

CW713R

MANGANESE BRONZE

DESCRIPTION

CW713R is a special brass with very high wear resistance due to silicides embedded in the structure. This alloy is used for slide bearings and valve guides as well as for construction components in mechanical engineering. This alloy is also highly suitable for hot stamped parts requiring higher mechanical strength and higher wear resistance

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	57.00	59.00
Pb	0.20	0.80
si	0.30	1.30
Mn	1.50	3.00
Sn	-	0.40
Fe	-	1.00
Ni	-	1.00
Al	1.30	2.30
Total Others	-	0.30
Zn	Remainder	

MECHANICAL PROPERTIES CW713R (AS PER TEMPER R540)

Range (mm)	From	To	UTS Min (N/mm ²)	PS Min (N/mm ²)	Elo Min (%)	Hardness Min (HB)	Hardness Max (HB)
Round (Dia)	5	75	540	280	15	-	-
Hex (a/F)	5	60	540	280	15	-	-
Square (A/F)	5	60	540	280	15	-	-

CW713R

MANGANESE BRONZE

PHYSICAL PROPERTIES

Electrical conductivity	7.8 %IACS
Thermal conductivity	63 W/(m•K)
Thermal expansion coefficient (0–300 °C)	20.6 10 ⁻⁶ /K
Density	8.12 g/cm ³
Modulus of elasticity	93 Gpa

FABRICATION PROPERTIES

Technique	Suitability
Machinability (CuZn39Pb3 = 100 %)	50%
Capacity for being cold worked	Poor
Capacity for being hot worked	excellent
Resistance welding (butt weld)	good
Inert gas shielded arc welding	good
Gas welding	fair
Hard soldering	Poor
Soft soldering	Poor
Melting range	875 – 910 °C
Hot working	600–700 °C
Soft annealing	500–650 °C (1–3 hr)
Thermal stress relieving	350–450 °C (1–3 hr)

TYPICAL USES

- Bushings
- Gears
- Cams
- Chain Guides
- Shafts
- Food Conveyor
- Wear Plates
- Connecting Rods