

## Materion Beryllium Copper Alloy 3 Wire; H (TD04) Temper; 1.3-12.7 mm Diameter (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-Wire-H-TD04-Temper-13-127-mm-Diameter-UNS-C17510.php](http://www.lookpolymers.com/polymer_Materion-Beryllium-Copper-Alloy-3-Wire-H-TD04-Temper-13-127-mm-Diameter-UNS-C17510.php)

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

| Mechanical Properties      | Metric        | English           | Comments |
|----------------------------|---------------|-------------------|----------|
| Tensile Strength, Ultimate | 440 - 560 MPa | 63800 - 81200 psi |          |
| Tensile Strength, Yield    | 370 - 520 MPa | 53700 - 75400 psi |          |
| Elongation at Break        | 2.0 - 20 %    | 2.0 - 20 %        |          |
| Modulus of Elasticity      | 138 GPa       | 20000 ksi         |          |
| Machinability              | 40 %          | 40 %              |          |

| Thermal Properties   | Metric                                     | English                                      | Comments |
|----------------------|--------------------------------------------|----------------------------------------------|----------|
| CTE, linear          | 18.0 µm/m-°C<br>@Temperature 20.0 - 200 °C | 10.0 µin/in-°F<br>@Temperature 68.0 - 392 °F |          |
| Thermal Conductivity | 240 W/m-K                                  | 1670 BTU-in/hr-ft <sup>2</sup> -°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 -<br>0.00000860 ohm-cm | 0.00000570 -<br>0.00000860 ohm-cm | 20-30% IACS Conductivity |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China