)

<table>
<thead>
<tr>
<th></th>
<th>Si</th>
<th>Fe</th>
<th>Cu</th>
<th>Mn</th>
<th>Cr</th>
<th>Mg</th>
<th>Zn</th>
<th>Ti</th>
<th>Al</th>
<th>Others</th>
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</thead>
<tbody>
<tr>
<td>min.</td>
<td>0.40</td>
<td>1.20</td>
<td>0.18</td>
<td>5.10</td>
<td>2.10</td>
<td>5.10</td>
<td>Bal</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>max.</td>
<td>0.50</td>
<td>2.00</td>
<td>0.30</td>
<td>0.30</td>
<td>0.28</td>
<td>2.90</td>
<td>6.10</td>
<td>0.20</td>
<td>Bal</td>
<td>0.15</td>
</tr>
</tbody>
</table>

### Mechanical Properties

- **Tensile Strength**
  - 40-78 ksi, 275 - 540 MPa
- **Yield Strength**
  - 24-68 ksi, 455 - 465 MPa

### Physical Properties

- **Density**: 2.81 g/cm³
- **Melting Point**: 635 °C
- **Modulus of Elasticity**: 72 GPa
- **Thermal Conductivity**: 134-160 W/m.K
- **Electrical Resistivity**: 40% IACS

Properties dependent on chosen temper.

### Key features:

- Very high strength aerospace aluminium
- Used where high strength is critical and where good corrosion resistance is not important
- Up to 465 MPa yield strength and 540 MPa tensile strength depending on temper
- Superior stress corrosion

### Machinability

Fair

### Availability

Bar, sheet, plate

## 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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