



Carbon Nanotube-Polycarbonate Masterbatch Datasheet

CNano Technology CP100-15 is a conductive polycarbonate masterbatch composite containing 15% FloTube™ 9000 carbon nanotubes (CNT). Dispersion of the CNTs is the key to form a percolated network of nanotubes enabling superior electric conductivity in the target application at loadings as low as 1-2%. Due to this low loading of the conductive filler, the CNT composite delivers unparallel properties when compared to compounds made with conventional conductive fillers such as carbon black and carbon fiber. Since the CNTs are pre-dispersed in the polycarbonate carrier, this masterbatch is a versatile product that customers can easily let down to target loadings and achieve desired properties.

Key Features

- Uniform surface and bulk electric resistivity
- Good surface finish
- Low particulation and excellent slough resistance
- Good stiffness and toughness balance

Property Description (when diluted to 3% loading)

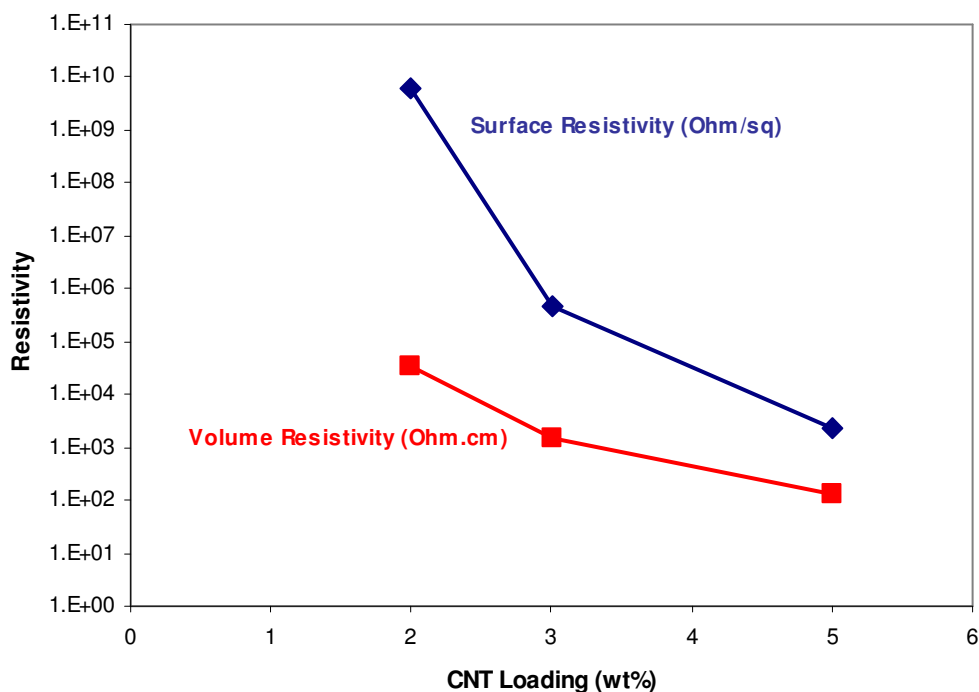
GENERAL PROPERTIES	Method	Unit	Value
Specific Gravity 23/23 °C	ASTM D792		1.18
Mold Shrinkage	ASTM D955	%	0.3
Melt Flow Rate (300 °C/1.2kg)	ASTM D1238	g/10min	2.37
MECHANICAL			
Tensile Strength @ Yield	ASTM D638	MPa	74
Tensile Strength @ Break	ASTM D638	MPa	61
Tensile Elongation @ Yield	ASTM D638	%	7
Tensile Elongation @ Break	ASTM D638	%	25
Tensile Modulus	ASTM D638	MPa	2441
Flexural Strength	ASTM D790	MPa	121
Flexural Modulus	ASTM D790	MPa	3020
Izod Notched Impact Strength	ASTM D256	J/m	122
ELECTRICAL			
Volume Resistivity	ASTM D257	Ω.cm	10 ² -10 ³
Surface Resistivity	ASTM D257	Ω/sq	10 ⁵ -10 ⁷

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General Recommendations for Injection Molding

- Molding pressure: 50-100 bar
- Melt temperature 260-300 °C
- Injection speed: 50-320 mL/sec
- Mold temperature: 100-120 °C
- Back pressure: 10 bar

Percolation Performance



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