

ALUMINUM COMMON GRADE 6061 WITH T6 TEMPER

Physical Properties	Metric	English
Density	2.70 g/cc	0.0975 lb/in ³
Mechanical Properties	Metric	English
Hardness, Brinell	95	95
Hardness, Knoop	120	120
Hardness, Vickers	40	40
Ultimate Tensile Strength	60	60
Tensile Yield Strength	107	107
Elongation at Break	12.00%	12.00%
Modulus of Elasticity	68.9 GPa	10000 ksi
Poissons Ratio	0.33	0.33
Fatigue Strength	96.5 MPa	14000 psi
Machinability	50.00%	50.00%
Shear Modulus	26.0 GPa	3770 ksi
Shear Strength	207 MPa	30000 psi
Electrical Properties	Metric	English
Electrical Resistivity	0.00000399 ohm-cm	0.00000399 ohm-cm
Thermal Properties	Metric	English
CTE, linear 68 ^o F	23.6 $\mu\text{m}/\text{m}\cdot\text{A}^\circ\text{C}$	13.1 $\mu\text{in}/\text{in}\cdot\text{A}^\circ\text{F}$
CTE, linear 250 ^o C	25.2 $\mu\text{m}/\text{m}\cdot\text{A}^\circ\text{C}$	14.0 $\mu\text{in}/\text{in}\cdot\text{A}^\circ\text{F}$
Specific Heat Capacity	0.896 J/g $\cdot\text{A}^\circ\text{C}$	0.214 BTU/lb $\cdot\text{A}^\circ\text{F}$
Thermal Conductivity	167 W/m-K	1160 BTU-in/hr-ft ² $\cdot\text{A}^\circ\text{F}$
Melting Point	582 - 651.7 A°C	1080 - 1205 A°F
Solidus	582 A°C	1080 A°F
Liquidus	651.7 A°C	1205 A°F
Processing Properties	Metric	English
Solution Temperature	529 A°C	985 A°F
Aging Temperature	160 A°C	320 A°F
Material Components	Metric	English
Aluminum, Al	95.8 - 98.6 %	95.8 - 98.6 %
Chromium, Cr	0.0400 - 0.350 %	0.0400 - 0.350 %
Copper, Cu	0.150 - 0.400 %	0.150 - 0.400 %
Iron, Fe	\leq 0.700 %	\leq 0.700 %
Magnesium, Mg	0.800 - 1.20 %	0.800 - 1.20 %
Manganese, Mn	\leq 0.150 %	\leq 0.150 %
Other, each	\leq 0.0500 %	\leq 0.0500 %
Other, total	\leq 0.150 %	\leq 0.150 %
Silicon, Si	0.400 - 0.800 %	0.400 - 0.800 %
Titanium, Ti	\leq 0.150 %	\leq 0.150 %
Zinc, Zn	\leq 0.250 %	\leq 0.250 %

Alliance LLC 6061-T6

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