

# ALUMINIUM

## 6082 - T6



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Aluminium 6082-T6 is a medium-strength alloy with excellent corrosion resistance. It belongs to the 6000 series and is known for its good formability, weldability and machinability. The T6 temper involves solution heat-treatment and artificial aging, which gives it a balance of strength and ductility. It's often used in structural applications due to its high strength, and it's also known for tight coils of swarf when chip breakers are used in machining.

#### KEY FEATURES

- Good weldability with both TIG and MIG
- Good formability in annealed condition
- Excellent corrosion resistance
- Good machinability
- Medium strength alloy

#### CHEMICAL PROPERTIES

Aluminium (Al)	Silicone (Si)	Magnesium (Mg)	Manganese (Mn)	Iron (Fe)	Chromium (Cr)	Zinc (Zn)	Titanium (Ti)
<b>97.4-98.7%</b>	<b>0.7-1.3%</b>	<b>0.6-1.2%</b>	<b>0.4-1%</b>	<b>0.5%</b>	<b>0.25%</b>	<b>0.2%</b>	<b>0.1%</b>

#### MECHANICAL PROPERTIES

Tensile strength (N/mm <sup>2</sup> )	<b>290</b>
Yield strength (N/mm <sup>2</sup> )	<b>240</b>
Elongation (% at break)	<b>12</b>
Proof stress (MPa)	<b>170</b>
Hardness - Brinell (HB) max	<b>95</b>

#### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	<b>270</b>	
Modulus of elasticity (Gpa)	<b>70</b>	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	<b>23.2</b>
	0-350°C (µm/m/°C)	<b>24.1</b>
	0-538°C (µm/m/°C)	<b>24.9</b>
Thermal conductivity	at 100°C (W/m.K)	<b>190</b>
	at 500°C (W/m.K)	<b>230</b>
Specific Heat 0-100°C (J/kg.K)	<b>91</b>	
Electrical conductivity (IACS %)	<b>59-67</b>	
Melting point (°C)	<b>555</b>	

#### MARKET SECTORS



##### Construction & Architecture

Beams, columns, framework, facade systems, roofing



##### Automotive Industry

Chassis components, body panels, wheels



##### Marine Equipment

Boat hulls, superstructures, offshore platforms



##### Electrical Industry

Busbars, conductors, electrical enclosures



##### Manufacturing & Industrial

Machines parts, jigs, fixtures, equipment frames



##### Aerospace Industry

Aircraft components, military vehicles, armour plating