6912 FHTB1

MANGANESE BRONZE

DESCRIPTION

Manganese bronze contains small additions of manganese, iron, and aluminium, plus lead for lubricity, anti-seizing, and bonding. Like the aluminium bronzes, they combine high strength with excellent corrosion resistance. Manganese bronze bearings can operate at high speeds under heavy loads, but require high shaft hardness and nonabrasive operating conditions

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	56.00	60.00
Pb	0.50	1.50
Sn	0.60	1.10
Fe	0.30	1.25
Mn	0.50	2.00
Al	-	0.20
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)	1.5	75	430	180	15	-	-
Round (Dia)	3	70	430	180	15	-	-
Square (A/F)	3	60	430	180	15	-	-
Rectangle (Thickness)	3	50	430	180	15	-	-

RAJHANS METALS PRIVATE LIMITED

3985, GIDC, Phase-III, Dared, Jamnagar - 361 004. (Gujarat) INDIA. +91 2882573820 www.rajhans.com

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MANGANESE BRONZE

PHYSICAL PROPERTIES

Melting Point - Liquidus°F	1630
Melting Point - Solidus°F	1590
Densitylb/cuin.at 68°F	0.302
Specific Gravity	8.36
Electrical Conductivity% IACS at 68°F	24
Thermal ConductivityBtu/ sq ft/ ft hr/ °F at 68°F	61
Coefficient of Thermal Expansion 68-57210-6 per °F (68 - 572°F)	11.8
Specific Heat CapacityBtu/ lb /°F at 68°F	0.09
Modulus of Elasticity in Tensionksi	15000
Modulus of Rigidity ksi	5600

FABRICATION PROPERTIES

Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Good
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Not Recommended
Spot Weld	Good
Seam Weld	Fair
Butt Weld	Good
Capacity for Being Cold Worke	Poor
Capacity for Being Hot Formed	Excellent
Forgeability Rating	80
Machinability Rating	30

TYPICAL USES

- Automotive
- Industrial
- Fasteners
- Marine

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