

Materion Beryllium Copper Alloy 3 Tube; A (TB00) Temper; All Sizes (UNS C17510)

Category : Metal , Nonferrous Metal , Beryllium Alloy , Copper Alloy

Material Notes:

Treatment required for max strength: as supplied
Tabulated properties apply to products after age hardening. Information supplied by Brush Wellman. Brush Engineered Materials Inc. changed its name to Materion Corporation in March 2011.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Materion-Beryllium-Copper-Alloy-3-Tube-A-TB00-Temper-All-Sizes-UNS-C17510.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|----------|
| Density | 8.83 g/cc | 0.319 lb/in ³ | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------------|-------------------|----------|
| Hardness, Rockwell B | 20 - 50 | 20 - 50 | |
| Tensile Strength, Ultimate | 240 - 380 MPa | 34800 - 55100 psi | |
| Tensile Strength, Yield | 60.0 - 210 MPa | 8700 - 30500 psi | |
| Elongation at Break | 20 - 35 % | 20 - 35 % | |
| Modulus of Elasticity | 138 GPa | 20000 ksi | |
| Machinability | 40 % | 40 % | |

| Thermal Properties | Metric | English | Comments |
|----------------------|--|--|----------|
| CTE, linear | 18.0 $\mu\text{m}/\text{m}\cdot\text{C}$ | 10.0 $\mu\text{in}/\text{in}\cdot\text{F}$ | |
| | @Temperature 20.0 - 200 °C | @Temperature 68.0 - 392 °F | |
| Thermal Conductivity | 240 W/m-K | 1670 BTU-in/hr-ft ² -°F | |
| Melting Point | 1040 - 1080 °C | 1900 - 1980 °F | |
| Solidus | 1040 °C | 1900 °F | |
| Liquidus | 1080 °C | 1980 °F | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|---------------|---------------|------------|
| Beryllium, Be | 0.20 - 0.60 % | 0.20 - 0.60 % | |
| Copper, Cu | 98 % | 98 % | as balance |
| Nickel, Ni | 1.4 - 2.2 % | 1.4 - 2.2 % | |

| Electrical Properties | Metric | English | Comments |
|------------------------|-----------------------------------|-----------------------------------|--------------------------|
| Electrical Resistivity | 0.00000570 - 0.00000860 ohm-cm | 0.00000570 - 0.00000860 ohm-cm | 20-30% IACS Conductivity |

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