

## **Plansee WVM Potassium-doped Tungsten**

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

## **Material Notes:**

Doping tungsten with potassium and subjecting the material to a highly orientation-dependant cold working produces a stacked microstructure, yielding useful characteristics in wire and rod products. Primarily, improved dimensional stability at high temperatures. Information provided by Plansee.

## Order this product through the following link:

http://www.lookpolymers.com/polymer\_Plansee-WVM-Potassium-doped-Tungsten.php

Physical Properties	Metric	English	Comments
Specific Gravity	19.3 g/cc	19.3 g/cc	Calculated

Thermal Properties	Metric	English	Comments
Thermal Conductivity	164 W/m-K	1140 BTU-in/hr-ft <sup>2</sup> -°F	comparable to pure W

Component Elements Properties	Metric	English	Comments
Potassium, K	0.0030 - 0.0070 %	0.0030 - 0.0070 %	

Processing Properties	Metric	English	Comments
Recrystallization Temperature	2000 °C	3630 °F	Deformation level - 99.99%

Descriptive Properties	Value	Comments
Creep Resistance	much greater than pure W	
Ductility	greater than pure W	
Electron Work Function	4.54 eV	
Fineness of Grain	greater than pure W	
Machinability/Workability	greater than pure W	
Stability at High Temperature	much greater than pure W	

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