Astaras ANVILOY® 1150 Tungsten Based High Temp Alloy

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

Material Notes:

Anviloy® 1150 is a tungsten-based material that was developed primarily for die-casting, aluminum permanent mold, and difficult extrusions. It is produced by a high temperature powder metallurgy processes. A low coefficient of thermal expansion, good thermal conductivity and good material properties at elevated temperatures combine for superior performance in a variety of applications. This unusual combination of properties results in less thermal fatigue and soldering in the die cast or extrusionApplications:Die Cast ToolingExtrusion DiesHot Runner NozzlesVibration and Tool Chatter ReductionPlastic Injection MoldingHigh Elongation RequirementsMaximum Thermal Conductivity NeedsShot SleevesAstaras, Inc. purchased the entire Anviloy® business from CMW in 2014. Information provided by Astaras, Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Astaras-ANVILOY-1150-Tungsten-Based-High-Temp-Alloy.php

Physical Properties	Metric	English	Comments
Density	17.25 g/cc	0.6232 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	34	34	
Hardness, Vickers	335	335	HV10
Tensile Strength, Ultimate	517 MPa @Temperature 816 °C	75000 psi @Temperature 1500 °F	
	724 MPa @Temperature 649 °C	105000 psi @Temperature 1200 °F	
	779 MPa @Temperature 538 °C	113000 psi @Temperature 1000 °F	
	950 MPa @Temperature 22.2 °C	138000 psi @Temperature 72.0 °F	
Tensile Strength, Yield	650 MPa	94300 psi	
Elongation at Break	>= 10 %	>= 10 %	in 2 in (51 mm)
Modulus of Elasticity	338 GPa	49000 ksi	
Flexural Modulus	1.52 GPa	220 ksi	

Thermal Properties	Metric	English	Comments
	4.53 µm/m-°C	2.52 µin/in-°F	

Thermal Properties	Metric	English	Comments
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	
	5.26 µm/m-°C @Temperature 20.0 - 800 °C	2.92 µin/in-°F @Temperature 68.0 - 1470 °F	
Thermal Conductivity	70.2 W/m-K	487 BTU-in/hr-ft²-°F	
Melting Point	1425 - 3410 °C	2597 - 6170 °F	
Solidus	1425 °C	2597 °F	
Liquidus	3410 °C	6170 °F	

Component Elements Properties	Metric	English	Comments
Iron, Fe	2.0 %	2.0 %	
Molybdenum, Mo	4.0 %	4.0 %	
Nickel, Ni	4.0 %	4.0 %	
Tungsten, W	90 %	90 %	

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