NWB®

High Performance Bearing Technology

C64200 SILICON ALUMINUM BRONZE (AMS 4631, 4634)



Silicon aluminum bronze combines the self lubricity of the silicon with the higher mechanical properties of aluminum bronze and is sometimes used in place of C63000 where specifications permit. C64200 is free-machining and has good anti-galling and anti-seizing properties. Typical applications involve valve stems, gears, marine and pole line hardware, wing pylons, bolts, nuts, bushings and valve body components.

Alternative Specifications

ASTM B-124, B-150, B-249
AMS 4631, 4634
ASME SB 150
SAE J463, J461

Physical Properties

Melting Point - Liquidus	1840 F
Melting Point - Solidus	1800 F
Density	0.278 lb/in^3 at 68 F
Specific Gravity	7.69
Electrical Resistivity	113.0 ohms-cmil/ft at 68 F
Electrical Conductivity	8 % IACS at 68 F
Thermal Conductivity	26.0 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	16000 ksi
Modulus of Rigidity	6000 ksi
Machinability Rating	60

Room Temp Tensile & Hardness Data

FORM	TEMPER	SECTION SIZE (INCHES)	TENSILE STR. (KSI) MIN	YIELD STR. (KSI) MIN	ELONGATION IN HD MIN	ROCKWELL HARDNESS (B)	SHEAR STR. (ksi)	SHEAR STR. (ksi)
ROD	H04	1.5	93	60	26%	90	-	-
	H04	0.75	102	68	22%	94	59	50

Typical Uses

Aerospace
Landing Gear Parts, Strut Bushings

Oil & Gas
Rock Bit Bearing Bushings, Blowout Preventer Parts, Wellhead Components

Automotive
Valve Guides, Automobile Engine Cam Parts, Safety Belt Assemblies

Electrical
Pole Line Hardware

Fasteners
Bolts, Nuts

Other Industrial
Valve and Pump Components, Valve Bodies, Gears, Valve Stems, Cams, Hooks, Forged and Machined Components

Marine
Hardware, Pins, Fasteners

Chemical Composition

	Cu[(1)]	Al	Cr	Co	Fe	Pb	Mn	Ni[(2)]	Sn	Zn
min/max	Rem.	6.3-7.6	.09	.30	.05	.10	.25	1.5-2.2	.20	.50
nominal	91.2	7.0	-	-	-	-	-	1.8	-	-

(1) Cu value includes Ag.
(2) Ni value includes Co.
Note: Cu + Sum of Named Elements, 99.5% min.

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