

CoorsTek AlN-170 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-AlN-170-Hot-Pressed-Aluminum-Nitride.php

Physical Properties	Metric	English	Comments
Density	3.31 g/cc	0.120 lb/in ³	ASTM C373

Mechanical Properties	Metric	English	Comments
Flexural Strength	>= 350 MPa	>= 50800 psi	ASTM F417

Thermal Properties	Metric	English	Comments
CTE, linear	4.20 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	2.33 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM C372
	@Temperature 25.0 - 1000 $^\circ\text{C}$	@Temperature 77.0 - 1830 $^\circ\text{F}$	
Thermal Conductivity	>= 170 W/m-K	>= 1180 BTU-in/hr-ft ² - $^\circ\text{F}$	ASTM E1461

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	ASTM D257
	@Temperature 25.0 $^\circ\text{C}$	@Temperature 77.0 $^\circ\text{F}$	
Dielectric Constant	8.0	8.0	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	>= 15.0 kV/mm	>= 381 kV/in	ASTM D149
	@Thickness 0.635 mm	@Thickness 0.0250 in	
Dissipation Factor	0.00020	0.00020	
Dielectric Loss Index	0.0016	0.0016	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Surface Finish As-fired (Ra) (micron)	<0.5	Profilometer 5.08 μm Radius Stylus; 2,540 μm Cutoff ANSI/ASME B46.1

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