

H.C. Starck WCu 80/20 Tungsten-Copper Composite Material

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

Material Notes:

Description of Product: Tungsten-copper composite materials are produced by copper infiltration of porous sintered tungsten. They are available with different copper contents (10 - 30 %). 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-WCu-8020-Tungsten-Copper-Composite-Material.php

Physical Properties	Metric	English	Comments
Density	15.3 - 15.9 g/cc	0.553 - 0.574 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	180 - 240	180 - 240	2.5 mm ball
	@Load 62.5 kg	@Load 138 lb	
Tensile Strength, Ultimate	>= 440 MPa	>= 63800 psi	
Modulus of Elasticity	280 GPa	40600 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	8.30 Åµm/m-Å°C	4.61 Åµin/in-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
	8.70 Åµm/m-Å°C	4.83 Åµin/in-Å°F	
	@Temperature 20.0 - 300 Å°C	@Temperature 68.0 - 572 Å°F	
	9.00 Åµm/m-Å°C	5.00 Åµin/in-Å°F	
	@Temperature 20.0 - 450 Å°C	@Temperature 68.0 - 842 Å°F	
	140 - 220 W/m-K	972 - 1530 BTU-in/hr-ft ² -Å°F	

Component Elements Properties	Metric	English	Comments
Copper, Cu	18 - 22 %	18 - 22 %	
Tungsten, W	78 - 82 %	78 - 82 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	0.0000050 ohm-cm	0.0000050 ohm-cm	

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