NWB®

High Performance Bearing Technology

C54400 PHOSPHOR BRONZE (B-2, Free Cutting)



C54400 Phosphor Bronze is the finest bearing alloy that the industry has to offer. It is an extremely machinable alloy that is equalled by few in the wrought metal industry as a bearing alloy. When annealed, this metal can be bent, formed, blanked, and stamped.

Alternative Specifications

ASTM B-103, B-139
SAE J463, J461

Physical Properties

Melting Point - Liquidus	1830 F
Melting Point - Solidus	1700 F
Density	0.32 lb/in^3 at 68 F
Specific Gravity	8.89
Electrical Resistivity	54.6 ohms-cmil/ft at 68 F
Electrical Conductivity	19 %IACS at 68 F
Thermal Conductivity	50.0 Btu · ft/(hr · ft2·°F) at 68F
Coefficient of Thermal Expansion	9.6 ·10^{-6} per °F (68-572 F)
Modulus of Elasticity in Tension	15000 ksi
Modulus of Rigidity	5600 ksi
Machinability Rating	80%

Typical Uses

Electrical

Electrical Connectors

Other Industrial

Bushings, Gears, Pinions, Shafts, Valve Parts, Sleeve Bearings, Thrust Bearings, Screw Machine Products, Bearings, Thrust Washers, Cam Roller Pins, Washers for Fire Sprinklers

Room Temp Tensile & Hardness Data

TEMPER	SECTION SIZE (INCHES)	TENSILE (KSI) MIN	ELONGATION IN HD MIN
H04 Hard	1/4" - 1/2"	60	10%
	Over 1/2" - 1"	55	12%
	Over 1"	50	15%

Chemical Composition

	Cu	Fe	Pb	P	Sn	Zn
min/max	Rem	.10	3.0-4.0	.01-.50	3.5-4.5	1.5-4.5
nominal	88.0	-	3.8	.25	4.0	3.0

Note: Cu + Sum of Named Elements, 99.5% min.

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