RIVERSIDE BRASS & ALUMINUM FOUNDRY LIMITED

C83400

Last Updated: Jan 27, 2006

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

	Cu(1)	Al	Sb	Fe	Pb	Ni(2)	P(3)	Si	S	Sn	Zn
Min./Max.	88.0-92.0	.005	.25	.25	.50	1.0	.03	.005	.08	.20	8.0-12.0
Nominal	90.0	-	-	-	-	-	-	-	-	-	10.0

(1) In determining Cu min., Cu may be calculated as Cu + Ni.
(2) Ni value includes Co.
(3) For continuous castings, P shall be 1.5%, max.
Note: Cu + Sum of Named Elements, 99.3% min.

Applicable Specifications

Product	Specification
Bands, Projectile Rotating	MILITARY MIL-B-46066

Common Fabrication Processes
Casting

Fabrication Properties

Joining Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Fair
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Not Recommended
Machinability Rating	60

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				Vickens Hard.	Brinell Hard.		Shear Strength	Fatigue Strength*	Izod Impact Strength
	in.	%		F	ksi	ksi	ksi	ksi	%	B	C	F	30T	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	35	10	-	-	30	-	-	50	-	-	-	-	26	-	0.0
	0.0			20	241	69	-	-	30	-	-	50	-	-	-	-	179	-	0.0

*Fatigue Strength: 100 x 10 6cycles,
unless indicated as [N]X 106.

Physical Properties

<>	US Customary	Metric
Melting Point - Liquidus	1910 F	1043 C
Melting Point - Solidus	1870 F	1021 C
Density	0.318 lb/in3 at 68 F	8.8 gm/cm3 @ 20 C
Specific Gravity	8.8	8.8
Electrical Resistivity	23.5 ohms-cmil/ft @ 68 F	3.91 microhm-cm @ 20 C
Electrical Conductivity	44 %IACS @ 68 F	0.256 MegaSiemens/cm @ 20 C
Thermal Conductivity	109.0 Btu · ft/(hr · ft2·oF)at 68F	188.7 W/m · oK at 20 C
Coefficient of Thermal Expansion	10.0 ·10-6 per oF (68-572 F)	18.0 ·10-6 per oC (20-300 C)
Specific Heat Capacity	0.09 Btu/lb/oF at 68 F	377.1 J/kg · oK at 293 K
Modulas of Elasticity in Tension	15000 ksi	103400 MPa

Tempers Most Commonly Used No information available.

Typical Uses – Industrial – Rotating Bands

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