

Mi-Tech Metals Diemitech Tungsten-Based Metal

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

Material Notes:

Diemitech is a new tungsten-based material used for high temperature tooling, die casting, extrusion dies, hot upsetting, and electro brazing. It has a higher tungsten content than similar available materials, giving it superior refractory properties resulting in greater resistance to erosion and wear. Diemitech maintains good thermal conductivity and physical properties at high working temperatures. Advantages of using Diemitech: Tools run much cooler because its thermal conductivity is 3-4 times that of steel. Low thermal expansion - 1/3 that of steel. Withstands thermal shock. Excellent mechanical properties at elevated temperatures. Resists erosion and scaling. Minimizes soldering and heat checking. No costly treatment required, normally can be placed into service as machines. Superior physical properties compared to steel at high working temperatures. Diemitech is machinable, similar to cast iron. Data provided by Mi-Tech Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mi-Tech-Metals-Diemitech-Tungsten-Based-Metal.php

Physical Properties	Metric	English	Comments
Density	>= 17.7 g/cc	>= 0.639 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	34	34	
Tensile Strength, Ultimate	827 MPa	120000 psi	
Tensile Strength, Yield	620 MPa @Strain 0.200 %	89900 psi @Strain 0.200 %	
Elongation at Break	4.0 %	4.0 %	in 50 mm

Thermal Properties	Metric	English	Comments
CTE, linear	4.50 Åµm/m-Å°C @Temperature 20.0 - 400 Å°C	2.50 Åµin/in-Å°F @Temperature 68.0 - 752 Å°F	
Thermal Conductivity	113 W/m-K	784 BTU-in/hr-ft ² -Å°F	

Component Elements Properties	Metric	English	Comments
Ni, Fe, Mo	7.0 %	7.0 %	
Tungsten, W	93 %	93 %	

Electrical Properties	Metric	English	Comments
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Electrical Resistivity Electrical Properties	0.0000120 ohm-cm Metric	0.0000120 ohm-cm English	Comments
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