

2024 T3 Aluminum | Alclad 2024 Aluminum Sheet

Alloy 2024 aluminum plates are perhaps the best known and most widely used aircraft alloy. Since it exhibits high yield strength and relatively good fatigue resistance, it is readily used on structures and parts where good strength-to-weight ratio is desired. Because of its good machinability and superior grain structure, Alloy 2024 plate is essential for precision fittings and parts. Though this alloy does not have good corrosion resistance, welding by resistance method is feasible.

Aluminum 2024 possesses a high strength to weight ratio which is invaluable in its resistance to fatigue. It is commonly used in the construction of the wings and fuselage of an aircraft. There are several temper designations for this aluminum grade, the most common being 2024-T3, 2024-T4/T351, 2024-T851.

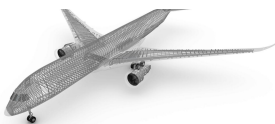
Chemical Composition WT(%)									
Silicon	Iron	Copper	Magnesium	Manganese	Chromium	Zinc	Titanium	Others	Aluminum
0.5	0.5	3.8~4.9	1.2~1.8	0.3~0.9	0.1	0.25	0.15	0.15	Balance

Al 2024 t3 sheet has same characteristics as tubing, however, the sheet is alclad for corrosion resistance. Alclad is a metallurgically bonded aluminum or aluminum alloy coating that is anodic to the core, thus electrolytically protecting the core against corrosion. Tensile strength 70,000 psi, yield strength 50,000 psi. Sheets .032 and under may be rolled for UPS oversize rate shipping. 2×4 is largest size shippable UPS flat, oversize rate applies.

Typical Mechanical Properties			
Thickness (mm)	Tensile Strength (Mpa)	Yield Strength (Mpa)	Elongation (%)
0.3~350	470	325	12

Introduction of 2000 Series Aircraft Aluminum:

Grade	Alloy	Temper	Parts of application
2xxx	2A11	T4,T6,T351	Aerospace vehicle structural parts, skin of aerospace vehicle, frames, ventral sheet, the gear rack warehouse reinforcement parts of undercarriage, subplate of cabin door, the long boom, the girder of wings, the floor bearer and supporter, sliding rail of pedestal, airtight floor.
	2A12	O,T3,T4,T351,H112	
	2A14	T4,T6,T351	
	2014	O,T3,T4,T351,H112	
	2017	O,T3,T4,T351,H112	
	2024	O,T3,T4,T6,T351,T861,T3511,T8611	



Characteristics of 2024 t3 aluminum Aircraft Grade:

- Good formability or workability
- Poor weldability
- Fair machinability
- Poor corrosion resistance
- Heat-treated
- High strength
- Commonly used in the aerospace industry

Applications of 2024 t3 Aluminum Sheet:

As one of the best high-strength aluminum alloys and possessing excellent fatigue resistance, aluminum 2024 is commonly used for:

- Structural components of aircraft, such as wings and fuselage
- Aircraft fittings
- Truck wheels
- Hardware
- Parts required by the transportation industry
- Scientific instruments
- Veterinary equipment

