

CW722R

MANGANESE BRONZE

DESCRIPTION

CW722R is a duplex high tensile brass with a restricted aluminium content to facilitate soldering and brazing. Sometimes referred to as a manganese bronze, CW722R has additions of iron, tin and manganese that benefit the physical and mechanical attributes of the alloy.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	56.50	58.50
Pb	0.80	1.60
Al	-	0.10
Fe	0.20	1.20
Mn	0.80	1.80
Ni	-	0.30
Sn	0.20	1.00
Total others	-	0.30
Zn	Remainder	

MECHANICAL PROPERTIES CW722R (AS PER TEMPER R440)

Range (mm)	From	To	UTS Min (N/mm ²)	PS Min (N/mm ²)	Elo Min (%)	Hardness Min	Hardness Max
Round (Dia)	40	75	440	200	18	-	-
Hex (a/F)	35	60	440	200	18	-	-
Square (A/F)	35	60	440	200	18	-	-
Rectangle (Thickness)	40	50	440	200	18	-	-

PHYSICAL PROPERTIES

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

FABRICATION PROPERTIES

Hot Working Temperature Range	700-750°C
Hot Formability	Very Good
Cold Formability	Poor
Machinability rating (free cutting brass = 100)	75%
Annealing Temp. Range	425-600°C
Stress Relieving Temp. Range	225-350°C
Soldering	Very Good
Brazing	Very Good
Oxy-acetylene welding	Not Recommended
Gas-shielded arc welding	Not Recommended
Resistance welding: Spot and Seam	Not Recommended
Butt	Fair

TYPICAL USES

- Gas valves and fittings
- Fasteners
- Pump trim
- Gears
- Locks
- Heavy-duty electrical connectors
- Transmission components
- Marine hardware
- Safety tools and decorative metalwork