

## Materion Beryllium Copper Alloy 25 Strip; H (TD04) Temper (UNS C17200)

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

### Material Notes:

Treatment required for max strength: as supplied  
Formability Ratio, 90° Bend, Radius/Thickness (Good Way): 1  
Formability Ratio (bad Way): 2.9  
Superficial Hardness: 30T 79-83  
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-Strip-H-TD04-Temper-UNS-C17200.php](http://www.lookpolymers.com/polymer_Materion-Beryllium-Copper-Alloy-25-Strip-H-TD04-Temper-UNS-C17200.php)

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

| Mechanical Properties      | Metric                                | English                                   | Comments              |
|----------------------------|---------------------------------------|-------------------------------------------|-----------------------|
| Hardness, Rockwell B       | 96 - 102                              | 96 - 102                                  |                       |
| Hardness, Vickers          | 216 - 287                             | 216 - 287                                 |                       |
| Tensile Strength, Ultimate | 680 - 830 MPa                         | 98600 - 120000 psi                        |                       |
| Tensile Strength, Yield    | 620 - 800 MPa                         | 89900 - 116000 psi                        |                       |
| Elongation at Break        | 2.0 - 18 %                            | 2.0 - 18 %                                |                       |
| Modulus of Elasticity      | 131 GPa                               | 19000 ksi                                 |                       |
| Fatigue Strength           | 240 - 270 MPa<br>@# of Cycles 1.00e+8 | 34800 - 39200 psi<br>@# of Cycles 1.00e+8 | Reverse Bending (R=1) |

| Thermal Properties   | Metric                                     | English                                      | Comments |
|----------------------|--------------------------------------------|----------------------------------------------|----------|
| CTE, linear          | 17.0 µm/m-°C<br>@Temperature 20.0 - 200 °C | 9.44 µin/in-°F<br>@Temperature 68.0 - 392 °F |          |
| Thermal Conductivity | 105 W/m-K                                  | 729 BTU-in/hr-ft <sup>2</sup> -°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<br>Component Elements Properties | $\geq 0.20\%$<br>Metric | $\geq 0.20\%$<br>English | Comments   |
|------------------------------------------|-------------------------|--------------------------|------------|
| Co + Ni + Fe                             | $\leq 0.60\%$           | $\leq 0.60\%$            |            |
| Copper, Cu                               | 98 %                    | 98 %                     | as balance |
| Lead, Pb                                 | $\leq 0.020\%$          | $\leq 0.020\%$           |            |

| Electrical Properties  | Metric                           | English                          | Comments                 |
|------------------------|----------------------------------|----------------------------------|--------------------------|
| Electrical Resistivity | 0.00000910 -<br>0.0000115 ohm-cm | 0.00000910 -<br>0.0000115 ohm-cm | 15-19% IACS Conductivity |

## Contact Songhan Plastic Technology Co.,Ltd.

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