

Eagle Brass 194 HSM® Copper, Extra Hard

Category : Metal , Nonferrous Metal , Copper Alloy

Material Notes:

High Strength Modified Copper Alloy C194 is a first generation high performance alloy used worldwide. C194 combines good electrical conductivity with high tensile strength, good solderability and plateability. Applications include connectors, semiconductor pins and leadframes, sockets and mass terminations. Information provided by Eagle Brass Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eagle-Brass-194-HSM-Copper-Extra-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 | 67 - 69 | 67 - 69 | Thickness > 0.020 Inch |
| Tensile Strength, Ultimate | 462 - 503 MPa | 67000 - 73000 psi | |
| Tensile Strength, Yield | 441 - 490 MPa | 64000 - 71000 psi | 0.2% offset |
| Elongation at Break | 2.0 - 3.0 % | 2.0 - 3.0 % | in 2 in. |
| Tensile Modulus | 121 GPa | 17500 ksi | |

| Thermal Properties | Metric | English | Comments |
|----------------------|----------------------------|------------------------------------|----------|
| CTE, linear | 17.6 µm/m-°C | 9.80 µin/in-°F | |
| | @Temperature 20.0 - 300 °C | @Temperature 68.0 - 572 °F | |
| Thermal Conductivity | 259 W/m-K | 1800 BTU-in/hr-ft ² -°F | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|---------|---------|----------|
| Copper, Cu | 97.5 % | 97.5 % | |
| Iron, Fe | 2.35 % | 2.35 % | |
| Phosphorous, P | 0.030 % | 0.030 % | |
| Zinc, Zn | 0.12 % | 0.12 % | |

| Electrical Properties | Metric | English | Comments |
|------------------------|-------------------|-------------------|----------|
| Electrical Resistivity | 0.00000198 ohm-cm | 0.00000198 ohm-cm | Annealed |

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