

## ALUMINUM COMMON GRADE 6063 WITH T5 TEMPER

Physical Properties	Metric	English
Density	2.70 g/cc	0.0975 lb/in <sup>Å</sup> 3
Mechanical Properties	Metric	English
Hardness, Brinell	60	60
Hardness, Knoop	83	83
Hardness, Vickers	70	70
Ultimate Tensile Strength	186 MPa	27.0 ksi
Tensile Yield Strength	145 MPa	21.0 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		
Shear Modulus	25.8 GPa	3740 ksi
Shear Strength	117 MPa	17000 psi
Electrical Properties	Metric	English
Electrical Resistivity	0.00000316 ohm-cm	0.00000316 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	209 W/m-K	1450 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	182 Å°C	360 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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