

ALUMINUM COMMON GRADE 6005 WITH T5 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	107	107
Ultimate Tensile Strength	260	37700
Tensile Yield Strength	240	34800
Elongation at Break	8.00%	8.00%
Modulus of Elasticity	69.0 GPa	10000 ksi
Poissons Ratio	0.33	0.33
Fatigue Strength	100 MPa	14500 psi
Machinability		
Shear Modulus	26.0 GPa	3770 ksi
Shear Strength	205 MPa	29700 psi
Electrical Properties	Metric	English
Electrical Resistivity	0.00000349 ohm-cm	0.00000349 ohm-cm
Thermal Properties	Metric	English
CTE, linear 68 ^o F	23.4 $\mu\text{m}/\text{m}\cdot\text{A}^{\circ}\text{C}$	13.0 $\mu\text{in}/\text{in}\cdot\text{A}^{\circ}\text{F}$
CTE, linear 250 ^o C	25.0 $\mu\text{m}/\text{m}\cdot\text{A}^{\circ}\text{C}$	13.9 $\mu\text{in}/\text{in}\cdot\text{A}^{\circ}\text{F}$
Specific Heat Capacity	0.890 J/g $\cdot\text{A}^{\circ}\text{C}$	0.213 BTU/lb $\cdot\text{A}^{\circ}\text{F}$
Thermal Conductivity	189 W/m-K	1310 BTU-in/hr-ft ² $\cdot\text{A}^{\circ}\text{F}$
Melting Point	607.2 - 654 A°C	1125 - 1210 A°F
Solidus	607.2 A°C	1125 A°F
Liquidus	654 A°C	1210 A°F
Processing Properties	Metric	English
Solution Temperature	546.1 A°C	1015 A°F
Aging Temperature	174 A°C	346 A°F
Material Components	Metric	English
Aluminum, Al	97.5 - 99.0 %	97.5 - 99.0 %
Chromium, Cr	≤ 0.100 %	≤ 0.100 %
Copper, Cu	≤ 0.100 %	≤ 0.100 %
Iron, Fe	≤ 0.350 %	≤ 0.350 %
Magnesium, Mg	0.400 - 0.600 %	0.400 - 0.600 %
Manganese, Mn	≤ 0.100 %	≤ 0.100 %
Other, each	≤ 0.0500 %	≤ 0.0500 %
Other, total	≤ 0.150 %	≤ 0.150 %
Silicon, Si	0.600 - 0.900 %	0.600 - 0.900 %
Titanium, Ti	≤ 0.100 %	≤ 0.100 %
Zinc, Zn	≤ 0.100 %	≤ 0.100 %

Alliance LLC 6005-T5

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