

ALUMINUM-SILICON-COPPER 355.0

ANSI AA NUMBER	355.0			
Common Name (Not recommended)				
UNS Designation	A03550			
COMPOSITION PERCENT	Min		Max	
Silicon (Si)	4.5		5.5	
Iron (Fe)			0.6	
Copper (Cu)	1		1.5	
Manganese (Mn)			0.5	
Magnesium (Mg)	0.4		0.6	
Chromium (Cr)			0.25	
Nickel (Ni)				
Zinc (Zn)			0.35	
Titanium (Ti)			0.25	
Tin (Sn)				
Beryllium (Be)				
Silver (Ag)				
Other (Total)			0.15	
NEAREST APPLICABLE CASTING STANDARDS				
ASTM (B Series)	B26			
AMS				
Federal (QQ-C- Series)	601e			
Military (Mil-C- Series)	21180c			
TYPICAL PROPERTIES	T51	T6	T7	T71
Tensile Strength (ksi)	28	35	38	35
Yield Strength (.5% extension under load) (ksi)	23	25	36	29
Elongation (2 inch gauge length) (%)	1.5	3	0.5	1.5
Compressive Yield Strength (ksi)	24	26	38	30
Hardness (Brinell) (HB @ 500kg)	65	80	85	75
Shear Strength (ksi)	22	28	28	26
Endurance Limit (K ksi)	8	9	10	10
Modulus of Elasticity (K ksi)	10.2	10.2	10.2	10.2
Density (lb/cu.in. @ 68F)	.098			
Electrical Conductivity (% IACS @ 68F)	43	36	42	39
Thermal Conductivity (cal/sec/sq cm/cm/C @ 25C)	0.4	0.34	0.39	0.36
Coefficient of Thermal Expansion (per F @ 68-212F)	12.4			
Coefficient of Thermal Expansion (per F @ 68-572F)	13.7			
Melting Range (Liquidus-Solidus)(F)	1015-1150			
Resistance to Hot Cracking	E			
Pressure Tightness	E			
Fluidity	E			
Solidification Shrinkage Tendency	E			
Strength at Elevated Temperatures	VG			
Corrosion Resistance	G			
Machinability	G			
Polishing	G			
Gas Welding	E			
Arc Welding	E			
Brazing	No			
Normally Heat Treated	Yes			
Anodizing Appearance	Gray			
Electroplating	VG			
Applications:	Rear axle housings, engine parts, impellers, aircraft fittings, water jackets, crank cases, electric motor parts, engine blocks, jet engine compressor cases, transmission cases, flywheel housings, airframe castings, missile components.			

Always use the design principles outlined on page two of this information sheet or at our website.

Consult your foundry early in the design process.

St. Paul Brass and Aluminum does not currently pour this alloy, but will consider it if purchased volumes justify the inventory.



St. Paul
Brass and Aluminum
Foundry

954 Minnehaha Ave West, St. Paul, MN 55104 (651) 488-5567 Fax: (651) 488-0908

www.spba.net

sales@spba.net