

EXTRUDABLE ALUMINUM ALLOYS

- [Aluminum 6063-T5](#)
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ALUMINUM 6063-T5

Properties	Metric	English
Density	2.70 g/cc	0.0975 lb/in ³
Hardness, Brinell	60	60
Ultimate Tensile Strength	186 MPa	27.0 ksi
Tensile Yield Strength	145 MPa	21.0 ksi
Elongation at Break (Typical; 1/16 in. (1.6 mm) Thickness)	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
	@# of Cycles 5.00e+8	@# of Cycles 5.00e+8
Electrical Resistivity	0.00000316 ohm-cm	0.00000316 ohm-cm
	@Temperature 20.0°C	@Temperature 68.0°F
Average CTE	23.4 μm/m-°C	13.0 μin/in-°F
	@Temperature 20.0 - 100°C	@Temperature 68.0 - 212°F
Specific Heat Capacity	0.900 J/g-°C	0.215 BTU/lb-°F
Thermal Conductivity	209 W/m-K	1450 BTU-in/hr-ft ² -°F
Melting Point	616 -654 °C	1140 - 1210 °F

ALUMINUM 6101-T6

Properties	Metric	English
Density	2.70 g/cc	0.0975 lb/in ³
Hardness, Brinell	71	71
Ultimate Tensile Strength	221 MPa	32.0 ksi
Tensile Yield Strength	193 MPa	28.0 ksi
Elongation at Break (Typical; 1/16 in. (1.6 mm) Thickness)	15.00%	15.00%
Modulus of Elasticity	68.9 GPa	10000 ksi
Poissons Ratio	0.33	0.33
Shear Strength	138 MPa	20000 psi
Electrical Resistivity	0.00000299 ohm-cm	0.00000299 ohm-cm
	@Temperature 20.0 °C	@Temperature 68.0 °F
Average CTE	23.4 μm/m-°C	13.0 μin/in-°F
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F
Specific Heat Capacity	0.895 J/g-°C	0.214 BTU/lb-°F
Thermal Conductivity	218 W/m-K	1510 BTU-in/hr-ft ² -°F
Melting Point	621 - 654 °C	1150 - 1210 °F

ALUMINUM 6061-T6

Properties	Metric	English
Density	2.70 g/cc	0.0975 lb/in ³
Hardness, Brinell	95	95
Ultimate Tensile Strength	310 MPa	45.0 ksi
Tensile Yield Strength	276 MPa	40.0 ksi
Elongation at Break (Typical, 1/16 in. (1.6 mm) Thickness)	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
	@# of Cycles 5.00e+8	@# of Cycles 5.00e+8
Electrical Resistivity	0.00000399 ohm-cm	0.00000399 ohm-cm
	@Temperature 20.0 °C	@Temperature 68.0 °F
Average CTE	23.6 μm/m-°C	13.1 μin/in-°F
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F
Specific Heat Capacity	0.896 J/g-°C	0.214 BTU/lb-°F
Thermal Conductivity	167 W/m-K	1160 BTU-in/hr-ft ² -°F
Melting Point	582 - 651.7 °C	1080 - 1205 °F