

C65500 High Silicon Bronze "A" Hollow Rods

ASTM B96, ASTM B248, ASTM B98

The silicon bronze C65500 is a high strength, engineering alloy with having resistance against corrosion from fresh and salt water, acids, alkalis, salts and organic chemicals. The alloy is not suitable to be used with sulfides, nitric acid, acid chromates or oxidizing salts such as ferric chloride. The alloy possess strength, resilience and formability and is non-sparking, galling resistant and fatigue resistant.

The applications of C65500 include electrical conduit, pump shafts, valve stems, tie rods, fasteners, marine and pole-line hardware, nuts, bolts, screws, rivets, nails, bushings, screen cloth and wire.



Typical Uses :

- **Electrical:** Sculptures, Electrical, Pole Line Hardware, Motors, Rotor Bar
- **Fasteners:** Screws, Rivets, Burrs, Nuts, Nails, Cotter Pins, Clamps, Bolts, Hinges
- **Industrial:** Screen Cloth, Wear Plates, Screen Plates, Shafting, Wire, Welded Pressure Vessels, Oil Refinery Plumbing Tube, Bearing Plates, Butts
- **Marine:** Vessel Hardware, Propeller Shaft

Equivalent Specifications:

Specifications	Designation
ISO	CuSi3Mn1
European	CuSi3Mn1
BS	CS 101
Russian	BrKMo3-1

Chemical Composition:

	Cu	Fe	Pb	Mn	Ni	Si	Zn
Min/Max	Rem	0.8	0.05	0.50 - 1.3	0.6	2.8 - 3.8	1.5
Nominals	97.0000	-	-	0.9000		3.0000	-

Specifications:

End Product	Specification
Bar	SAE J463, J461
Bar, Forging	ASTM B124
Bar, Rolled, Pressure Vessels	ASME SB96, ASTM B96
Bolts	ASTM F468
Forgings, Die	ASTM B283
Nuts	ASTM F467
Pipe	ASME SB315, ASTM B315
Plate	ASME SB96, ASTM B96
Plate, Bridge and Bearing	ASTM B100
Plate, Clad	ASTM B432
Plate, Pressure Vessels	ASME SB96, ASTM B96
Rod	ASME SB98, ASTM B98, SAE J461, J463
Rod, Forging	ASTM B124
Screws	ASTM F468
Shapes	ASME SB98, ASTM B98, SAE J461, J463
Shapes, Forging	ASTM B124
Sheet	ASME SB96, ASTM B96, SAE J461, J463
Sheet, Bridge and Bearing	ASTM B100
Sheet, Pressure Vessels	ASME SB96, ASTM B96
Strip	ASME SB96, ASTM B96, SAE J461, J463
Studs	ASTM F468
Tube	ASME SB315, ASTM B315, MILITARY MIL-T-8231

Wire

ASTM B105, B99

Fabrication:

Joining Technique	Suitability
Brazing	Excellent
Butt Weld	Excellent
Capacity for Being Cold Worked	Excellent
Capacity for Being Hot Formed	Excellent
Coated Metal Arc Welding	Fair
Forgeability Rating	40
Gas Shielded Arc Welding	Excellent
Machinability Rating	30
Oxyacetylene Welding	Good
Seam Weld	Excellent
Soldering	Good
Spot Weld	Excellent

Physical Properties:

Product Property	US Customary	Metric
Coefficient of Thermal Expansion	10.0 $\times 10^{-6}$ per oF (68-212 F)	18.0 $\times 10^{-6}$ per oC (20-100 C)
Density	0.308 lb/in ³ at 68 F	8.53 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 - Liquidus	1880 F	1027 C

Melting Point - Solidus	1780 F	971 C
Modulus of Elasticity in Tension	15000 ksi	103400 MPa
Modulus of Rigidity	5600 ksi	38610 MPa
Specific Gravity	8.53	8.53
Specific Heat Capacity	0.09 Btu/lb/oF at 68 F	377.1 J/kg Â· oK at 293 K
Thermal Conductivity	21.0.0 Btu Â· ft/(hr Â· ft2Â·oF)at 68F	36.3 W/m Â· oK 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

Regd. Office & Plant

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