

Material Datasheet

Aluminum Nitride (AlN) – CeramAlum™

PCAN3000








Material webpage



Overview

PCAN3000 is one of our enhanced grades of Aluminum Nitride offering all the mechanical performance of PCAN1000 with the added benefit of 230 W/mK thermal conductivity.

Primary Advantages

-  8x Alumina Thermal Conductivity
-  Excellent Electrical Insulation
-  Good Plasma Resistance
-  Excellent Thermal Shock
-  Good Mechanical Properties

Applications

- Heat Sinks
- Heat Spreaders
- Power Electronics
- Aerospace Components

	Properties	Units	PCAN3000
Mechanical	Compressive Strength	MPa	3000
	Density	g/cm ³	3.32
	Flexural Strength @25°C	MPa	350
	Fracture Toughness K _{IC}	MPa.m ^{1/2}	3
	Hardness	GPa	10
	Modulus of Elasticity	GPa	-
	Poisson's Ratio	-	0.22
Thermal	Thermal Conductivity	W/mK	230
	CTE @ 25°C - 400°C	10 ⁻⁶ /K	4.5
	Maximum Temperature (Air)	°C	1200
	Maximum Temperature (Inert)	°C	1200
Electrical	Dielectric Constant @ 1MHz	-	8.8
	Dielectric Loss @ 1MHz	-	5x10 ⁻⁴
	Dielectric Strength	kV/mm	15
	Volume Resistivity @ 25°C	ohm-cm	>10 ¹³

Disclaimer: The values presented are mean and typical of those resulted from test samples. They are provided as an indication only to serve as guidance in the design of ceramic components and are not guaranteed in any way. The actual values can vary according to the shape and size of the envisioned component.



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