

RIVERSIDE BRASS

& ALUMINUM FOUNDRY LIMITED

C87610

Last Updated: Jan 27, 2006

Chemical Composition

(% max., unless shown as range or min.)

	Cu	Fe	Pb	Mn	Si	Zn
Min./Max.	90.0 min	.20	.20	.25	3.0-5.0	3.0-5.0
Nominal	-	-	-	-	4.0	4.0

Note: Cu + Sum of Named Elements, 99.5% min.

Applicable Specifications

Product	Specification
Ingot	ASTM B30
Sand	ASTM B763, B584

Common Fabrication Processes

Casting

Fabrication Properties

Joining Technique	Suitability
Soldering	Not Recommended
Brazing	Fair
Oxyacetylene Welding	Good
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Fair
Machinability Rating	40

Mechanical Properties (measured at room temperature, 68 F (20 C))

Temper	Section Size	Cold Work	Typ/Min	Temp	Tensile Strength	Yield Strength (0.5% ext. under load)	Yield Strength (0.2% offset)	Yield Strength (0.05% offset)	EI	Rockwell Hardness			Vickens Hard.			Brinell Hard.			Shear Strength	Fatigue Strength*	Izod Impact Strength
										%	B	C	F	30	T	500	500	3000			
	in.	%		F	ksi	ksi	ksi	ksi	%	B	C	F	30	T	500	500	3000	ksi	ksi	ft-lb	
	mm.			C	MPa	MPa	MPa	MPa										MPa	MPa	J	
As Sand Cast																					
M01	0.0	0	TYP	68	58	-	-	-	35	76	-	-	-	-	206	135	28	-	-	33.0	
	0.0			20	400	-	-	-	35	76	-	-	-	-	206	135	190	-	-	45.0	
As Centrifugal Cast																					
M02	0.0	0	SMIN	68	45	18	-	-	20	-	-	-	-	-	-	-	-	-	-	0.0	
	0.0			20	310	124	-	-	20	-	-	-	-	-	-	-	-	-	-	0.0	
As Sand Cast																					
M01	0.0	0	SMIN	68	45	18	-	-	20	-	-	-	-	-	-	-	-	-	-	0.0	
	0.0			20	310	124	-	-	20	-	-	-	-	-	-	-	-	-	-	0.0	

*Fatigue Strength: 100 x 10⁶ cycles, unless indicated as [N]X 10⁶.

Physical Properties

<>	US Customary	Metric
Melting Point - Liquidus	1780 F	971 C
Melting Point - Solidus	1510 F	821 C
Density	0.302 lb/in ³ at 68 F	8.36 gm/cm ³ @ 20 C
Specific Gravity	8.36	8.36
Electrical Conductivity	6 %IACS @ 68 F	0.035 MegaSiemens/cm @ 20 C
Thermal Conductivity	16.4 Btu · ft/(hr · ft ² ·oF)at 68F	28.4 W/m · oK at 20 C
Coefficient of Thermal Expansion	11.0 · 10 ⁻⁶ per oF (68-572 F)	19.8 · 10 ⁻⁶ per oC (20-300 C)
Modulus of Elasticity in Tension	16000 ksi	110000 MPa

Tempers Most Commonly Used No information available.

Typical Uses

Architecture

Statuary

Consumer

Decorative Pieces

Industrial

Valve Stems, Pump Components

The above data used by permission from the **Copper Development Association Inc.** A complete Description of all UNS Copper Alloys is available at www.copper.org