

Eagle Brass 706 Copper Nickel 10%, Extra Hard

Category : Metal , Nonferrous Metal , Copper Alloy

Material Notes:

706 exhibits excellent corrosion resistance, especially in marine applications. It has a relatively high strength and has resistance at elevated temperatures. The cost is relatively high compared to copper-aluminum and other alloys with similar mechanical properties. Typical uses include brake lines, screw lamp bases, boat hulls, pipe fittings, heat exchanger tubes, and flanges. Information provided by Eagle Brass Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eagle-Brass-706-Copper-Nickel-10-Extra-Hard.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|----------|
| Density | 8.94 g/cc | 0.323 lb/in ³ | Annealed |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|---------------|-------------------|------------------------|
| Hardness, Rockwell 30T | 71 - 77 | 71 - 77 | Thickness > 0.020 Inch |
| Tensile Strength, Ultimate | 503 - 586 MPa | 73000 - 85000 psi | |
| Tensile Strength, Yield | 490 - 565 MPa | 71000 - 82000 psi | 0.2% offset |
| Elongation at Break | 1.0 - 2.0 % | 1.0 - 2.0 % | in 2 in. |
| Tensile Modulus | 124 GPa | 18000 ksi | |

| Thermal Properties | Metric | English | Comments |
|----------------------|--|--|----------|
| CTE, linear | 17.1 $\mu\text{m/m-}^{\circ}\text{C}$ | 9.50 $\mu\text{in/in-}^{\circ}\text{F}$ | |
| | @Temperature 20.0 - 300 $^{\circ}\text{C}$ | @Temperature 68.0 - 572 $^{\circ}\text{F}$ | |
| Thermal Conductivity | 45.0 W/m-K | 312 BTU-in/hr-ft ² - $^{\circ}\text{F}$ | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|--------|---------|----------|
| Copper, Cu | 88.6 % | 88.6 % | |
| Iron, Fe | 1.4 % | 1.4 % | |
| Nickel, Ni | 10 % | 10 % | |

| Electrical Properties | Metric | English | Comments |
|------------------------|------------------|------------------|----------|
| Electrical Resistivity | 0.0000198 ohm-cm | 0.0000198 ohm-cm | Annealed |

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