

PROPERTIES OF ALUMINUM NITRIDE (SINTERED GRADE)

Aluminum Nitride is available in two forms – sintered and machinable. There are significant differences between the two types. This datasheet refers to the sintered grade.

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. The table below shows typical properties for this grade of Aluminum Nitride. Other grades of Aluminum Nitride are available.

	PROPERTY	UNITS	
GENERAL	Chemical formula	n/a	AlN
	Density	g/cm ³	3.3
	Water Absorption	%	0
MECHANICAL	Compressive Strength	MPa	-
	Flexural Strength	MPa	200
	Young's Modulus	GPa	320
THERMAL	Max. use temperature	°C	-
	Thermal Conductivity	W/mK	170
	Coefficient of Linear Thermal Expansion	10 ⁻⁶ /°C	5.6
ELECTRICAL	Volume Resistance	Ωcm	>10 ¹⁵
	Dielectric Constant		8.9
	Dielectric Strength	kV/mm	-

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.

Typical Applications:

- Heat sink substrates
- Semiconductor processing components
- Engineering components where heat removal is required

Machinable grade:

This grade can be machined with conventional metalworking tools and is ideal for prototypes and special components. A common trade name for this machinable material is **Shapal Hi -M soft**. Refer to the separate **Shapal Hi-M soft** datasheet for additional information on this grade.

→ www.goodfellow-ceramics.com

→ ceramic@goodfellow.com

USA

Goodfellow Corporation
Tel: +1 800 821 2870
Fax: +1 800 283 2020

France

Goodfellow SARL
Tel: 0800 917 241 (n° vert)
or +44 1480 424813
Fax: 0800 917 313 (n° vert)
or +44 1480 424900

Germany

Goodfellow GmbH
Tel: 0800 1000 579 (freecall)
or +44 1480 424810
Fax: 0800 1000 580 (freecall)
or +44 1480 424900

People's Republic of China

Goodfellow Shanghai Office
Tel: +86 21 6112 1560
Fax: +86 21 6130 4901

UK and all other countries

Goodfellow Cambridge Ltd
Tel: 0800 151 3115 (Freephone)
or +44 (0)1480 424888
Fax: 0800 151 3225 (Freephone)
or +44 (0)1480 424988