

Materion Beryllium Copper Alloy 25 Forgings & Extrusions; AT (TF00) Temper (UNS C17200)

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

Material Notes:

Treatment required for max strength: 3 hrs @ 330°C or Mill Hardened 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-25-Forgings-Extrusions-AT-TF00-Temper-UNS-C17200.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|----------|
| Density | 8.36 g/cc | 0.302 lb/in ³ | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-----------------|---------------------|----------|
| Hardness, Rockwell C | 36 - 42 | 36 - 42 | |
| Tensile Strength, Ultimate | 1130 - 1320 MPa | 164000 - 191000 psi | |
| Tensile Strength, Yield | 890 - 1210 MPa | 129000 - 175000 psi | |
| Elongation at Break | 3.0 - 10 % | 3.0 - 10 % | |
| Modulus of Elasticity | 131 GPa | 19000 ksi | |

| Thermal Properties | Metric | English | Comments |
|----------------------|--|--|----------|
| CTE, linear | 17.0 µm/m-°C @Temperature 20.0 - 200 °C | 9.44 µin/in-°F @Temperature 68.0 - 392 °F | |
| Thermal Conductivity | 105 W/m-K | 729 BTU-in/hr-ft ² -°F | |
| Melting Point | 870 - 980 °C | 1600 - 1800 °F | |
| Solidus | 870 °C | 1600 °F | |
| Liquidus | 980 °C | 1800 °F | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|-------------|-------------|------------|
| Beryllium, Be | 1.8 - 2.0 % | 1.8 - 2.0 % | |
| Co + Ni | >= 0.20 % | >= 0.20 % | |
| Co + Ni + Fe | <= 0.60 % | <= 0.60 % | |
| Copper, Cu | 98 % | 98 % | as balance |

| Electrical Properties | Metric | English | Comments |
|------------------------|-----------------------------------|-----------------------------------|--------------------------|
| Electrical Resistivity | 0.00000610 - 0.00000780 ohm-cm | 0.00000610 - 0.00000780 ohm-cm | 22-28% IACS Conductivity |

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