

ALUMINIUM

2011 - T3



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Aluminium Alloy 2011-T3 is a free-machining alloy known for its high mechanical strength and excellent machinability. It belongs to the 2000 series of aluminium alloys and is typically used in applications where machining precision and dimensional stability are crucial. The 'T3' temper indicates that the alloy has been solution heat-treated, cold worked and naturally aged to a substantially stable condition.

KEY FEATURES

- Exceptional machinability
- Good mechanical properties
- Good corrosion resistance
- Excellent surface finishes
- Ideal for tight tolerances

CHEMICAL PROPERTIES

Copper (Cu)	Iron (Fe)	Silicone (Si)	Bismuth (Bi)	Lead (Pb)	Zinc (Zn)	Other Elements	Aluminium (Al)
5-6%	0.4-0.8%	0.4%	0.2-0.6%	0.2-0.6%	0.3%	0.15%	rest

MECHANICAL PROPERTIES

Tensile strength (N/mm ²)	310
Yield strength (N/mm ²)	275
Elongation (% at break)	10
Proof stress (MPa)	245
Hardness - Brinell (HB) max	95

PHYSICAL PROPERTIES

Density (kg/m ³)	282	
Modulus of elasticity (Gpa)	70	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	23.4
	0-350°C (µm/m/°C)	24.4
	0-538°C (µm/m/°C)	25.5
Thermal conductivity	at 100°C (W/m.K)	185
	at 500°C (W/m.K)	205
Specific Heat 0-100°C (J/kg.K)	39	
Electrical conductivity (IACS %)	38	
Melting point (°C)	570	

MARKET SECTORS



Manufacturing & Industrial

Screws, fasteners, fixings, jigs, fixtures, tooling



Automotive Industry

Engine components, parts, bicycle frames



Parts & Components

Handles, fasteners in home appliances, structural parts



Electrical Industry

Electrical connectors, switchgear components



Construction & Architecture

Structural supports, building facades



Aerospace Industry

Aircraft structural components, fittings