

C63200 Nickel Aluminum Bronze Hollow Rods

ASTM B150, QQ-C-465

The C63200 Nickel Aluminum Bronze alloy possess superior salt water corrosion resistance. It also is resistant to cavitation and erosion. Along with the advantage of pressure tightness, this high strength alloy is excellent for welding and is available in many forms at a lower cost to you.



Typical Uses :

- **Industrial:** Bearing Cages, Sleeve Bearings, Valve Stems, Shafts, Cams, Sea Water Valves, Sea Water Pump Bodies, Bushings
- **Fasteners:** Fasteners, Sea Water, Nuts, Bolting
- **Marine:** Drive Shafts, Marine Service

Equivalent Specifications:

Specifications	Designation
ISO	CuAl9Fe4Ni4
UNS	C63280
Czech Republic	CuAl9Fe4Ni4

Chemical Composition:

	Al	Cu	Fe	Pb	Mn	Ni	Si
Min/Max	8.7 - 9.5	Rem	3.5 - 4.3	0.02	1.2 - 2.0	4.0 - 4.8	0.1
Nominals	9	82	4	-	1.6	4.4	-

Specifications:

End Product	Specification
Bar	ASTM B150
Bar, Forging	ASTM B124
Electrode, Welding	AWS A5.6, MILITARY MIL-E-23765/3

Forgings, Die	ASTM B283
Plate	ASTM B171
Rod	ASTM B150
Rod, Forging	ASTM B124
Shapes	ASTM B150
Shapes, Forging	ASTM B124

Fabrication

Joining Technique	Suitability
Brazing	Fair
Butt Weld	Good
Capacity for Being Cold Worked	Fair
Capacity for Being Hot Formed	Good
Coated Metal Arc Welding	Good
Forgeability Rating	70
Gas Sheilded Arc Welding	Excellent
Machinability rating	30
Oxyacetylene Welding	Not Recommended
Seam Weld	Fair
Soldering	Fair
Spot Weld	Good

Physical Properties

Product Property	US Customary	Metric
Coefficient of Thermal Expansion	9.0 $\times 10^{-6}$ per oF (68-572 F)	16.2 $\times 10^{-6}$ per $^{\circ}$ C (20-300 C)

Density	0.276 lb/in ³ @ 68 F	7.64 gm/cm ³ @ 20 C
Electrical Conductivity	7 %IACS @ 68 F	0.041 MegaSiemens/cm @ 20 C
Electrical Resistivity	148.0 ohms-cmil/ft @ 68 F	24.6 microhm-cm @ 20 C
Melting Point Liquid US	1940 F	1060 C
Melting Point Solid US	1905 F	1041 C
Modulus of Elasticity in Tension	17000 ksi	117000 MPa
Modulus of Rigidity	6400 ksi	44130 MPa
Specific Gravity	7.64	7.64
Specific Heat Capacity	.105 Btu/lb/°F @ 68 F	440.0 J/kg °K at 293 K
Thermal Conductivity	20.0 Btu · ft/(hr · ft ² · °F) @ 68 F	34.6 W/m · °K at 20 C

Sizes Available:

ROUND RODS	8mm To 70 mm
HEX	10mm To 60mm
SQUARE	10mm To 60mm
FLAT	10mm Min Thickness and max Width 120mm
BILLETS	Up to 200 mm
INGOTS	As per Specification

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