

Pyrolytic Boron Nitride (PBN)

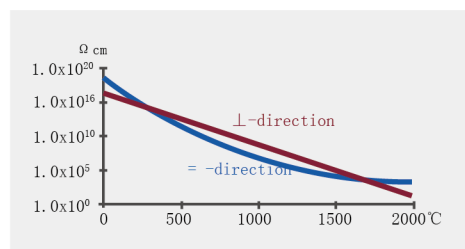
Properties:Pyrolytic Boron Nitride (PBN) is a high purity (>99.995%) ceramic (crucible) that is coated and stacked into free-standing shapes on high-purity graphite molds by a chemical vapor deposition process. The crystal structure of this non-toxic ceramic imparts a high degree of thermal anisotropy, which aids in crystal growth. It has product characteristics such as no porosity in ultra-high vacuum, good hermeticity, good thermal shock resistance, non-toxicity, and has been processed.

Uses: Used in crystal growth (VGF, VB/HB, LEC series crucibles), MBE (crucibles and plate insulators), photovoltaics (CIGS evaporation crucibles), MOCVD (HB-LEDs) plate elements and coatings, OLEDs (crucibles), electrical (high-temperature insulators), and many other fields.

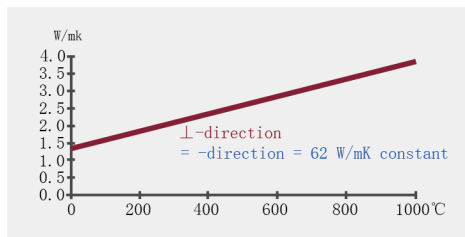
· Physical and chemical properties

Properties	Unit	Value
Density	g/cm ³	1.95-2.20
Flexural Strength	MPa	80
Tensile Strength	MPa	40
Compressive Strength	MPa"ab" MPa"c"	64 304
Thermal Conductivity	W/m°C	"ab" 60 "c" 2
Electrical Resistivity	Ω .cm	10 ¹⁵
Dielectric Strength	D.C. volts/mm	2x10 ¹⁵
Thermal Expansion	mm/mm/oC (500°C) "ab" mm/mm/oC (500°C) "c"	3x10 ⁻⁶ 30x10 ⁻⁶

· Electrical Resistivity



· Thermal Conductivity



· Analysis by Glow Discharge Mass Spectrometry (G.D.M.S.)

Element	Li	F	Na	Si	Cl	S
ppm	< 0.05	< 1	< 1	< 10	< 1	< 0.5

Full analysis of elements available on request.

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