

C67500

MANGANESE BRONZE

DESCRIPTION

C675 possesses good torsional properties and general corrosion resistance. Manganese bronze withstands exposure to dry gases, dilute alkalis, sulfides, and most organic solvents and acids. Though C675 has common resistance, contact with ammonia, mercury, and most chlorine gas should be avoided.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	57.00	60.00
Pb	-	0.20
Sn	0.50	1.50
Al	-	0.25
Fe	0.80	2.00
Mn	0.05	0.50
Total Others	-	0.50
Zn	Remainder	

MECHANICAL PROPERTIES (AS PER TEMPER Ho2)

Range (Inch)	From	To	UTS Min (ksi)	PS Min (ksi)	Elo Min (%)	Hardness Min (HRB)	Hardness Max (HRB)
Round (Dia)	0.059	1.000	72	36	13	-	-
	1.000	2.500	70	35	15	-	-
	2.500	2.953	65	32	17	-	-
Round (Dia)	0.118	1.000	72	36	13	-	-
	1.000	2.500	70	35	15	-	-
	2.500	2.756	65	32	17	-	-
Square (A/F)	0.118	1.000	72	36	13	-	-
	1.000	2.362	70	35	15	-	-
Rectangle (Thickness)	0.118	1.000	72	36	13	-	-
	1.000	1.968	70	35	15	-	-

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SILICON BRASS

Range (mm)	From	To	UTS Min (Mpa)	PS Min (Mpa)	Elo Min (%)	Hardness Min	Hardness Max
Round (Dia)	1.5	25	500	250	13	-	-
	25	65	450	240	15	-	-
	65	75	450	220	17	-	-
Round (Dia)	3	25	500	250	13	-	-
	25	65	450	240	15	-	-
	65	70	450	220	17	-	-
Square (A/F)	3	25	500	250	13	-	-
	25	60	450	240	15	-	-
Rectangle (Thickness)	3	25	500	250	13	-	-
	25	50	450	240	15	-	-

PHYSICAL PROPERTIES

Melting Point - Liquidus°F	1630
Melting Point - Solidus°F	1590
Density lb/cu in. at 68°F	0.302
Specific Gravity	8.36
Electrical Conductivity % IACS at 68°F	24
Thermal Conductivity Btu/ 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 Capacity Btu/ lb /°F at 68°F	0.09
Modulus of Elasticity in Tension ksi	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 Worked	Poor
Capacity for Being Hot Formed	Excellent
Forgeability Rating	80
Machinability Rating	30

TYPICAL USES

- > Automotive
- > Fasteners
- > Industrial
- > Marine