

RIVERSIDE BRASS

& ALUMINUM FOUNDRY LIMITED

C89833

Last Updated: Jan 27, 2006

Chemical Composition

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

	Cu	Al	Sb	Bi	Fe	Pb	Ni(1)	P	Si	S	Sn	Zn
Min./Max.	87.0-91.0	.005	.25	1.7-2.7	.30	.10	1.0	.050	.005	.08	4.0-6.0	2.0-4.0
Nominal	89.0	-	-	2.2	-	-	-	-	-	-	5.0	3.0

(1) Ni value includes Co.

Note: Cu + Sum of Named Elements, 99.3% min.

Applicable Specifications No information available.

Common Fabrication Processes

Casting

Fabrication Properties

Joining Technique	Suitability
Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Not Recommended
Coated Metal Arc Welding	Poor
Machinability Rating	81

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)	El	Rockwell Hardness			Vickers Hard.	Brinell Hard.	Shear Strength	Fatigue Strength*	Izod Impact Strength	
										B	C	F30T						
	in.	%		F	ksi	ksi	ksi	ksi	%	B	C	F30T	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	37	17	-	-	28	-	-	-	-	60	-	-	-	12.0
	0.0			20	258	119	-	-	28	-	-	-	-	60	-	-	-	16.4

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

Physical Properties

<>	US Customary	Metric
Melting Point - Liquidus	1877 F	1025 C
Melting Point - Solidus	1454 F	790 C
Density	0.317 lb/in ³ at 68 F	8.78 gm/cm ³ @ 20 C
Specific Gravity	8.78	8.78
Electrical Conductivity	17 % IACS @ 68 F	0.103 MegaSiemens/cm @ 20 C
Thermal Conductivity	41.0 Btu · ft/(hr · ft ² ·oF) at 68 F	71.0 W/m · oK at 20 C
Coefficient of Thermal Expansion	13.0 · 10 ⁻⁶ per oF (68-392 F)	22.5 · 10 ⁻⁶ per oC (20-200 C)
Specific Heat Capacity	0.085 Btu/lb/oF at 68 F	356.2 J/kg · oK at 293 K
Modulus of Elasticity in Tension	15500 ksi	106900 MPa

Tempers Most Commonly Used No information available.

Typical Uses

Industrial

Pumps, Corrosion Resistant, Pressure Tight Castings, Impellers

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