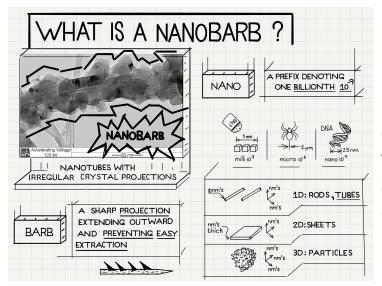
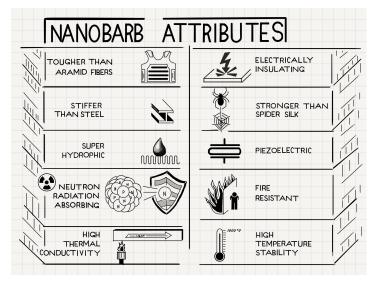


## Boron Nitride NanoBarbs<sup>™</sup> (BNNB-P-90A1)



BNNano uses a proprietary, catalyst-free process, to manufacture an enhanced boron nitride nanotube called the Boron Nitride NanoBarb<sup>™</sup>, with properties enhanced beyond typical nanotubes further making the NanoBarb<sup>™</sup> a strategic component for improving advanced materials.

Boron Nitride NanoBarbs<sup>™</sup> are boron nitride nanotubes that have nano-crystals of h-BN nucleated on the outside surface of the nanotube. The BNNano process produces high-purity and high-quality Boron Nitride NanoBarbs<sup>™</sup> at a low cost that are free of common and metallic contaminants.



## **KEY PROPERTIES TABLE**

Composition	>90% NanoBarbs™	
Impurities	1. h-BN (free floating)	1. <10%
	2. elemental Boron	2. < 1 %
Wall Count	1-3	Typical
NanoBarb™ Width	60 nm	Nominal
NanoBarb™ Length	20 um	Nominal
Thermal Stability	>900°C	
Clusters	2-5 NanoBarbs™	Nominal
Barb Crystallites	a=60 nm , c=80 nm	Nominal
(h-BN "Barbs")	(crystallite size)	
Density	2.1 g/cm <sup>3</sup>	Nominal
Appearance	White Powder	

## **INDUSTRIES AND APPLICATIONS**

**Composites & Alloys:** Improves strength, stiffness, fatigue, creep resistance

**Textiles:** Improves modulus, strength. Fire retardant

Aerospace: Improves mechanical properties and reduces weight of composites.

**Thermal:** Novel heat sinks, thermal conductor and electrical insulator.

**Chemical**: Filtration, Linings, Gaskets, Seals

Energy: Battery dielectric/insulator, H2 energy cell, Wind turbine blade strengthener

