



FISK MAB42E RoHS Compliant, Lead-Free Machinable Brass CuZn42 BlueBrass®42e / PNA 278

MA42E is a RoHS compliant, lead-free copper alloy with good machinability, high strength, and excellent ductility. Lead content is limited amounts for compliance with a growing range of legislative and regulatory guidelines. MA42E is targeted for electronic applications, however the alloy is recommended for any machined brass part requiring lead-free product.

Fabrication Indices	
Machinability	good
Cold Working	good
Hot Working	excellent
Brazing	good
Soldering	excellent
Welding	fair

Available Forms
Rod and Wire, round
Typical Standards / Compliance
RoHS 2002/96/CE
RoHS 2002/53/CE

Chemical Composition
58.0-58.5% Copper
0.1% max Lead
0.1-0.5% Iron, Tin, Nickel
0.1% max Silicon, Manganese
Remainder Zinc (42% nominal)

Mechanical Properties

○ Round Rod					
TEMPER NAME	TEMPER CODE	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION	MILL LIMITS
		range, ksi (MPa)	range, ksi (MPa)	range, %	
Per client specification, or as needed to replace leaded or other alloy		65 (450) - 109 (750)	29 (200) - 100 (690)	35 - 7	0.0394 - 0.3150" (1 - 8 mm)

○ Round Wire					
TEMPER NAME	TEMPER CODE	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION	MILL LIMITS
		range, ksi (MPa)	range, ksi (MPa)	range, %	
Per client specification, or as needed to replace leaded or other alloy		65 (450) - 109 (750)	29 (200) - 100 (690)	35 - 7	0.0100 - 0.2362" (0.25 - 6 mm)

Physical Properties

Melting Point	1650 °F	900 °C
Annealing Range (min - max)	900 - 1075 °F	480 - 580 °C
Density	0.306 lb/in ³	8.40 gm/cm ³
Electrical Resistivity (Annealed)	41.5 Ω-cir-mil/ft @ 68 °F	6.90 μΩ-cm @ 20 °C
Electrical Conductivity (Annealed)	25% IACS @ 68 °F	0.145 MS/cm @ 20 °C
Thermal Conductivity	65 Btu/ft ² /ft-hr/°F @ 68 °F	113 W/m-K @ 20 °C
Coefficient of Thermal Expansion	11.1 x 10 ⁻⁶ per °F (68-572 °F)	20.0 x 10 ⁻⁶ per °C (20-300 °C)
Modulus of Elasticity (Tension)	15,500 ksi	105,000 MPa

The information provided on this page is for reference purposes only.

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