

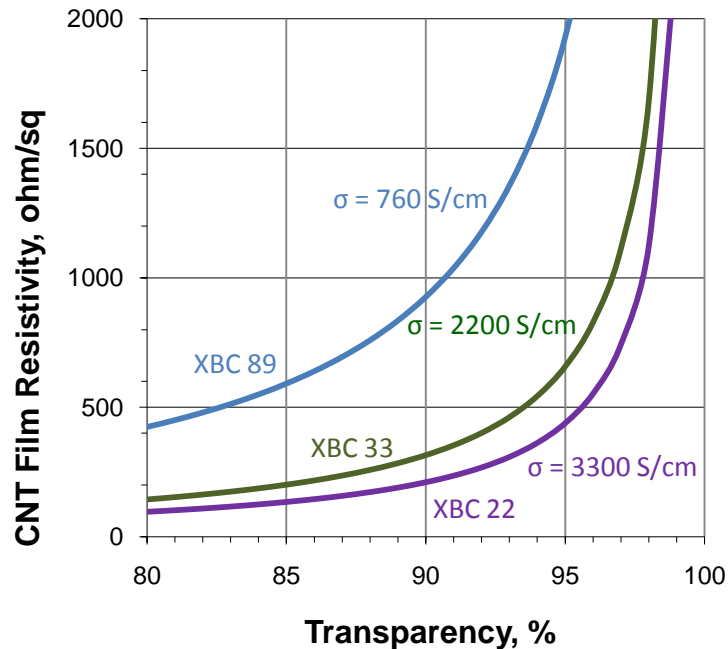
# CCNI Carbon Nanotubes XBC High Conductivity Grade

## Product Description

Fullerene nanotubes<sup>i</sup> are high aspect ratio polymers of pure carbon in which the atoms are bonded together in cylindrical form. XBC grade is designed for high conductivity applications.

MSDS: CCNI Carbon Nanotubes

## Representative Performance<sup>i</sup>



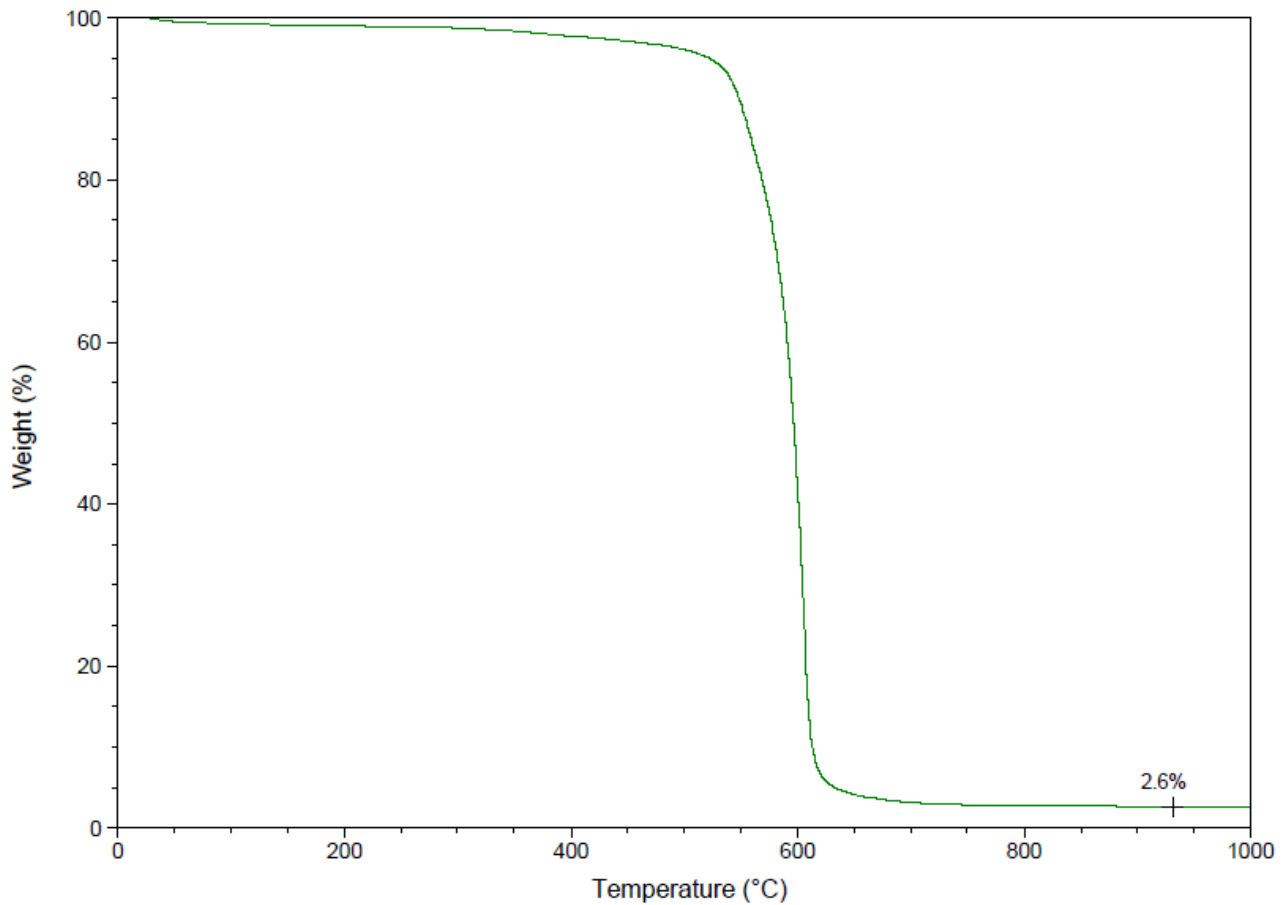
The information provided within is for illustrative purposes only. Neither Continental Carbon Nanotechnologies, Inc. nor any of its affiliates makes any warranty, express or implied, regarding the described products or accepts any liability in connection with this information or its use. This information is for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license, either express or implied, under any patent or other proprietary right. The user alone must determine suitability of any information or material for any contemplated use, the manner of use, and whether any patents are infringed. Transfer of these products from Continental Carbon Nanotechnologies, Inc., through purchase or otherwise, are subject to Continental Carbon Nanotechnologies, Inc.'s Standard Terms and Conditions.

Date Revised: August 1, 2011. © 2011 Continental Carbon Nanotechnologies, Inc.

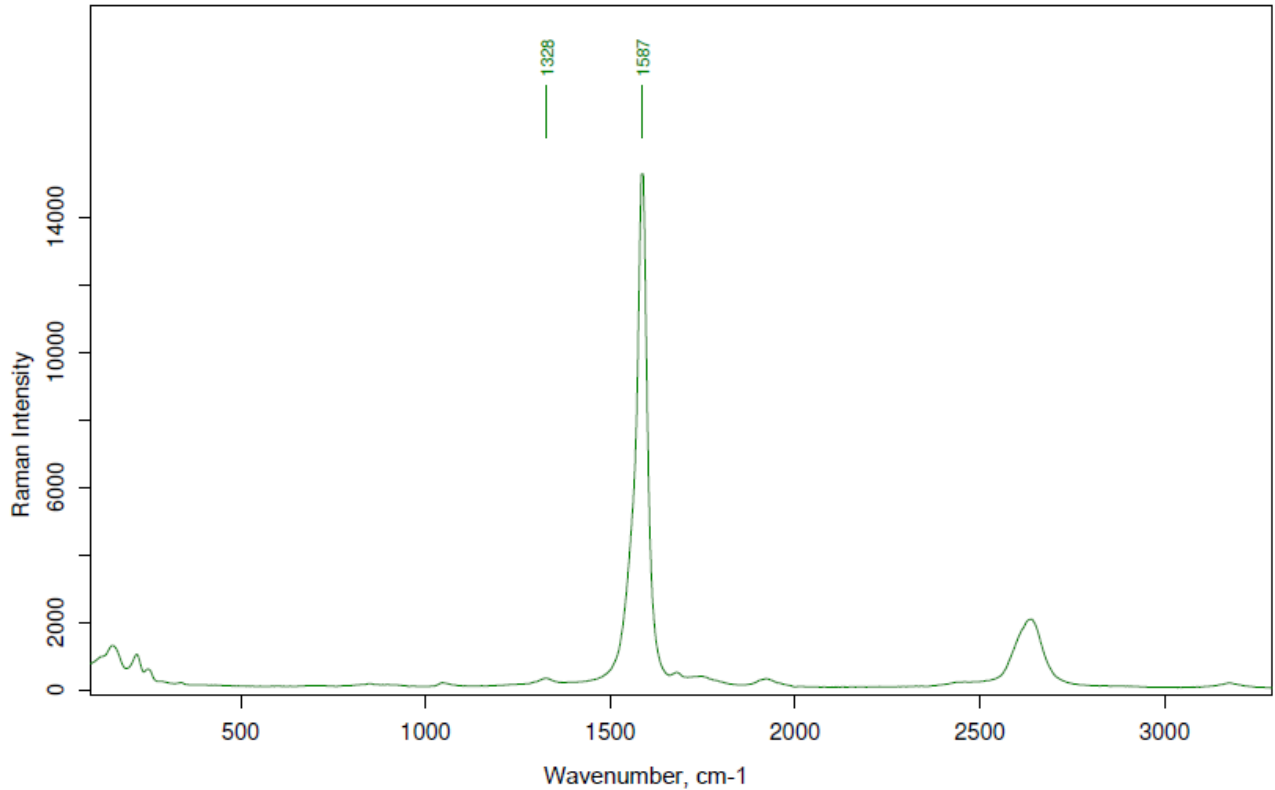
## Representative Properties

Color	Black
Morphology	Nanotubes bundled in ropes
Solids Content <sup>ii</sup> (wet form)	2 – 5 wt%
TGA Ash	< 5 wt%
Raman G/D ratio <sup>iii</sup>	> 20

## Representative TGA Curve (Dried Form)



## Representative Raman Spectrum



- 
- <sup>i</sup> CCNI XBC grade carbon nanotubes are tubular fullerenes; polymers that are part of the fullerene family of carbon molecules discovered by Dr. Richard E. Smalley and colleagues in 1985. Fullerene nanotubes exhibit the degree of perfection associated with all molecules. They comprise single-wall carbon nanotubes (SWNTs), and endohedral or endotopic SWNTs, i.e., one, two or more tubular fullerenes nested inside another tubular fullerene. Van der Waals attractions cause fullerene nanotubes to self-assemble into networks of ropes or bundles.
- <sup>ii</sup> Materials are provided in wet form to assist dispersion of carbon nanotubes for potential applications in aqueous system. Dried form is available upon request.
- <sup>iii</sup> Intensity ratio of G-band to D-band in Raman spectrum.