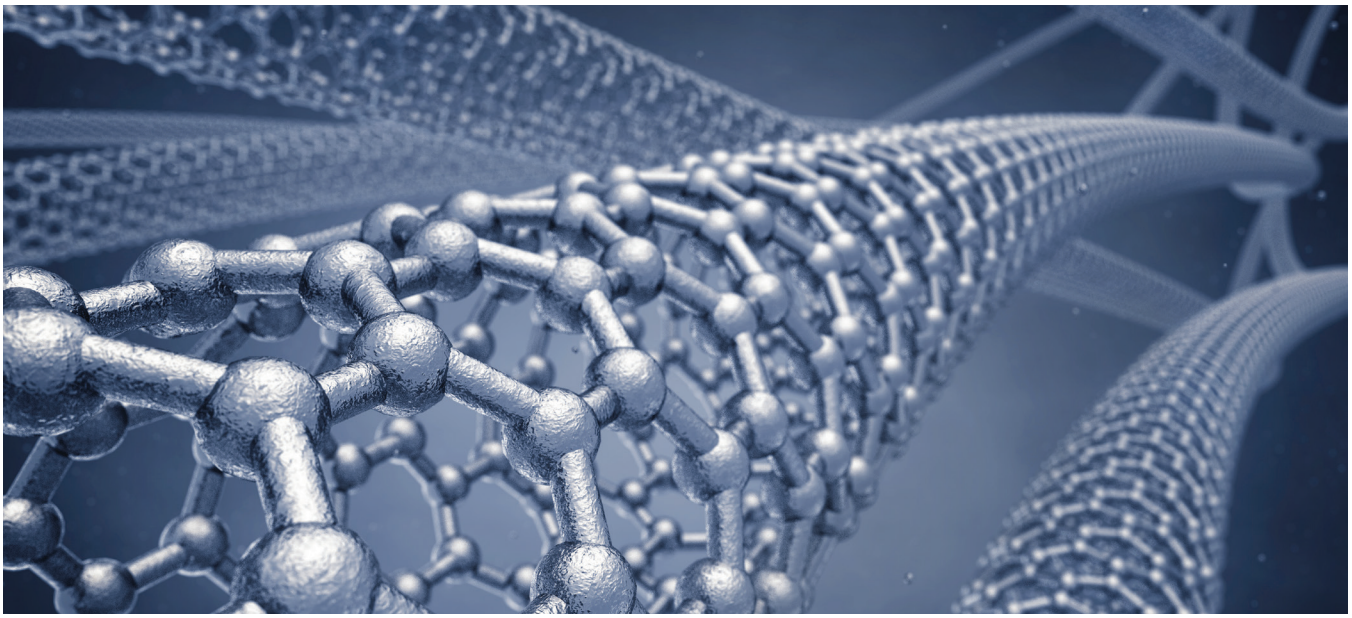
insight Polymers & Compounding PRODUCT DATA SHEET

Insight™ NANC03-PA 66 CNT Masterbatches

Insight™ NANC03 is a Polyamide 66 (PA66) 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	1.07	1.07	ASTM D792
MELT POINT	271 °C	520 °F	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: PA66 is Hygroscopic and requires drying before processing. It is recommended to dry the masterbatch for 4-8 hours at 185°F (85 °C) using 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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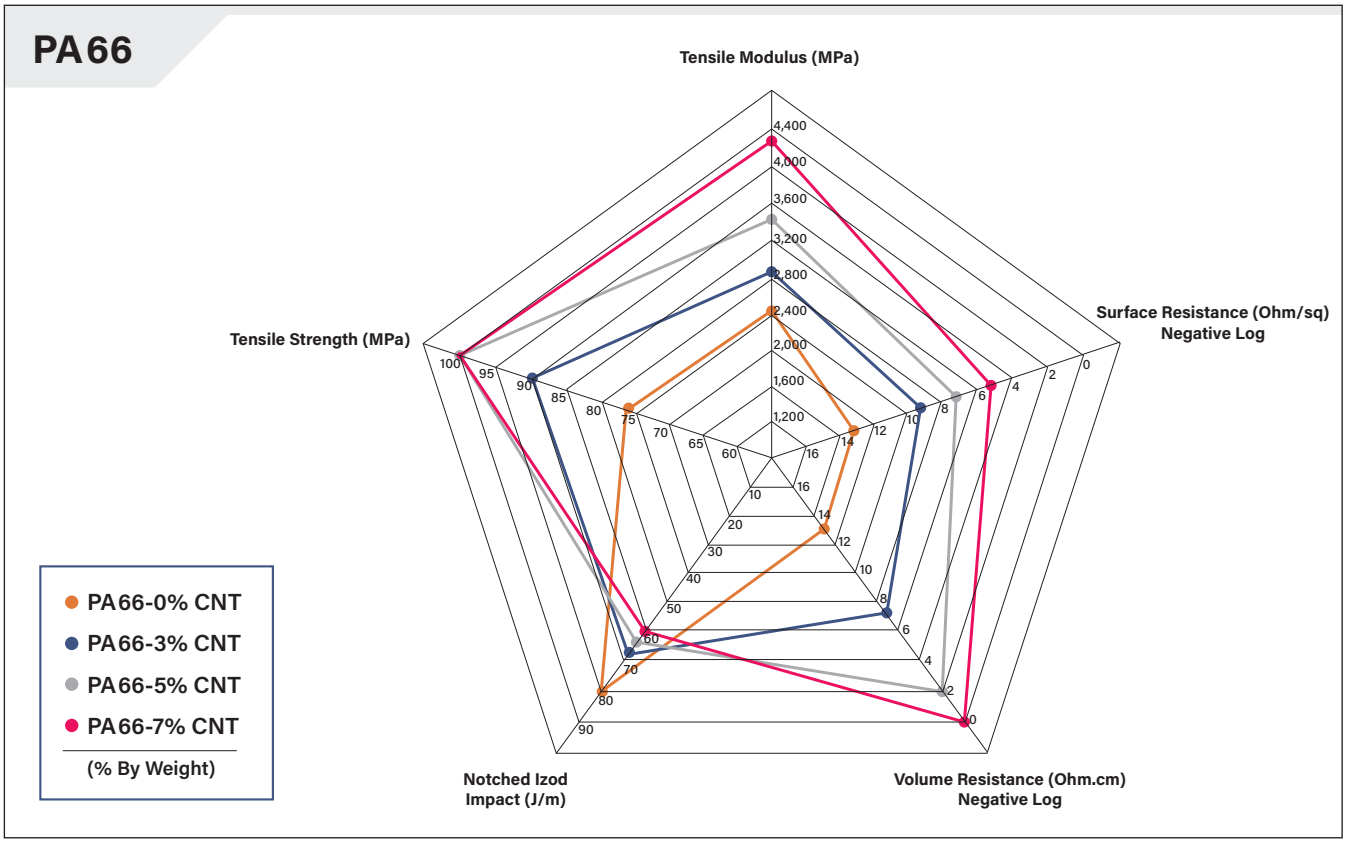
Insight™ NANC03-PA 66 CNT Masterbatches

The data below summarizes the mechanical and electrical properties of Insight Polymers NANC03 Nylon 66 15% Carbon Nanotube (CNT) Masterbatch that has been let down to 3%, 5%, and 7% total CNT loading by weight. The addition of CNT results in improvements to Tensile Modulus, Tensile Strength, and Electrical Resistance with some 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)	PA 66 - 0% CNT	PA 66 - 3% CNT	PA 66 - 5% CNT	PA 66 - 7% CNT
TENSILE MODULUS (MPa)	2500	2900	3500	4300
TENSILE STRENGTH (MPa)	76	90	100	100
ELONGATION@BREAK (%)	9	9	5	4
NOTCHED IZOD IMPACT (J/m)	80	69	65	60
UN-NOTCHED IZOD IMPACT (J/m)	390	900	760	660
SURFACE RESISITIVITY (Ohm/sq)	1E+13	<1E+09	<1E+07	<1E+05
VOLUME RESISTIVITY (Ohm.cm)	1E+13	<1E+07	<1E+02	<1E+00



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