

Eagle Brass 110 EPT COPPER, Hard

Category : Metal , Nonferrous Metal , Copper Alloy

Material Notes:

Alloy 110, also known as electrolytic tough pitch (ETP) copper, is commonly used in electric current carrying applications. 110 Copper is 99.9% pure copper with an electrical conductivity rating of 100+ % IACS. Conductivity, corrosion resistance, and ductility makes 110 Copper very versatile over a broad range of applications. 110 Copper has a poor machinability rating of 20%. It does, however, have excellent hot and cold forming characteristics. 110 Copper, being a tough pitch copper alloy, is not easily welded or brazed because it suffers from embrittlement when heated in a reducing atmosphere. This occurs because hydrogen reacts with the oxide in the metal to form steam and causes cracking. Oxygen-Free coppers are made for welding operations if needed. 110 Copper can be soldered with good results. C110 Copper has a broad range of uses, including plumbing fittings, electrical components, wave guides, base plates, bus bars, heat exchanger components, blade and ring terminals, cables, power transmission components, automotive spark plug electrodes, resistance welding electrodes, fuses terminals, and high conductivity items for use at raised temperatures. Both hot and cold forming characteristics are excellent and can be used wherever extensive machining is not required. Information provided by Eagle Brass Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eagle-Brass-110-EPT-COPPER-Hard.php

Physical Properties	Metric	English	Comments
Density	8.91 g/cc	0.322 lb/in ³	Annealed

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 30T	54 - 62	54 - 62	Thickness > 0.020 Inch
Tensile Strength, Ultimate	296 - 359 MPa	43000 - 52000 psi	
Tensile Strength, Yield	283 - 345 MPa	41000 - 50000 psi	0.2% offset
Elongation at Break	3.0 - 16 %	3.0 - 16 %	in 2 in.
Tensile Modulus	117 GPa	17000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	17.6 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	9.80 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 20.0 - 300 $^\circ\text{C}$	@Temperature 68.0 - 572 $^\circ\text{F}$	
Thermal Conductivity	390.8 W/m-K	2712 BTU-in/hr-ft ² - $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Copper, Cu	$\geq 99.9\%$	$\geq 99.9\%$	
Oxygen, O	$\leq 0.050\%$	$\leq 0.050\%$	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000176 ohm-cm	0.00000176 ohm-cm	Annealed

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