

## Aluminum Alloys

Property	A380	A360
<b>Mechanical Properties</b>		
Ultimate Tensile Strength (psi ×10 <sup>3</sup> (MPa))	47	46
Yield Strength – 0.2% Offset (psi ×10 <sup>3</sup> (MPa))	23	24
Elongation (% in 2")	4	5
Shear Strength (psi ×10 <sup>3</sup> (MPa))	30	29
Hardness (Brinell)	75	—
Impact Strength (ft-lb (J))	3	—
Fatigue Strength – Rotary Bend, 5×10 <sup>8</sup> cycles (psi ×10 <sup>3</sup> (MPa))	20	18
Compressive Yield Strength – 0.1% Offset (psi ×10 <sup>3</sup> (MPa))	—	—
Modulus of Elasticity (psi ×10 <sup>3</sup> (MPa))	—	—
<b>Property</b>		
Density (lb/cu in (g/cc))	1.098	0.095
Melting Range (°F)	1000–1100	1035–1105
Melting Range (°C)	—	—
Electrical Conductivity (% IACS)	27	30
Thermal Conductivity (BTU/ft/hr/°F (W/m/hr/°C))	55.6	70.15
Coefficient of Thermal Expansion	11.6 (22)	—
Specific Heat	—	—
Pattern Shrinkage (inches)	0.006	0.006
<b>Chemical Specification</b>		
Al	Balance	Balance
Zn	2.9	0.4
Mg	0.1	0.45–0.60
Cu	3.0–4.0	0.6
Fe (max)	1.3	1.3
Pb (max)	—	—
Cd (max)	—	—
Sn (max)	0.3	0.15
Ni	0.5	0.5
Si	7.5–9.5	9.0–10.0
<b>Industry Standard</b>		
ASTM	SC84A	SG100A
SAE	306	309
<b>Caldwell Casting Company</b>		