

## Eagle Brass 18665 MSP1, Extra Hard

Category : Metal , Nonferrous Metal , Copper Alloy

**Material Notes:**

MSP-1 high performance copper alloy with magnesium has high conductivity (63% IACS), high strength and excellent thermal creep properties. Typical uses include terminals, connectors, relays, springs, switches, sockets, and junction boxes. Information provided by Eagle Brass Company

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Eagle-Brass-18665-MSP1-Extra-Hard.php](http://www.lookpolymers.com/polymer_Eagle-Brass-18665-MSP1-Extra-Hard.php)

Physical Properties	Metric	English	Comments
Density	8.94 g/cc	0.323 lb/in <sup>3</sup>	Annealed

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	538 - 627 MPa	78000 - 91000 psi	
Tensile Strength, Yield	490 - 621 MPa	71000 - 90000 psi	0.2% offset
Elongation at Break	>= 5.0 %	>= 5.0 %	in 2 in.
Tensile Modulus	117 GPa	17000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	17.3 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	9.60 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 300 $^{\circ}\text{C}$	@Temperature 68.0 - 572 $^{\circ}\text{F}$	
Thermal Conductivity	456.5 W/m-K	3168 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Copper, Cu	99 %	99 %	
Magnesium, Mg	0.70 %	0.70 %	
Phosphorous, P	0.040 %	0.040 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000283 ohm-cm	0.00000283 ohm-cm	Annealed

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