

## Eagle Brass 521 Phosphor Bronzes 8% C, Hard

Category : Metal , Nonferrous Metal , Copper Alloy , Bronze

**Material Notes:**

Alloy C521 is a high tin alloy of the phosphor bronze family. The additional tin relative to the more commonly used C510 results in higher mechanical properties with a modest reduction in electrical conductivity. Applications include electronic parts, springs, contacts, switch parts and fasteners. Information provided by Eagle Brass Company

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Eagle-Brass-521-Phosphor-Bronzes-8-C-Hard.php](http://www.lookpolymers.com/polymer_Eagle-Brass-521-Phosphor-Bronzes-8-C-Hard.php)

Physical Properties	Metric	English	Comments
Density	8.80 g/cc	0.318 lb/in <sup>3</sup>	Annealed

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 30T	73 - 80	73 - 80	Thickness > 0.020 Inch
Tensile Strength, Ultimate	586 - 689 MPa	85000 - 100000 psi	
Tensile Strength, Yield	538 - 655 MPa	78000 - 95000 psi	0.2% offset
Elongation at Break	12 - 30 %	12 - 30 %	in 2 in.
Tensile Modulus	110 GPa	16000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	18.2 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	10.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 300 $^{\circ}\text{C}$	@Temperature 68.0 - 572 $^{\circ}\text{F}$	
Thermal Conductivity	62.3 W/m-K	432 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Copper, Cu	91.9 %	91.9 %	
Phosphorous, P	0.10 %	0.10 %	
Tin, Sn	8.0 %	8.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000137 ohm-cm	0.0000137 ohm-cm	Annealed

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