

H.C. Starck MoCu 70/30 Molybdenum-Copper Composite Material

Category : Metal , Metal Matrix Composite , Nonferrous Metal , Molybdenum Alloy , Refractory Metal

Material Notes:

Description of Product: Molybdenum-copper composite materials are produced by copper infiltration of porous sintered molybdenum. They are available with different copper contents (15 - 35 %). A thermal conductivity over 200 W/m K is producible. Range of Application: Switching contacts for high-voltage and medium-voltage, heat sinks for passive thermal management, electrodes for erosive processing. Information provided by H.C. Starck.

Order this product through the following link:

http://www.lookpolymers.com/polymer_HC-Starck-MoCu-7030-Molybdenum-Copper-Composite-Material.php

Physical Properties	Metric	English	Comments
Density	9.60 - 10.0 g/cc	0.347 - 0.361 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	130 - 170	130 - 170	2.5 mm ball
	@Load 62.5 kg	@Load 138 lb	
Tensile Strength, Ultimate	>= 290 MPa	>= 42100 psi	
Modulus of Elasticity	210 GPa	30500 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	8.20 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	4.56 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 100 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 212 $\text{Å}^\circ\text{F}$	
	8.60 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	4.78 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 300 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 572 $\text{Å}^\circ\text{F}$	
	8.80 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	4.89 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 450 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 842 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	>= 190 W/m-K	>= 1320 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Copper, Cu	27 - 33 %	27 - 33 %	
Molybdenum, Mo	67 - 73 %	67 - 73 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	0.0000038 ohm-cm	0.0000038 ohm-cm	

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