



## MANGANESE BRONZE

### EQUIVALENT SPECIFICATIONS

SPECIFICATIONS	DESIGNATION
UNS	C33500
EN	CW713R
DIN	2.0550
BS	CuZn37Mn3Al2PbSi

CW713R/CuZn37Mn3Al2PbSi Processing and Property: Excellent hot and cold workability; good forge ability. Fabricated by bending, coining, coppersmith, drawing and upsetting, hot forging and pressing, knurling, roll threading, shearing, spinning, swaging, and stamping.

### TYPICAL USES :

**INDUSTRIAL:** Gears, Sealing Rings, Thrust Bearings, Bushings, Cams, Spindles, Bearings, Idler Pins, Connecting Rods, Drive Shafts, Valve Seats, Sleeve Bearings, Piston Heads **MARINE:** Pump Parts, Hardware, High Strength

### CHEMICAL COMPOSITION

	Cu	Zn	Al	Fe	Mn	Ni	Si	Sn	Pb	Other
Min./Max.	57.0-59.0	Rem	1.3-2.3	1.0	1.5-3.0	1.0	0.3-1.3	0.4	0.2-0.8	0.3

### PHYSICAL PROPERTIES

Density	8.1 kg/cm <sup>2</sup>
Specific Heat	377J / (kg K)
Melting Range	875 - 910 °C
Coefficient of Expansion	20.3 10 <sup>-6</sup> / K
Thermal Conductivity	65 W/ (m K)
Electrical Conductivity	13.4 % IACS

### SIZES AVAILABLE :

ROUND RODS	8mm To 100 mm
HEX	10mm To 100mm
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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