

	6063-T6	6063-T831	6063-T832	Same
<b>Physical</b>				Y
Density (lb/in <sup>3</sup> )	0.0975	0.0975	0.0975	Y
<b>Mechanical</b>				
Hardness, Brinell ( )	73.0	70.0	95.0	N
Hardness, Knoop ( )	96.0	93.0	120	N
Hardness, Rockwell A ( )	--	--	39.8	
Hardness, Rockwell B ( )	--	--	60.0	
Hardness, Vickers ( )	83.0	80.0	107	N
Tensile Strength, Ultimate (psi)	35000	30000	42000	N
Tensile Strength, Yield (psi)	31000	27000	39000	N
Elongation at Break (%)	12.0	10.0	12.0	Y
Modulus of Elasticity (ksi)	10000	10000	10000	Y
Ultimate Bearing Strength (psi)	62900	--	--	
Bearing Yield Strength (psi)	40000	--	--	
Poissons Ratio ( )	0.330	0.330	0.330	Y
Fatigue Strength (psi)	10000	--	--	
Machinability (%)	50.0	--	--	
Shear Modulus (ksi)	3740	3740	3740	Y
Shear Strength (psi)	22000	18000	27000	N
<b>Electrical</b>				Y
Electrical Resistivity (ohm-cm)	0.00000332	0.00000330	0.00000330	Y
<b>Thermal</b>				Y
CTE, linear 20 <sup>o</sup> C (in/in- <sup>o</sup> F)	13.0	13.0	13.0	Y
CTE, linear 250 <sup>o</sup> C (in/in- <sup>o</sup> F)	14.2	14.2	14.2	Y
Specific Heat Capacity (BTU/lb- <sup>o</sup> F)	0.215	0.215	0.215	Y
Thermal Conductivity (btu-in/hr-ft <sup>2</sup> - <sup>o</sup> F)	1390	1390	1390	Y
Melting Point ( <sup>o</sup> F)	1140 - 1210	1140 - 1210	1140 - 1210	Y
Solidus ( <sup>o</sup> F)	1140	1140	1140	Y
Liquidus ( <sup>o</sup> F)	1210	1210	1210	Y
<b>Processing</b>				Y
Annealing Temperature ( <sup>o</sup> F)	775	775	775	Y
Solution Temperature ( <sup>o</sup> F)	970	970	970	Y
Aging Temperature ( <sup>o</sup> F)	350	350	350	Y
<b>Material Components</b>				Y
Aluminum, Al (%)	<= 97.5	<= 97.5	<= 97.5	Y
Chromium, Cr (%)	<= 0.100	<= 0.100	<= 0.100	Y
Copper, Cu (%)	<= 0.100	<= 0.100	<= 0.100	Y
Iron, Fe (%)	<= 0.350	<= 0.350	<= 0.350	Y
Magnesium, Mg (%)	0.450 - 0.900	0.450 - 0.900	0.450 - 0.900	Y
Manganese, Mn (%)	<= 0.100	<= 0.100	<= 0.100	Y
Other, each (%)	<= 0.0500	<= 0.0500	<= 0.0500	Y
Other, total (%)	<= 0.150	<= 0.150	<= 0.150	Y
Silicon, Si (%)	0.200 - 0.600	0.200 - 0.600	0.200 - 0.600	Y
Titanium, Ti (%)	<= 0.100	<= 0.100	<= 0.100	Y
Zinc, Zn (%)	<= 0.100	<= 0.100	<= 0.100	Y