For help and advice call
01440 730660
sales@technicalglass.co.uk

ALUMINIUM NITRIDE

Aluminium nitride ceramics offer:
Very high thermal conductivity
Good electrical insulation
Corrosion resistance

They are as:
Heat sink substrates
Semiconductor processing components
Engineering components where heat removal is required

The material is available in two forms:

Machinable grade
This grade can be machined with conventional metalworking tools and is ideal for prototypes and special components

Sintered grade
This grade offers higher thermal conductivity and can be made as large components. It is also available as thin sheets for substrate applications

PROPERTIES OF ALUMINIUM NITRIDE

	PROPERTY	UNITS	MACHINABLE GRADE	MACHINABLE GRADE
GENERAL	Chemical formula	n/a	AIN / BN	AIN
	Density	g/cm^3	2.9	3.3
	Water Absorption	%	0	0
MECHANICAL	Compressive Strength	MPa	1000	-
	Flexural Strength	MPa	300	200
	Young's Modulus	GPa	-	320
THERMAL	Max. use temperature	°C	In air 1000/non oxidising 1900	-
	Thermal Conductivity	W/m°K	92	170
	Coefficient of Linear Thermal Expansion	10^{-6}/°C	-	5.6
ELECTRICAL	Volume Resistance	Ωcm	10^{12}	10^{15}
	Dielectric Constant		7.1	8.9
	Dielectric Strength	kV/mm	40	-

Properties shown are typical values, they are not absolute material properties, and should be used for guidance only. It is recommended that materials and components are tested for their suitability for a specific application.

For more information and advice, please discuss your application with our sales staff.