Accumet Materials, Co.
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ALUMINUM NITRIDE CERAMIC SUBSTRATES

Accumet Materials' Aluminum Nitride ceramic material offers excellent thermal conductivity for use in semiconductor, microwave, optical, electronic and other high performance applications. Aluminum Nitride is a cost effective, non-toxic alternative to beryllium oxide and has a thermal conductivity nearly eight times higher than alumina.

ALUMINUM NITRIDE MATERIAL PROPERTIES

CHARACTERISTICS	CRITERIA	TEST METHOD
Thermal Conductivity	170 W/m-K (min)	Laser Diffusivity
Thermal Expansion	4.6 x 10^{-6} in/in °C typical	
Electrical Resistivity	10^{13} Ohm-cm	Pressure Contact with Electrometer
Dielectric Loss Tangent	0.005 max @ 1kHz	Liquid Immersion
Dielectric Constant	8.9 +/- 1.0	Liquid Immersion
Dielectric Strength	14 kV/mm typical	Oil Immersion
Density	3.30 g/cc	Archimedes
Mechanical Strength	35 ksi min average	Biaxial flexure

APPLICATIONS

- RF/Microwave Components
- Power transformers and transistors
- Optical Switches
- Laser Diode sub-mounts
- Metallization
- High frequency microelectronic packages

STANDARD SIZES

- Thickness = 0.010" up to 0.125"
- Length & Width = up to 12.0" x 12.0"
- Surface finish = 30 µin. max.

Accumet's aluminum nitride ceramic can also be custom machined or pressed to customer specifications. Polishing and metallization of aluminum nitride substrates are also available. Send us your drawings along with tolerances, quantity and application for a prompt quotation.

Accumet also offers a complete line of standard size aluminum nitride powders and custom milled powders from -60 mesh to 0.5 µm as well as thin film material. Ask for data sheet or contact us for details.