

C89320

Continuous Cast • GreenAlloys™

Product Description:	Bismuth Tin Bronze
Solids:	½" to 10" O.D.
Tubes:	1½" to 9" O.D.
Rectangles:	Up to 15"
Standard Lengths:	144"
Shape/Form:	semi-finished, mill stock or near-net shapes, anode, bar stock, billet/bloom, squares, hex, plate, profile or structural shape, flats/rectangular bar
Compliance:	C89320 is compliant with key legislation including (1) Federal Safe Drinking Water Act 1974 – SDWA, (2) Federal Reduction of Lead in Drinking Water Act of 2011 and (3) California AB1953

Typical Uses

Fasteners washers

Industrial backs for lined bearings, cam bushings for diesel engines, crankshaft main bearings, deep well pump bowl bushings, deep well pump line shaft bearings, electric motor bearings, general utility bearings, guide bushings for piston rods, guide bushings for valves, hydraulic gland seals, main bearings for presses, piston pin bearings, pump sleeves, rod bushings, rolling mill bearings, seals, sleeve bushings, spacer bushings, wrist pin bushings

Similar or Equivalent Specification

CDA	ASTM	SAE	AMS	Federal	Military	Other
C89320	B505 B505M					

Chemical Composition

Cu%	Pb%	Sn%	Zn%	Fe%	P%	Ni% ¹	Al%	Bi%	S%	Sb%	Si%
87.00- 91.00	0.09	5.00- 7.00	1.00	0.20	0.30	1.00	0.005	4.00- 6.00	0.08	0.35	0.005

Chemical Composition according to ASTM B505/B505M-18

¹Ni value includes Co.

Note: Cu + Sum of Named Elements, 99.5% min. Single values represent maximums.

Machinability

Copper Alloy UNS No.	Machinability Rating	Density (lb/in ³ at 68 ° F)
C89320	80	0.318

Mechanical Properties

Tensile Strength, min		Yield Strength, at 0.5% Extension Under Load, min		Elongation, in 2 in. or 50 mm min	Brinell Hardness (500 kg load)	Remarks
ksi	MPa	ksi	MPa	%	typical BHN	
35	241	18	124	15	70	

Mechanical Properties according to ASTM B505/B505M-18

Physical Properties

	US Customary	Metric
Melting Point – Liquidus	1913 °F	1045 °C
Melting Point – Solidus	1702 °F	928 °C
Density	0.318 lb/in ³ at 68 °F	8.8 gm/cm ³ at 20 °C
Electrical Conductivity	14.7% IACS at 68 °F	0.082 MegaSiemens/cm at 20 °C
Thermal Conductivity	32.4 Btu/sq ft/ft hr/°F at 68 °F	56.1 W/m at 20 °C
Modulus of Elasticity in Tension	13900 ksi	95827 MPa

Physical Properties provided by CDA

Fabrication Properties

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

Fabrication Properties provided by CDA

Thermal Properties

Treatment	Time*
Solution Treatment	0

Thermal Properties provided by CDA

*For Stress Relief, Solution Treatment and Annealing - Time is measured in hours/inch of thickness. For Precipitation Heat Treatment - Time is measured in hours.