

### BNNT SP10 Technical Data

BNNT, LLC tubes are synthesized using the high temperature/high pressure (HTP) method, also called the pressurized vapor/condenser (PVC) method. This method produces highly flexible, large aspect ratio BNNTs with high crystallinity. Key specifications of our material are summarized in the table below.

<b><i>h</i>-BN content</b>	>99% (refined materials)
<b>Residual Impurities</b>	Refined materials contain <1 wt.% elemental boron
<b>Tap density</b>	Low, ~0.25 mg/cm <sup>3</sup>
<b>Defect density</b>	Extremely low (BNNTs flex and recover when bent)
<b>Band gap</b>	5.7 eV (direct measurement by low energy EELS)
<b>Surface area</b>	up to 400 m <sup>2</sup> /g (by multipoint BET)
<b>Network</b>	many isolated tubes, bundles up to 5 tubes (by TEM)
<b>Number of walls</b>	1 to 5 walls are typical, 2 or 3 walls are most common (by TEM)
<b>BNNT length</b>	up to 200 μm (by SEM), longer suspected

Below are photos of our current puffball, powder, and mat products. (back, left to right) SP10 puffball, SP10-R puffball, SP10-R-P powder, and (front) SP10-R-M mat. The as-grown puffball material has a cotton-like appearance with a very low tap density as shown in the photo below.

