6082 T6 Aluminum Sheet

Applications

Material Handling | Lifting Equipment | Cranes | Food Industry | Food Industry Containers | Mining Industry | Mining Equipment | Other Mining Equipment | Construction | Building Structures | Civil Engineering | High Stressed Applications

Request more information

Properties

General

Property	Temperature	Value
Density	23.0 °C	2.7 g/cm³

Mechanical

Property	Temperature	Value	Comment
Elastic modulus	23.0 °C	70 - 72 GPa	
Elongation	23.0 °C	6 - 10 %	
Elongation A100	23.0 °C	8 %	
Elongation A50	23.0 °C	6 - 9 %	
Hardness, Brinell	23.0 °C	84 - 95 [-]	
Plane-Strain Fracture Toughnes	23.0 °C	22 - 35 MPa·√m	Typical for Wrought 6000 Series Aluminium
Poisson's ratio	23.0 °C	0.33 [-]	Typical for Wrought 6000 Series Aluminium
Shear modulus	23.0 °C	26 - 26.5 GPa	Typical for Wrought 6000 Series Aluminium
Tensile strength	23.0 °C	270 - 330 MPa	
Yield strength	23.0 °C	280 MPa	
Yield strength Rp0.2	23.0 °C	200 - 260 MPa	

Thermal

Property	Temperature	Value	Comment
Coefficient of thermal expansion	23.0 °C	2.3E-5 - 2.4E-5 1/K	unstated value for 20-100°C
	100.0 °C	2.2E-5 1/K	unstated value for 20-100°C
Melting point		555 - 580 °C	
Specific heat capacity	23.0 °C	890 J/(kg·K)	

Thermal conductivity	23.0 °C	170 - 180 W/(m·K)

Electrical

Property	Temperature	Value	Comment
Electrical conductivity	23.0 °C	2.10E+7 - 3.40E+7 S/m	Typical for Wrought 6000 Series Aluminium
Electrical resistivity	23.0 °C	3.8E-8 Ω·m	

Chemical properties

Property	Value	Comment
Aluminium	95.2 - 98.3 %	Balance
Chromium	0 - 0.25 %	
Copper	0 - 0.1 %	
Iron	0 - 0.5 %	
Magnesium	0.6 - 1.2 %	
Manganese	0.4 - 1 %	
Other	0 - 0.15 %	each 0.05, total 0.15, Rest Al,Total
Silicon	0.7 - 1.3 %	
Titanium	0 - 0.1 %	
Zinc	0 - 0.2 %	

Technological properties

Property
Application areas

	Highly stressed applications, Trusses, Bridges, Cranes, Transport applications, Ore skips, Beer barrels, Milk churns
Brazing	Good
General machinability	Good
Soldering general	Good
Welding	6082 has very good weldability but strength is lowered in the weld zone. When welded to itself, alloy 4043 wire is recommended. If welding 6082 to 7005, then the wire used should be alloy 5356. Gas: Good; Arc: Good; Resistance: Good
Workability	Cold: Good