

## CoorsTek Hot Pressed Aluminum Nitride

Category : Ceramic , Nitride

### Material Notes:

Aluminum Nitride Advantages: High heat dissipation with thermal conductivity of 170 W/m K Non-toxic alternative to BeO Thermal expansion coefficient similar to Si, GaN, and GaAs semiconductors High dielectric strength Information provided by CoorsTek, Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_CoorsTek-Hot-Pressed-Aluminum-Nitride.php](http://www.lookpolymers.com/polymer_CoorsTek-Hot-Pressed-Aluminum-Nitride.php)

Physical Properties	Metric	English	Comments
Density	3.26 g/cc	0.118 lb/in <sup>3</sup>	ASTM C20
Water Absorption	0.00 %	0.00 %	ASTM 373
Permeability	0.00	0.00	Gas

Mechanical Properties	Metric	English	Comments
Hardness, Knoop	11	11	1000gm
Modulus of Elasticity	330 GPa	47900 ksi	ASTM C848
Flexural Strength	340 MPa	49300 psi	MOR, Four point bend modulus of rupture; ASTM F417
Poissons Ratio	0.25	0.25	ASTM C848
Fracture Toughness	3.00 MPa-m <sup>1/2</sup>	2.73 ksi-in <sup>1/2</sup>	K <sub>IC</sub> ; Notched Beam
Shear Modulus	132 GPa	19100 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	5.00 µm/m-°C	2.78 µin/in-°F	ASTM C372
	@Temperature 25.0 - 1000 °C	@Temperature 77.0 - 1830 °F	
Specific Heat Capacity	0.740 J/g-°C	0.177 BTU/lb-°F	ASTM E1269
	@Temperature 100 °C	@Temperature 212 °F	
Thermal Conductivity	80.0 W/m-K	555 BTU-in/hr-ft <sup>2</sup> -°F	ASTM C408
Maximum Service Temperature, Air	800 °C	1470 °F	No load condition

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1000 ohm-cm	>= 1000 ohm-cm	ASTM D1829
	@Temperature 1000 °C	@Temperature 1830 °F	

Electrical Properties	Metric	English	Comments
	@Temperature 500 °C	@Temperature 932 °F	ASTM D1829
	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	ASTM D1829
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Dielectric Constant	9.0	9.0	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	17.0 kV/mm	432 kV/in	ASTM D150
	@Thickness 6.35 mm	@Thickness 0.250 in	
Dielectric Loss Index	<= 0.0010	<= 0.0010	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

## Contact Songhan Plastic Technology Co.,Ltd.

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