

RIVERSIDE BRASS

& ALUMINUM FOUNDRY LIMITED

C92500 **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.	85.0-88.0	.005	.25	.30	1.0-1.5	.8-1.5	.30	.005	.05	10.0-12.0	.50
Nominal	86.5	-	-	-	1.3	1.2	-	-	-	11.0	-

(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
Continuous	ASTM B505 SAE J461, J462
Ingot	ASTM B30
Sand	SAE J461, J462

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	Not Recommended
Machinability Rating	30

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	44	20	-	-	20	-	-	-	-	80	-	-	-	-	-	0.0
	0.0			20	303	138	-	-	20	-	-	-	-	80	-	-	-	-	-	0.0
As Continuous Cast																				
M07	0.0	0	SMIN	68	40	24	-	-	10	-	-	-	-	-	-	-	-	-	-	0.0
	0.0			20	276	165	-	-	10	-	-	-	-	-	-	-	-	-	-	0.0

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

Physical Properties

<>	US Customary	Metric
Incipient Melting	600 F	316 C
Density	0.317 lb/in ³ at 68 F	8.7 gm/cm ³ @ 20 C
Specific Gravity	8.7	8.7
Specific Heat Capacity	0.09 Btu/lb/oF at 68 F	377.1 J/kg · oK at 293 K
Modulus of Elasticity in Tension	16000 ksi	110000 MPa

Typical Uses: **Automotive** - Automotive Synchronizer Rings **Industrial** - Gears

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

