

Hogen Duralloy H1W 55 Tungsten/45 Copper PM Metal Composite

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

Material Notes:

RWMA Class 10.Hogen Duralloy refractory alloys are manufactured by pressing, sintering, and infiltrating tungsten with copper or silver. Typical Resistance Welding Applications: Class 10 material is recommended as facings or inserts for projection welding electrodes and for flash and butt welding dies where high electrical conductivity is desirable and relatively high malleability is necessary. H1W and H3W are most commonly used for flash and butt welding die inserts. Data provided by Hogen Industries.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hogen-Duralloy-H1W-55-Tungsten45-Copper-PM-Metal-Composite.php

Physical Properties	Metric	English	Comments
Density	>= 12.25 g/cc	>= 0.4426 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	73	73	
Tensile Strength, Ultimate	448 MPa	65000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	11.8 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	6.56 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 $\text{Å}^\circ\text{C}$	@Temperature 68.0 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	0.251 J/g- $\text{Å}^\circ\text{C}$	0.0600 BTU/lb- $\text{Å}^\circ\text{F}$	
	@Temperature 20.0 $\text{Å}^\circ\text{C}$	@Temperature 68.0 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	240 W/m-K	1670 BTU-in/hr-ft Å^2 - $\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 400 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 752 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Copper, Cu	45 %	45 %	
Tungsten, W	55 %	55 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000300 ohm-cm	0.00000300 ohm-cm	

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