

# IS 320 HT1

# MANGANESE BRONZE

## DESCRIPTION

320 HT1 possesses good torsional properties and general corrosion resistance. Manganese bronze withstands exposure to dry gases, dilute alkalis, sulfides, most organic solvents and acids. Though 320 HT 1 has common resistance, contact with ammonia, mercury and most chlorine gas should be avoided.

## CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	56.00	60.00
Pb	0.20	1.50
Sn	0.20	1.00
Fe	0.20	1.25
Al	-	0.20
Mn	0.25	2.00
Total Others	-	0.50
Zn	Remainder	

## MECHANICAL PROPERTIES (AS PER TEMPER HB)

Range (mm)	From	To	UTS Min (Mpa)	PS Min (Mpa)	Elo Min (%)	Hardness Min	Hardness Max
Round (Dia)	2	40	480	-	12	-	-
	40	75	460	-	15	-	-
Round (Dia)	2	40	480	-	12	-	-
	40	70	460	-	15	-	-
Square (A/F)	10	40	480	-	12	-	-
	40	60	460	-	15	-	-
Rectangle (Thickness)	10	40	480	-	12	-	-

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## PHYSICAL PROPERTIES

Melting Point	940°C
Density	8.42 g/cm <sup>3</sup>
Specific Heat	380 J/Kg°K
Thermal conductivity (RT)	88 W/m°K
Thermal expansion coefficient (20-200°C)	20 x 10 <sup>-6</sup>
Electrical conductivity	18% IACS
Electrical Resistivity	0.082 ohm mm <sup>2</sup> /m

## FABRICATION PROPERTIES

Capacity for being Cold formed	Poor
Capacity for being Hot worked	Good
Machinability Ration	30%
Resistance to Corrosion	Excellent
Suitability for soldering	Excellent

## TYPICAL USES

- Architectural applications
- High strength components
- Valves
- Valve stems
- Fittings
- Marine fittings