

7075 ALUMINIUM (inc T651 plate)

COMMERCIAL ALUMINIUM ALLOY

PRODUCT DESCRIPTION

Used in applications where the strength of the material is critical whilst good corrosion resistance is not important, **Alloy 7075** is a very high strength aerospace aluminium grade. Benefitting from very high yield and tensile strengths which are determined by the temper chosen, the alloy also offers superior stress corrosion resistance. Machinability of 7075 is rated as fair.

KEY FEATURES

- Very high tensile and yield strength
- Superior stress corrosion
- Fair machinability
- Up to 465 MPa yield and 540 MPa tensile strength depending on chosen temper

APPLICATIONS

- Aircraft structures
- Shafts and gears
- Automotive components
- Military applications



MACHINABILITY

Fair

AVAILABILITY

Bar, sheet and plate

CHEMICAL COMPOSITION (weight %)

| | Si | Fe | Cu | Mn | Cr | Mg | Zn | Ti | Al | Others |
|-----|------|------|------|------|------|------|------|------|-----|--------|
| Min | | | 1.20 | | 0.18 | 2.10 | 5.10 | | Bal | |
| Max | 0.40 | 0.50 | 2.00 | 0.30 | 0.28 | 2.90 | 6.10 | 0.20 | Bal | 0.15 |

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