



Metal Alloys Corporation

इंजीनियर्स
इंडिया लिमिटेड
ENGINEERS
INDIA LIMITED
A Group of IITB University

C86500 High Tensile Manganese Bronze Hollow Rods

C86500 High Tensile Manganese bronzes high strength copper-based alloys that include manganese as an alloying agent and high levels of zinc. They are characterized by high strength and hardness. This grade provides tensile strength to 110,000 psi and hardness well over 200 BHN. Manganese bronzes are used for trunnion bearings, heavily stressed gears, gearshift forks, impellers, marine propellers, valve stems, worm gears, and worms. It is also used for highly stressed machine parts.



Equivalent Specifications:

SPECIFICATIONS	ASTM	BS	EN	JIS	DIN	ISO	IS
DESIGNATION	C86500	BS 1400 HTB 1	CC765 S	HBSC 4	CuZn35AlFeMn	2.034	-

Chemical Composition:

	Cu	Pb	Fe	Zn	Ni	Fe	Al	Mn
Min	55.0	-	-	36.0	-	0.40	0.50	0.10
Max	60.0	0.40	1.0	42.0	1.0	2.00	1.5	1.5'

Fabrication Properties:

Joining Technique	Suitability
Brazing	Fair
Oxyacetylene Welding	Poor
Gas Shielded Arc Welding	Poor
Coated Metal Arc Welding	Poor
Machinability Rating	26

Mechanical Properties:

Melting Point - Solidus °F	1583
Density lb./cu in. at 68°F	0.301
Specific Gravity	7.83
Electrical Conductivity% IACS at 68°F	8.33
Thermal Conductivity Btu/ sq. ft./ ft. hr./ °F at 68°F	22
Coefficient of Thermal Expansion 68-57210 ⁻⁶ per °F (68 - 572°F)	11.3
Specific Heat Capacity Btu/ lb. /°F at 68°F	0.09
Modulus of Elasticity in Tension ksi	15000
Magnetic Permeability*	1.09

Sizes Available:

TUBES	6.35 mm to 110mm
ROUND WIRES	1 mm to 11mm
ROUND RODS	1.2 to 250 mm
HEX RODS	Min. 5 mm to Max. 65 mm
SQUARE RODS	Min. 4 mm to Max. 60 mm
FLATS	Min. 4 mm thickness and max width of 120mm
PROFILES	As per customer drawings
HOLLOW RODS	Min Bore Size 20mm and Max OD 130mm

Regd. Office & Plant

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