



Accumet Materials, Co.

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ALUMINUM NITRIDE POWDERS

Aluminum Nitride (AlN) is a ceramic material possessing outstanding properties such as high thermal conductivity, high electrical resistivity and high hardness. Accumet now offers aluminum nitride powders custom tailored to use in specific applications. The following chart shows the aluminum nitride powders Accumet offers.

Accumet's Standard Aluminum Nitride Powders

Part Number	TYPE	PARTICLE SIZE RANGE	APPLICATIONS
ALN	AlN Unblended 97% pure	3 microns to 10 mesh	Can be blended with other powders to improve thermal conductivity. May be used as a sintering aid for SiC powder and also as a raw material to produce other powders such as sialon and aluminum oxy nitride.
ALN-IM	AlN Blended with yttria	5 microns a.p.s.	Used to allow for injection molding of AlN. Recommended firing temperature is 1800/1830 °C for 8 hours. Expected shrinkage is 18%. This powder can be used for slip casting and tape casting. Can also be dry-pressed and iso-pressed.
ALN-SG	AlN Blended with Yttria and Alumina	-325 mesh +10 microns -140 mesh,+325 mesh or screened to customer specifications	Specially blended for plasma spraying or HVOF.
ALN-OC	AlN with silane coating	3 microns to 10 mesh	Use as filler with epoxies, resins; moisture resistant
ALNBN	AlN and BN synthesized powder	D90 40 – 240 microns	Used as filler in epoxies, composites, and resins; powder has larger particle sizes to improve thermal conductivity and mixing

Aluminum Nitride Typical Material Properties

Thermal Conductivity (W/m-K)	Dielectric Constant	Electrical Resistivity Ohm-cm	Dielectric Loss Tangent	Density (g/cc)	Maximum Temperature (°C)	Surface Area (m ² /g)
100-200	8.2 – 9.0	~10 ¹³	0.001-0.010 @ 1 kHz	3.26	2450 (Inert atmosphere)	2.3 –3.5

Contact Accumet's sales engineers to discuss your application to determine the powder that best meets your requirements.

Accumet Materials, Co. also offers standard sizes aluminum nitride ceramic substrates, custom fabricated parts and thin film material. Ask for data sheet or contact us for details.

For Best Results - Store Aluminum Nitride Powders in a dry, low humidity area and re-seal when not in use.