

ALUMINIUM

5083 - H111



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Aluminium alloy 5083 is known for its exceptional performance in extreme environments. It is a non-heat treatable alloy with good corrosion resistance, excellent weldability and high strength. It's relatively inexpensive and can be processed to moderate superplasticity. These characteristics make it suitable for a wide range of applications. The H111 temper denotes that it is stress-relieved by stretching and has excellent formability.

KEY FEATURES

- Excellent weldability with standard methods
- Good machinability
- Excellent corrosion resistance
- Excellent formability
- High strength alloy

CHEMICAL PROPERTIES

Magnesium (Mg)	Manganese (Mn)	Iron (Fe)	Silicone (Si)	Zinc (Zn)	Titanium (Ti)	Copper (Cu)	Chromium (Cr)	Aluminium (Al)
4-4.9%	0.4-1%	0.4%	0.4%	0.25%	0.15%	0.1%	0.05-0.25%	rest

MECHANICAL PROPERTIES

Tensile strength (N/mm ²)	270
Yield strength (N/mm ²)	115
Elongation (% at break)	12
Proof stress (MPa)	145
Hardness - Brinell (HB) max	75

PHYSICAL PROPERTIES

Density (kg/m ³)	268	
Modulus of elasticity (Gpa)	72	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	24.9
	0-350°C (µm/m/°C)	25.9
	0-538°C (µm/m/°C)	27.0
Thermal conductivity	at 100°C (W/m.K)	130
	at 500°C (W/m.K)	190
Specific Heat 0-100°C (J/kg.K)	93	
Electrical conductivity (IACS %)	34	
Melting point (°C)	570	

MARKET SECTORS



Marine Equipment

Hulls, decks, superstructures



Automotive Industry

Chassis components, body panels, trailers



Parts & Components

Machined parts, welded structures, pressure vessels



Oil & Gas Industry

Platforms, gangways, components



Construction & Architecture

Building facades, roofing, structural components



Aerospace Industry

Aircraft panels, fuselage frames, structural components