



## Pyrolytic Boron Nitride Tube

Similar to graphite, boron nitride has great strength at high temperatures. High purity pyrolytic boron nitride products have even better mechanical properties. Nextgen Advanced Materials supplies Pyrolytic Boron Nitride Tube with high quality and fast delivery. Customization is available too.

### Product Description

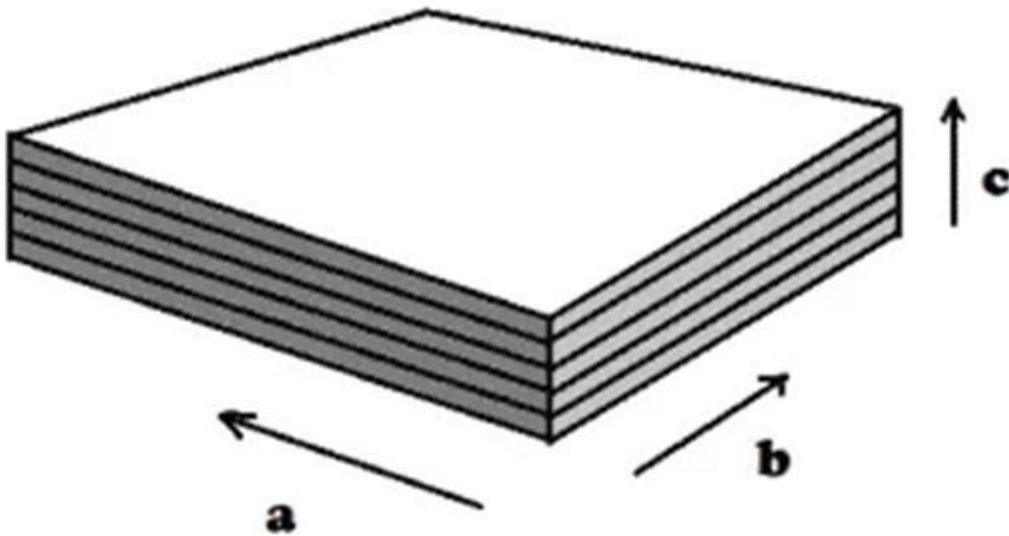
As the professional manufacture, we would like to provide you high quality Nextgen Pyrolytic Boron Nitride Tube. And we will offer you the best after-sale service and timely delivery. Compared with normal boron nitride ceramic, pyrolytic boron nitride (PBN) has a much better purity level. PBN tubes and other pyrolytic boron nitride products are synthesized on the mold by chemical vapor deposition (CVD) process, with  $\text{BCl}_3$  and  $\text{NH}_3$  at high temperature and low pressure. The PBN products are extremely pure, as the purity of vapor is easier to be controlled. Most PBN products made from the CVD process have a total impurity of less than 100 ppm, which means the purity is better than 99.99%. With such a high purity level, PBN crucibles are ideal products for semiconductor industries.



### Pyrolytic Boron Nitride Specification

Item	Unit	Value	
Lattice constant	$\mu\text{m}$	a: $2.504 \times 10^{-10}$	
		c: $6.692 \times 10^{-10}$	
Density	$\text{g/cm}^3$	2.0-2.19	
Resistivity	$\Omega \cdot \text{cm}$	$3.11 \times 10^{11}$	

Tensile strength (ab)		N/mm <sup>2</sup>	153.86	
Bend strength	c	N/mm <sup>2</sup>	243.63	
	ab	N/mm <sup>2</sup>	197.76	
Elastic modulus		N/mm <sup>2</sup>	235690	
Thermo conductivity			"a" direction	"c" direction
	(200°C)	W/m·k	60	2.6
	(900°C)	W/m·k	43.7	2.8
Dielectric strength (at RT)		KV/mm	56	



### PBN Tube Properties

Item	Parameter
Compound Formula	BN
Molecular Weight	24.82
Appearance	White
Melting Point	2973°C
Density	2.1 g/cm <sup>3</sup> (h-BN); 3.45 g/cm <sup>3</sup> (c-BN)
Solubility in H <sub>2</sub> O	Insoluble
Refractive Index	1.8 (h-BN); 2.1 (c-BN)
Electrical Resistivity	13 to 15 10 <sup>x</sup> Ω·m