

Aluminium Alloy 7075

Alternative Designations

| Standard | EN | ANSI/AA | UNS | JIS | AFNOR | UNE |
|-------------|-----------|---------|--------|-------|--------|--------|
| Designation | EN-AW7075 | AA7075 | A97075 | A7075 | A-Z5GU | L-3710 |

Details

Zinc is the primary alloying element. It has high strength (57MPa), toughness and excellent resistance to fatigue. The surface can either be mill finished or brush finished. It has very good machinability. It is extensively used in the structural parts for aircrafts.

Key Features

High strength • Tough • Resistant to fatigue • Excellent machinability

Chemical Composition

| Element | Si | Fe | Cu | Mn | Mg | Cr | Zn | Ti | |
|------------|-----|------|-----------|------|-----------|-------------|-----------|------|--|
| Percentage | 0.4 | 0.50 | 1.2 – 2.0 | 0.30 | 2.1 – 2.9 | 0.18 – 0.28 | 5.1 – 6.1 | 0.20 | |

Mechanical Properties

| Property | Yield strength [MPa] | Ultimate tensile strength [MPa] | Elongation [%] | Hardness |
|----------|----------------------|---------------------------------|----------------|----------|
| Value | 500 | 570 | 11 | 87 |

Physical Properties

| Property | Value |
|--|---------|
| Density [g/cm ³] | 2.81 |
| Module of elasticity [GPa] | 71.7 |
| Electrical conductivity [m/Ω · mm ²] | 19 – 23 |
| Coefficient of thermal expansion [K ⁻¹ · 10 ⁻⁶] | 23.4 |
| Thermal conductivity [W/m · K] | 196 |
| Specific heat capacity [J/kg · K] | 714.8 |