NWB®

High Performance Bearing Technology

C93200 BEARING BRONZE (SAE 660)



C93200, better known as Bearing Bronze, is widely used in all aspects of industry today. Our stock is a continuous cast leaded tin bronze with enhanced properties that make it superior to the traditional SAE 660 alloys. C93200 allows for a choice of more design flexibility, permitting higher bearing loads and longer life for bearing surfaces.

Alternative Specifications

Continuous
ASTM B-505
SAE 660, J461, J462
Centrifugal
ASTM B-271
SAE 660, J461, J462

Physical Properties

Melting Point - Liquidus	1790 F
Melting Point - Solidus	1570 F
Density	0.322 lb/in^3 at 68 F
Specific Gravity	8.91
Electrical Resistivity	85.9 ohms-cmil/ft at 68 F
Electrical Conductivity	12% IACS at 68 F
Thermal Conductivity	33.6 Btu · ft/(hr · ft2·°F) at 68F
Coefficient of Thermal Expansion	10.0 ·10^{-6} per °F (68-572 F)
Specific Heat Capacity	0.09 Btu/lb/°F at 68 F
Modulus of Elasticity in Tension	14500 ksi
Machinability Rating	70%

Room Temp Tensile & Hardness Data

CASTING PROCESS	TEMPER	TENSILE (KSI) MIN	YIELD (KSI) MIN	ELONGATION IN HD MIN	BRINELL (3000 KG)
CENTRIFUGAL	M02	30	14	15	-
CONTINUOUS	M07	35	20	10	-

Typical Uses

Oil & Gas
General Utility Bearings and Bushings, Metal to Metal Wear Applications

Automotive
Automotive Fittings, Couplings, Bushings, Earth Moving Equipment

Fasteners
Washers

Other Industrial
Pump Impellers, Main Spindle Bearings, Machine Tool Bearings, Bearings for Cranes, Trunnion Bearings, Roll Neck Bearings, Rolling Mill Bearings, Linkage Bushings for Presses, Fuel Pump Bushings, Water Pump Bushings, Diesel Engine Wrist Pin Bushings, Forging Press Toggle Lever Bearings, Hydraulic Press Stuffing Box, Hydraulic Press Main Lining, Fittings, Pump Fixtures, Insert Bearings, Machine Parts, Bearings, Thrust Washers, Pumps, Bushings, General Purpose Bushings

Chemical Composition

	Cu(1)	Al	Sb	Fe	Pb	Ni(2)	P(3)	Si	S	Sn	Zn
min/max	81.0-85.0	.005	.35	.20	6.0-8.0	1.0	.15	.005	.08	6.3-7.5	1.0-4.0
nominal	83.0	-	-	-	7.0	-	-	-	-	6.9	2.5

(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) = 99.0% min.

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