

6061 Aluminum Alloy: Properties

General Characteristics

Characteristic	Appraisal
Strength	Medium to High
Corrosion Resistance	Good
Weldability & Brazability	Good
Workability	Good
Machinability	Good

Chemical Composition

Element	Minimum %	Maximum %
Magnesium	0.8	1.2
Silicon	0.4	0.8
Iron	No Min	0.7
Copper	0.15	0.4
Manganese	No Min	0.15
Chromium	0.04	0.35
Zinc	No Min	0.25
Titanium	No Min	0.15
Other Elements	No Min	0.05 each, 0.15 in total

Physical Properties

Property	6061-T4	6061-T6
Density	2.70 g/cc 0.0975 lb/in ³	2.70 g/cc 0.0975 lb/in ³

Mechanical Properties

Property	6061-T4	6061-T6
Tensile Strength	241 MPa 35000 psi	310 MPa 45000 psi
Yield Strength	145 MPa 21000 psi	276 MPa 40000 psi
Modulus of Elasticity	68.9 GPa 10000 ksi	68.9 GPa 10000 ksi

Thermal Properties

Property	6061-T4	6061-T6
Coefficient of Thermal Expansion @ 20.0 - 100 °C Temp	23.6 μm/m-°C 13.1 μin/in-°F	23.6 μm/m-°C 13.1 μin/in-°F
Thermal Conductivity	154 W/m-K 1070 BTU-in/hr-ft ² -°F	167 W/m-K 1160 BTU-in/hr-ft ² -°F