

ALUMINUM COMMON GRADE 6063 WITH T6 TEMPER

Physical Properties	Metric	English
Density	2.70 g/cc	0.0975 lb/in ^Å 3
Mechanical Properties	Metric	English
Hardness, Brinell	73	73
Hardness, Knoop	96	96
Hardness, Vickers	83	83
Ultimate Tensile Strength	241 MPa	35.0 ksi
Tensile Yield Strength	214 MPa	31.0 ksi
Elongation at Break	12.00%	12.00%
Modulus of Elasticity	68.9 GPa	10000 ksi
Poissons Ratio	0.33	0.33
Fatigue Strength	68.9 MPa	10000 psi
Machinability	50.00%	50.00%
Shear Modulus	25.8 GPa	3740 ksi
Shear Strength	152 MPa	22000 psi
Electrical Properties	Metric	English
Electrical Resistivity	0.00000332 ohm-cm	0.00000332 ohm-cm
Thermal Properties	Metric	English
CTE, linear 68Å°F	23.4 Åµm/m-Å°C	13.0 Åµin/in-Å°F
CTE, linear 250Å°C	25.6 Åµm/m-Å°C	14.2 Åµin/in-Å°F
Specific Heat Capacity	0.900 J/g-Å°C	0.215 BTU/lb-Å°F
Thermal Conductivity	200 W/m-K	1390 BTU-in/hr-ftÅ²-Å°F
Melting Point	616 - 654 Å°C	1140 - 1210 Å°F
Solidus	616 Å°C	1140 Å°F
Liquidus	654 Å°C	1210 Å°F
Processing Properties	Metric	English
Solution Temperature	521 Å°C	970 Å°F
Aging Temperature	177 Å°C	350 Å°F
Material Components	Metric	English
Aluminum, Al	<=97.5%	<=97.5%
Chromium, Cr	<=0.100%	<=0.100%
Copper, Cu	<=0.100%	<=0.100%
Iron, Fe	<=0.350%	<=0.350
Magnesium, Mg	0.450 - 0.900%	0.450 - 0.900%
Manganese, Mn	<=0.100%	<=0.100%
Other, each	<=0.0500%	<= 0.0500 %
Other, total	<= 0.150 %	<= 0.150 %
Silicon, Si	0.200 - 0.600%	0.200 - 0.600%
Titanium, Ti	<=0.100%	<=0.100%
Zinc, Zn	<=0.100%	<=0.100%

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