

CMW® THERMKON® 83 Tungsten Copper parts

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

Material Notes:

For matching CTE of semiconductor substrates while allowing high thermal transfer. Information provided by CMW Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CMW-THERMKON-83-Tungsten-Copper-parts.php

Physical Properties	Metric	English	Comments
Density	14.84 g/cc	0.5361 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	98	98	
Tensile Strength, Ultimate	690 MPa	100000 psi	
Tensile Strength, Yield	524 MPa	76000 psi	
Modulus of Elasticity	234 GPa	33900 ksi	
Flexural Modulus	1.03 GPa	149 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	8.50 $\mu\text{m/m-}^{\circ}\text{C}$	4.72 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Specific Heat Capacity	0.192 J/g- $^{\circ}\text{C}$	0.0459 BTU/lb- $^{\circ}\text{F}$	
Thermal Conductivity	220 W/m-K	1530 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
Melting Point	1080 - 3410 $^{\circ}\text{C}$	1980 - 6170 $^{\circ}\text{F}$	
Solidus	1080 $^{\circ}\text{C}$	1980 $^{\circ}\text{F}$	
Liquidus	3410 $^{\circ}\text{C}$	6170 $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Copper, Cu	25 %	25 %	
Tungsten, W	75 %	75 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000383 ohm-cm	0.00000383 ohm-cm	(45% IACS)

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