



Technical Products, Inc.

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Boron Nitride Grade M Material Specifications

Boron Nitride is easily machined into complex shapes. Boron Nitride is typically used in electronic, vacuum, microcircuit and high temperature furnace fixtures.

Physical Properties	Units	M
Crystalline Phase		BN 40% SiO ₂ 60%
Color		White
Density	g/cc min	2.3

Mechanical Properties	Units	M
Directionality		⊥
Flexural Strength	MPa	103 76
Young's Modulus	GPa	94 106
RT Compression	MPa	316.9 289.4
Open Porosity	%	6.880
Hardness - Knoop	Kg/mm ²	-

Thermal Properties	Units	M
Directionality		⊥
Coefficient of Thermal Expansion (10 ⁻⁶)	25 – 400°C	1.5 0.2
	400 – 800°C	1.2 0.4
	800 – 1200°C	1.2 0.8
	1200 – 1600°C	- -
	1600 – 1900°C	- -
Max. Use Temperature Oxidizing / Inert	°C	1000+
Thermal Conductivity @ 25°C	W/mK	12 14
Specific Heat @ 25°C	J/gK	0.76

Electrical Properties	Units	M
Directionality		⊥
Dielectric Strength	KV/mm	>10
Dielectric Constant	@1 MHz	3.4 3.7
Dissipation Factor	@1 MHz	3.0E-03 3.1E-03
RT Resistivity (ohm cm)	Ω cm	>10 ¹⁴ >10 ¹⁴

**The information provided in this table is a compilation of publicly available data. This information is provided for comparison purposes only, and is not intended to be warrantable. Further, *Technical Products, Inc.* disclaims any and all liability from errors, in accuracies, or omissions.