



TECHNICAL DATA SHEET

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Aluminum 7075-T6

Very High Strength Zinc Alloy Aluminum

Document Control

Document No.	TDS-AL-7075-T6-QQA250	Revision	A
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Specification	AMS-QQ-A-250/12 / ASTM B209 by product form	Product Form / UNS	Plate, sheet, bar, forging stock by spec / UNS A97075

Engineering use note: Starter-library values are intended for engineering screening and template standardization. Verify against the latest governing specification, drawing, PO, and MTR before production release.

1. General Description

7075-T6 is a very high-strength aluminum-zinc alloy widely used in aerospace and high-performance structural parts. It offers excellent strength-to-weight ratio, but lower weldability and lower general corrosion resistance than 6xxx alloys.

2. Chemical Composition (wt%)

Property	Value
Zinc (Zn)	5.1-6.1
Magnesium (Mg)	2.1-2.9
Copper (Cu)	1.2-2.0
Chromium (Cr)	0.18-0.28
Silicon (Si)	<=0.40
Iron (Fe)	<=0.50
Manganese (Mn)	<=0.30
Titanium (Ti)	<=0.20
Aluminum (Al)	Balance

3. Mechanical Properties

Property	Value
Condition	T6

Property	Value
Ultimate tensile strength	Approx. 572 MPa
0.2% yield strength	Approx. 503 MPa
Elongation	Approx. 11 %
Hardness	Approx. 150 HB typical

4. Physical Properties

Property	Value
Density	2.81 g/cm ³
Elastic modulus	71.7 GPa
Thermal conductivity	130 W/m.K
Melting range	477-635 C

5. Heat Treatment / Processing

7075 is a heat-treatable alloy supplied in tempers such as T6, T651, and T73 depending on property and stress-corrosion requirements.

6. Corrosion / Environmental Performance

Good atmospheric performance with proper finish and protection, but generally lower corrosion resistance and SCC margin than many lower-strength aluminum alloys. Surface protection and temper selection are important.

7. Key Characteristics

- Very high strength
- Good machinability
- Useful fatigue performance
- Limited weldability

8. Typical Applications

- Aircraft fittings
- Tooling plates
- High-strength brackets
- Sporting and defense hardware
- Precision machined structural parts

9. Standards & Equivalents

AMS-QQ-A-250/12
ASTM B209
UNS A97075
AA 7075



10. Notes & Limitations

Temper selection matters. Use overaged tempers such as T73/T7351 where SCC resistance is more important than maximum strength.