

## High Tensile Manganese Bronze

### C86300 High Tensile Manganese Bronze Hollow Rod

C86300 (SAE 430B) High Tensile Manganese Bronze is ideal for high load, low speed applications that require a combination of outstanding wear characteristics and high bearing strength. Despite its strength characteristics, however, this manganese bronze alloy is not heat-treatable, needs reliable lubrication and should be used in conjunction with hardened shafts. The lead in the alloy's makeup improves machinability without materially affecting its



mechanical properties.

#### Equivalent specification

Specifications	Designation
ASTM	C86300
BS	BS 1400 HTB3
EN	CC762S
JIS	HBSC4
DIN	2.0598
ISO	CuZn25Al6Fe3Mn3
IS	-

#### Chemical Composition:

	Cu	Pb	Sn	Zn	Ni	Fe	Al	Mn
Min	60.0	-	-	22.0	-	2.0	5.0	2.5
Max	66.0	0.2	0.2	28.0	1.0	4.0	7.5	5.0

#### Fabrication Properties:

Joining Technique	Suitability
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Soldering	Poor
Brazing	Poor
Oxyacetylene Welding	Poor
Gas Shielded Arc Welding	Poor
Coated Metal Arc Welding	Good
Machinability Rating	8

**Physical Properties:**

Melting Point – Liquidus °F	1693
Melting Point – Solidus °F	1625
Density lb./cu in. at 68°F	0.283
Specific Gravity	7.83
Electrical Conductivity% IACS at 68°F	8
Thermal Conductivity Btu/ sq. ft./ ft. hr./ °F at 68°F	20.5
Coefficient of Thermal Expansion 68-572 $10^{-6}$ per °F (68 – 572°F)	12
Specific Heat Capacity Btu/ lb. /°F at 68°F	0.09
Modulus of Elasticity in Tension ksi	14200
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

Plot No. 6 & 7, Village: Lakhabaval, Post: Khodiyar Colony, Jamnagar - 361006.

Tel.: +91-288-2889251 / 52, Fax: +91-288-2889223, Cell: +91-9924443396

Email: [info@metalalloyscorp.com](mailto:info@metalalloyscorp.com) • web: [www.metalalloyscorp.com](http://www.metalalloyscorp.com)

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