

C63200 NICKEL ALUMINUM BRONZE

OFFERED IN SOLID ROUND BARS



C63200 Nickel Aluminum Bronze is a high strength, ductile, extra-tough alloy. It is corrosion resistant and cavitation resistant; able to withstand high pressures and readily welded. It has excellent corrosion resistance in sea water applications. The wrought equivalent to continuous cast C95800.

TYPICAL USES

Fasteners

Fasteners, Sea Water Hardware, Bolts, Nuts

Other Industrial

Bearing Cages, Sleeve Bearings, Valve Stems, Shafts, Cams,
Sea Water Valves, Sea Water Pump Bodies, Bushings

Marine

Drive Shafts, Marine Service, Marine Propellers, and other
Salt Water Applications

SIZES AVAILABLE

Round Bar.....1" - 10" diameter

SIMILAR OR EQUIVALENT SPECS

ASTM B-150
ASTM B-124
MIL-B-24059



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Chemical Composition, Mechanical Properties, Physical Properties, Fabrication Properties

CHEMICAL COMPOSITION

	Cu ⁽¹⁾	Al	Fe ⁽²⁾	Pb	Mn	Ni ⁽³⁾	Si
min/max	Rem.	8.7 - 9.5	3.5 - 4.3	.02	1.2 - 2.0	4.0 - 4.8	.10
nominal	82.0	9.0	4.0	-	1.6	4.4	-

MECHANICAL PROPERTIES

FORM	TEMPER	SECTION SIZE (INCHES)	TENSILE STRENGTH (KSI) MIN	YIELD STRENGTH (KSI) MIN	ELONGATION IN HD MIN	ROCKWELL HARDNESS (B)	SHEAR STRENGTH (KSI)	FATIGUE STRENGTH (KSI)
ROD	O50	1	105	53	22%	96	-	-
		2	103	52	24%	94	-	-
		3	102	51	24%	93	-	-

PHYSICAL PROPERTIES

Melting Point - Liquidus °F.....	1940
Melting Point - Solidus °F.....	1905
Density lb/cu in @ 68 °F.....	0.276
Specific Gravity.....	7.64
Electrical Resistivity ohms-cmil/ft @ 68 °F.....	148.0
Electrical Conductivity % IACS @ 68 °F.....	7
Thermal Conductivity Btu/ sq ft/ ft hr/ °F at 68°F.....	20.0
Coefficient of Thermal Expansion 10 ⁻⁶ per °F (68-572 °F).....	9.0
Specific Heat Capacity Btu/lb/ °F @ 68 °F.....	0.105
Modulus of Elasticity in Tension ksi.....	17000
Modulus of Rigidity ksi.....	6400

FABRICATION PROPERTIES

Machinability Rating.....	30
Forgability Rating.....	70
Soldering.....	Fair
Brazing.....	Fair
Oxyacetylene Welding.....	Not Recommended
Gas Shielded Arc Welding.....	Excellent
Coated Metal Arc Welding.....	Good
Spot Weld.....	Good
Seam Weld.....	Fair
Butt Weld.....	Good
Capacity for Being Cold Worked.....	Fair
Capacity for Being Hot Formed.....	Good

AVIVA Color Code



PINK / GREEN

The values listed on this document represent reasonable approximations suitable for general engineering use. Due to commercial variations in composition and to manufacturing limitations, they should not be used for specification purposes. See applicable A.S.T.M. Specification references.

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