C 932 Bearing Bronze

Bronze Family: High-Leaded Tin Bronze

932 Color Code

C 932 Bearing Bronze is our most popular alloy. It is a general purpose bearing alloy possessing good anti-friction properties, ample strength and hardness, adequate ductility and excellent machinability. It is used as bearings, bushings, light duty gears and sprockets, impellers, wear strips, plates, automotive fittings and washers. It is used extensively in pumps, cylinders, machine tools, earth moving machinery and a myriad of general purpose applications.

Equivalent Specifications

ASTM B505/B505M (Copper Alloy UNS No. 93200 Continuous Cast)

ASTM B271 (Copper Alloy UNS No. 93200 Centrifugal Cast)

Reference Specifications

SAE	Federal Specification	Military Specification	Ingot Number	CDA
SAE 660 SAE J461 SAE J462	QQ-C-390 TYPE III	MIL-B-11553 Comp. 12	315	C93200

Equivalent specifications are verified and updated annually.
Specifications shown are current as of May 4, 2010.

Chemical Composition (%)**

Cu	Sn	Pb	Zn	Fe	Ni	Sb	P	S	Al	Si
81.0 – 85.0***	6.3 – 7.5	6.0 – 8.0	2.0 – 4.0	0.20 max.	1.00* max.	0.35 max.	1.50 max.	0.08 max.	0.005 max.	0.005 max.
Sum of all named elements = 99.0%										

Mechanical Properties

	English	Metric
Tensile Strength, min.	35 ksi	241 MPa
Yield Strength, min.	20 ksi	138 MPa
Elongation in 2 in. or 50 mm, min.	10%	10%

** Values shown pertain to ASTM B505/505M only. Values for ASTM B271 differ slightly. Contact our QA department for clarification.
* Nickel including Cobalt
*** In determining copper minimum, copper may be calculated as copper plus nickel.

Machinability Rating 70 (Free Cutting Brass = 100)

Available from stock at Morgan Bronze in:

Rounds

Tubes

Rectangles

Phone: 847-526-6000 **Toll Free: 800-445-9970**
Fax: 847-526-3960 **Email: info@morganbronze.com**

MORGAN Bronze Products, Inc.

932 Color Code

C 932 Bearing Bronze

Bronze Family: High-Leaded Tin Bronze

(continued)

Physical Properties

	English	Metric
Melting Point – Liquidus	1790°F	977°C
Melting Point – Solidus	1570°F	854°C
Density	0.322 lb/in^3 at 68°F	8.91 gm/cm^3 @ 20°C
Specific Gravity	8.910	8.91
Electrical Conductivity	12% IACS @ 68°F	0.07 MegaSiemens/cm@ 20°C
Thermal Conductivity	33.60 Btu · ft/(hr · ft^2 · °F) @ 68°F	58.2 W/m · °K @ 20°C
Coefficient of Thermal Expansion	10 · 10^{-6} per °F (68-212°F)	18.0 · 10^{-6} per °C (20-100 C)
Specific Heat Capacity	0.090 Btu/lb/°F @ 68°F	377.1 J/kg · °K @ 293°K
Modulus of Elasticity in Tension	14,500 ksi	100,000 MPa

Physical Properties provided by CDA

Fabrication Practices

Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Not Recommended
Coated Metal Arc Welding	Not Recommended

Fabrication Practices provided by CDA

Thermal Properties

Stress Relieving Temperatures	500 F or 260 C
Time @ Temperature	1 Hr. per inch of wall thickness
Responds to Heat Treatment	No

Thermal Properties provided by CDA

DISCLAIMER:
The Physical, Fabrication and Thermal Properties shown here represent reasonable approximations suitable for general engineering use. Due to commercial variations in compositions and to manufacturing limitations, they should not be used for specification purposes. See applicable ASTM International specification references.