HM Wire International, Inc.

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REQUEST A QUOTATION

Alloy 464 - Wrought Naval Brass, Non-Leaded

Description: Alloy 464 is referred as Naval Brass. It is a high strength, corrosion resistant alloy used in marine construction.

Applications: Propeller Shafts, Marine Hardware, Decorative fittings, valve stems Golf ball production, pressure vessels, turn buckles, bearings and hub cones.

Nominal Composition:	Cu%	Zn%	Sn%	*Note: Cu + Sum of named elements, 99.6% min.	
	60%	39.2%	0.7%		
Composition Limits:	**Cu%**	**Zn%**	**Pb%**	**Fe%**	**Sn%**
	59 -62%	Balance	0.20%	0.10%	0.50 - 1.0%

Physical Properties (*Taken from an alloy containing 5% tin and .2% phosphorus.)

	English Units	Metric Units
Melting Point Liquidus	1650°F	899°C
Melting Point Solidus	1630°F	888°C
Density	0.304 lb/cu in @ 68°F	8.41 gm/cm @ 20 °C
Specific Gravity	8.41	8.41
Electrical Resistivity	39.9 ohms (circ mil/ft) @ 68°F	6.63 microhm-cm @ 20 °C
Thermal Conductivity	67 BTU ft/sq ft-hr-°F @ 68°F	$21.2 \cdot 10^{-6}$ per °C (200 - 300°C)
Coefficient of Thermal Expansion	0.0000118 per °F (68 - 572°F)	116 W/m · °K @ 20 °C
Modulus of Rigidity	5,600 ksi	38610 MPa
Electrical Conductivity	26% I.A.C.S @ 68 °F	0.152 MegaSiemens/cm @ 20 °C
Specific Heat Capacity	0.09 Btu/lb/°F @ 68 °F	377.1 J/kg · °K @ 20 °C
Modulus of Elasticity (Tension)	15,000 ksi	103400 MPa

Mechanical Properties (measured at room temperature, 68 °F (20 °C))

M20 - plate - Typical for 1" Rod Half Hard (20%) Temper

Tensile Stength	**Minimum 55 ksi**
Yield Strength	**Minimum 25 ksi - *0.5% Ext. under load***
Elongation	**50%**
Rockwell Hardness B Scales	**55**

*To be used as a guideline only.

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