

Momentive Performance Materials Tantalum Carbide (TaC) Coating

Category : Ceramic , Carbide , Other Engineering Material , Ceramic/Metallic Coating

Material Notes:

High temperature protective coating for graphite. TaC, NbC, and ZrC coatings resist chemical attack by corrosive liquids and gases at very high temperatures. They are finding increasing acceptance in the sealing and protecting of graphite hardware from hot ammonia, hydrogen, hydrochloric acid, and molten metals used in compound semiconductor epitaxial processes such as MOCVD and LPE. These carbide coatings are uniform, impermeable, electrically conductive, and extremely wear resistant thus providing long life and low particle generation. Information provided by Momentive Performance Materials, formerly GE Advanced Ceramics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Momentive-Performance-Materials-Tantalum-Carbide-TaC-Coating.php

Physical Properties	Metric	English	Comments
Density	15.0 g/cc	0.542 lb/in ³	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	300 - 500 GPa	43500 - 72500 ksi	Young's modulus

Thermal Properties	Metric	English	Comments
CTE, linear	6.30 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	3.50 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 $\text{Å}^\circ\text{C}$	@Temperature 68.0 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	22.0 W/m-K	153 BTU-in/hr-ft ² · $\text{Å}^\circ\text{F}$	
Melting Point	3880 $\text{Å}^\circ\text{C}$	7020 $\text{Å}^\circ\text{F}$	
Maximum Service Temperature, Air	700 $\text{Å}^\circ\text{C}$	1290 $\text{Å}^\circ\text{F}$	oxidation limit

Optical Properties	Metric	English	Comments
Emissivity (0-1)	0.50	0.50	normal spectrum

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000300 ohm-cm	0.0000300 ohm-cm	

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