

ALUMINUM-SILICON-MAGNESIUM 771.0

ANSI AA NUMBER	771.0			
Common Name (Not recommended)	Precedent 71A			
UNS Designation	A07710			
COMPOSITION PERCENT	Min		Max	
Silicon (Si)			0.2	
Iron (Fe)			0.2	
Copper (Cu)			0.1	
Manganese (Mn)			0.1	
Magnesium (Mg)	0.8		1	
Chromium (Cr)	0.06		0.2	
Nickel (Ni)				
Zinc (Zn)	6.5		7.5	
Titanium (Ti)	0.1		0.2	
Tin (Sn)				
Beryllium (Be)				
Silver (Ag)				
Other (Total)			0.5	
NEAREST APPLICABLE CASTING STANDARDS				
ASTM (B Series)	B26			
AMS				
Federal (QQ-C- Series)	601e			
Military (Mil-C- Series)	21180c			
TYPICAL PROPERTIES	F	0	T6	T71
Tensile Strength (ksi)	43	40	50	52
Yield Strength (.5% extension under load) (ksi)	34	30	40	48
Elongation (2 inch gauge length) (%)	4	3	9	3
Compressive Yield Strength (ksi)				54
Hardness (Brinell) (HB @ 500kg)	85	85	90	120
Shear Strength (ksi)				
Endurance Limit (K ksi)	10			
Modulus of Elasticity (K ksi)	10.3			
Density (lb/cu.in. @ 68F)	.102			
Electrical Conductivity (% IACS @ 68F)	37			
Thermal Conductivity (cal/sec/sq cm/cm/C @ 25C)	0.33			
Coefficient of Thermal Expansion (per F @ 68-212F)	13.7			
Coefficient of Thermal Expansion (per F @ 68-572F)	14.8			
Melting Range (Liquidus-Solidus)(F)	1120-1190			
Resistance to Hot Cracking	F			
Pressure Tightness	F			
Fluidity	VG			
Solidification Shrinkage Tendency	F			
Strength at Elevated Temperatures	F			
Corrosion Resistance	E			
Machinability	E			
Polishing	E			
Gas Welding	F			
Arc Welding	G			
Brazing	Yes			
Normally Heat Treated	Yes			
Anodizing Appearance	Satin White, Pastels			
Electroplating				
Applications:	Large intricate castings, marine castings, farm machinery, machine tool parts. Because of finishing characteristics they are exceptional choices for decorative castings.			
Aging:	Self age in 21-30 days, and continues to slowly age for a full year.			

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