

H.C. Starck WCu 90/10 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-9010-Tungsten-Copper-Composite-Material.php

Physical Properties	Metric	English	Comments
Density	17.0 - 17.6 g/cc	0.614 - 0.636 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	220 - 290	220 - 290	2.5 mm ball
	@Load 62.5 kg	@Load 138 lb	
Tensile Strength, Ultimate	>= 480 MPa	>= 69600 psi	
Modulus of Elasticity	340 GPa	49300 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	6.10 Åµm/m-Å°C	3.39 Åµin/in-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
	6.40 Åµm/m-Å°C	3.56 Åµin/in-Å°F	
	@Temperature 20.0 - 300 Å°C	@Temperature 68.0 - 572 Å°F	
	6.70 Åµm/m-Å°C	3.72 Åµin/in-Å°F	
	@Temperature 20.0 - 450 Å°C	@Temperature 68.0 - 842 Å°F	
	130 - 200 W/m-K	902 - 1390 BTU-in/hr-ftÅ²-Å°F	

Component Elements Properties	Metric	English	Comments
Copper, Cu	8.0 - 12 %	8.0 - 12 %	
Tungsten, W	88 - 92 %	88 - 92 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	0.0000052 ohm-cm	0.0000052 ohm-cm	

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