

Materion Beryllium Copper Alloy 190 Strip; HM (TM04) Temper (UNS C17200)

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

Material Notes:

Treatment required for max strength: Mill Hardened Stress Relaxation-% Stress Remaining after 1000 hrs @ 100°C: 98% Stress Relaxation after 1000 hrs @ 200°C: 68% Formability Ratio, 90° Bend, Radius/Thickness (Good Way): 2 Formability Ratio (bad Way): 2 Superficial Hardness: 30N 48-55 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-190-Strip-HM-TM04-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	28 - 35	28 - 35	
Hardness, Vickers	285 - 343	285 - 343	
Tensile Strength, Ultimate	930 - 1040 MPa	135000 - 151000 psi	
Tensile Strength, Yield	750 - 940 MPa	109000 - 136000 psi	
Elongation at Break	9.0 - 20 %	9.0 - 20 %	
Modulus of Elasticity	131 GPa	19000 ksi	
Fatigue Strength	310 - 360 MPa @# of Cycles 1.00e+8	45000 - 52200 psi @# of Cycles 1.00e+8	Reverse Bending (R=1)

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 Åµm/m-Å°C @Temperature 20.0 - 200 Å°C	9.44 Åµin/in-Å°F @Temperature 68.0 - 392 Å°F	
Thermal Conductivity	105 W/m-K	729 BTU-in/hr-ftÅ²-Å°F	
Melting Point	870 - 980 Å°C	1600 - 1800 Å°F	
Solidus	870 Å°C	1600 Å°F	
Liquidus	980 Å°C	1800 Å°F	

Component Elements Properties	Metric	English	Comments

Beryllium, Be Component Elements Properties	1.8 - 2.0 % Metric	1.8 - 2.0 % English	Comments
Co + Ni	>= 0.20 %	>= 0.20 %	
Co + Ni + Fe	<= 0.60 %	<= 0.60 %	
Copper, Cu	98 %	98 %	as balance
Lead, Pb	<= 0.020 %	<= 0.020 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000610 - 0.0000101 ohm-cm	0.00000610 - 0.0000101 ohm-cm	17-28% IACS Conductivity

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