

Key Features

- Good machinability
- Surface finish capabilities
- High strength
- Adequate workability

Common Applications

- Aircraft fittings
- Gears and shafts
- Couplings
- Munitions
- Rectifier parts

Material Description

Aluminum 2024-T3 is a high-strength, heat-treatable alloy renowned for its excellent strength-to-weight ratio and good machinability. Composed primarily of aluminum, it contains copper as its main alloying element, along with small amounts of magnesium and manganese. The "T3" designation indicates that the material has been solution heat-treated and cold-worked to achieve the T3 temper, which provides good formability and moderate strength. Aluminum 2024-T3 is commonly used in aerospace applications, such as aircraft skins, fuselage structures, and wing components, due to its high strength and fatigue resistance. It offers exceptional performance in applications requiring lightweight materials with high strength properties. However, it should be noted that Aluminum 2024-T3 is not as corrosion-resistant as other aluminum alloys like 5052 or 6061, making it less suitable for applications exposed to harsh environmental conditions.

Chemical Composition (%)

	Al	Cr	Cu	Fe	Mg	Mn	Si	Ti	Zn		
Min.	90.7		3.8		1.2	0.3					
Max.	94.7	0.10	4.9	0.50	1.8	0.9	0.5	0.15	0.25		

Mechanical Properties

Ultimate Tensile Strength	≥ 63,800 PSI
Tensile Yield Strength	≥ 42,100 PSI
Hardness	Rockwell B75
Elongation at Break	≥ 10%

Physical Properties

Density	0.1 lb/in ³ (2.78 g/cm ³)
Thermal Conductivity	121W/m.K
Modulus of elasticity	10,600 KSI (73.1 GPa)
Melting Point	935 - 1,180°F (502 - 638 °C)

Technical Assistance

Our knowledgeable staff, supported by our in-house team of expert metallurgists and engineers, is ready to assist you with any technical inquiries.

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InstaVoxel's quality control system is ISO-9001 certified, and all our partners hold relevant certifications.



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