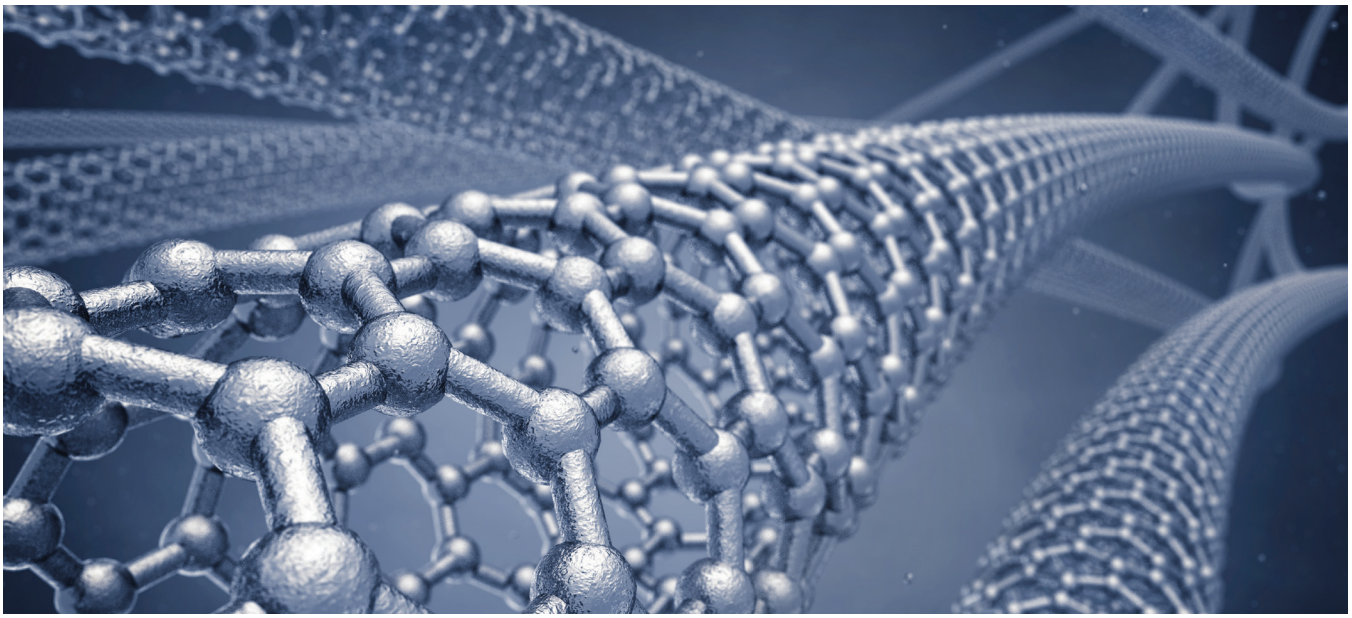
insight Polymers & Compounding PRODUCT DATA SHEET

Insight™ TCNC03-PETG CNT Masterbatches

Insight™ TCNC03 is a Polyethylene Terephthalate Glycol (PETG) based CNT masterbatch with a 15% by weight loading of unique CNT technology that improves physical properties as well as electrical conductivity at various levels with various loadings.



GENERAL	SI METRIC	ENGLISH	TEST METHOD
SPECIFIC GRAVITY	1.34	1.34	ASTM D792
MELT POINT	NA	NA	ASTM D3418

PROCESSING NOTES

These data are typical and not to be construed as a specification.

Unless otherwise stated, all data was generated from typical values of injection molded samples.

Drying: PETG is Hygroscopic and requires drying before processing. Recommended drying time is 4-6 h at 150°F (60 °C) in a desiccant air dryer.

RECOMMENDED USAGE:

Recommended usage levels are 10-30% by weight of the Masterbatch to achieve 2-7% CNT loading..

MT 2025-07 V3

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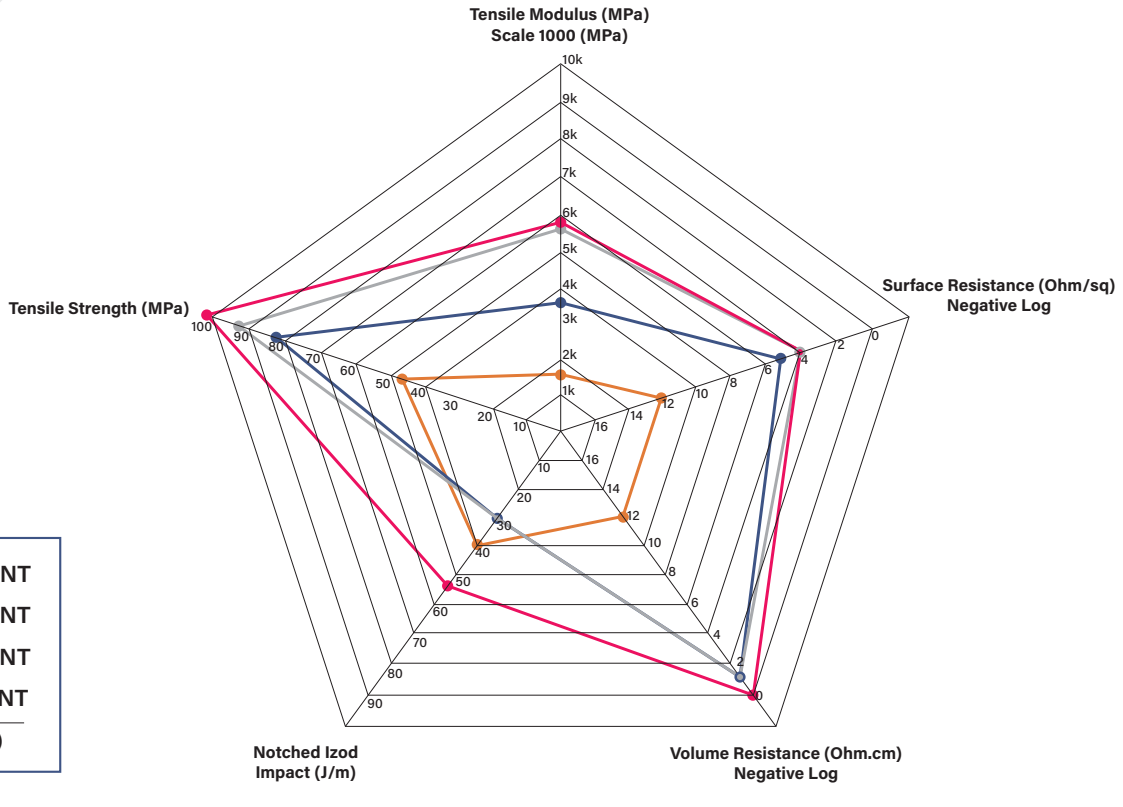
The data below summarizes the mechanical and electrical properties of Insight Polymers TCNC03 PETG 15% Carbon Nanotube (CNT) Polyethylene Terephthalate Glycol (PETG) Masterbatch that has been let down to 3%, 5%, and 7% total CNT loading by weight. The addition of CNT's results in improvements to Tensile Modulus, Tensile Strength, and Electrical Resistance with minimal effect to Impact Strength. The data summarized in the table and multi-axis spider chart below are based on injection molded ASTM test specimens.

POLYMER (% BY WEIGHT)	PETG - 0% CNT	PETG - 3% CNT	PETG - 5% CNT	PETG - 7% CNT
TENSILE MODULUS (MPa)	1700	3700	5800	5900
TENSILE STRENGTH (MPa)	48	82	93	110
ELONGATION@BREAK (%)	39	4	2	2
NOTCHED IZOD IMPACT (J/m)	40	31	31	54
UN-NOTCHED IZOD IMPACT (J/m)	1600	1000	740	430
SURFACE RESISITIVITY (Ohm/sq)	1E+12	<1E+05	<1E+04	<1E+04
VOLUME RESISTIVITY (Ohm.cm)	1E+12	<1E+01	<1E+01	<1E+00

PETG



The information in this Data Sheet are provided for reference only and are based on preliminary data. Final Data Sheet properties will be updated as soon as possible. This information is not a substitute for user testing to determine fitness for use and the user is responsible for ensuring safe and lawful use of the product. No express or implied warranties are provided. No representations are made, and no liability is assumed arising from or relating to the product.

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