RIVERSIDE BRASS
& ALUMINUM FOUNDRY LIMITED

C93700 (Bearing Bronze)

Last Updated: Jan 27, 2006

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

	Cu	Al	Sb	Fe(1)	Pb	Ni(2)	P(3)	Si	S	Sn	Zn
Min./Max.	78.0-82.0	.005	.50	.7	8.0-11.0	.50	.10	.005	.08	9.0-11.0	.8
Nominal	80.0	-	-	-	9.5	-	-	-	-	10.0	-

(1) Fe shall be .35% max., when used for steel-backed
(2) Ni value includes Co.
(3) For continuous castings, P shall be 1.5%, max.
Note: Cu + Sum of Named Elements, 99.0% min.

Applicable Specifications

Product	Specification
Bearings	AMS 4827
Centrifugal	AMS 4842 ASTM B271 SAE J462, J461
Continuous	ASTM B505 SAE J461, J462
Ingot	ASTM B30
Sand	AMS 4842 ASME SB584 ASTM B763, B66, B584, B22 SAE J461, J462

Common Fabrication Processes
Casting

Fabrication Properties

Joining Technique	Suitability
Soldering	Good
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Not Recommended
Coated Metal Arc Welding	Not Recommended
Machinability Rating	80

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	18	16	-	20	-	-	-	-	-	60	-	18	13	5.0
	0.0			20	241	124	110	-	20	-	-	-	-	-	60	-	124	90	7.0
As Centrifugal Cast																			
M02	0.0	0	SMIN	68	30	12	-	-	15	-	-	-	-	-	-	-	-	-	0.0
	0.0			20	207	83	-	-	15	-	-	-	-	-	-	-	-	-	0.0
As Continuous Cast																			
M07	0.0	0	SMIN	68	35	20	-	-	6	-	-	-	-	-	-	-	-	-	0.0
	0.0			20	241	138	-	-	6	-	-	-	-	-	-	-	-	-	0.0
As Sand Cast																			
M01	0.0	0	SMIN	68	30	12	-	-	15	-	-	-	-	-	-	-	-	-	0.0

	0.0			20	207	83	-	-	15	-	-	-	-	-	-	-	-	-	0.0

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

<>	US Customary	Metric
Melting Point - Liquidus	1705 F	929 C
Melting Point - Solidus	1403 F	762 C
Incipient Melting	600 F	316 C
Density	0.32 lb/in3 at 68 F	8.86 gm/cm3 @ 20 C
Specific Gravity	8.86	8.86
Electrical Resistivity	102.0 ohms-cmil/ft @ 68 F	16.95 microhm-cm @ 20 C
Electrical Conductivity	10 %IACS @ 68 F	0.059 MegaSiemens/cm @ 20 C
Thermal Conductivity	27.1 Btu · ft/(hr · ft2·oF)at 68F	46.9 W/m · oK at 20 C
Coefficient of Thermal Expansion	10.3 ·10-6 per oF (68-392 F)	18.5 ·10-6 per oC (20-200 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	11000 ksi	75800 MPa
Magnetic Permeability	1.0	1.0

Tempers Most Commonly Used No information available.
Typical Uses
Builders Hardware
Brackets
Fasteners
Washers for Engines, Nuts
Industrial
Crank Shafts, Bushings, Machine Parts, High Speed, Heavy Load Bearings, Pumps, Pressure Tight Castings, Impellers, Corrosion Resistant Castings, Bushings for high speed and heavy pressure., Applications Requiring Acid Resistance to Sulphite Fluids, Bearings, Bearing Plates, Parts for Steel Mill Maintenance, Slide Guides for Steel Mills
Marine
Large Bearings for Ships