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## Boron Nitride Grade ZSBN 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	ZSBN
Crystalline Phase		BN 45% ZrO <sub>2</sub> 45% Borosilicate Glass <10%
Color		Grey
Density	g/cc min	2.9

Mechanical Properties	Units	ZSBN
Directionality		⊥
Flexural Strength	MPa	144 107
Young's Modulus	GPa	71 71
RT Compression	MPa	218.7 253.8
Open Porosity	%	1.066
Hardness - Knoop	Kg/mm <sup>2</sup>	100

Thermal Properties	Units	ZSBN
Directionality		⊥
Coefficient of Thermal Expansion (10-6)	25 – 400°C	4.1 3.4
	400 – 800°C	5.6 4.3
	800 – 1200°C	7.2 5.2
	1200 – 1600°C	4.6 3.4
	1600 – 1900°C	- -
Max. Use Temperature Oxidizing / Inert	°C	850 - 1600
Thermal Conductivity @ 25°C	W/mK	24 34
Specific Heat @ 25°C	J/gK	0.64

Electrical Properties	Units	ZSBN
Directionality		⊥
Dielectric Strength	KV/mm	-
Dielectric Constant	@1 MHz	- -
Dissipation Factor	@1 MHz	- -
RT Resistivity (ohm cm)	Ω cm	- -

\*\*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.