



## Carbon Nanotube-Polybutylene Terephthalate Masterbatch Datasheet

CNano Technology CP240-10 is a conductive PBT masterbatch composite containing 10% 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 PBT 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		1.28
Mold Shrinkage	ASTM D955	%	1.8
Melt Flow Rate (250 °C/2.16kg)	ASTM D1238	g/10min	25
<b>MECHANICAL</b>			
Tensile Strength @ Break	ASTM D638	MPa	70
Tensile Elongation @ Break	ASTM D638	%	4
Tensile Modulus	ASTM D638	MPa	3385
Flexural Strength	ASTM D790	MPa	117
Flexural Modulus	ASTM D790	MPa	3474
Izod Notched Impact Strength	ASTM D256	J/m	40
<b>ELECTRICAL</b>			
Volume Resistivity	ASTM D257	Ω.cm	10 <sup>1</sup> -10 <sup>2</sup>
Surface Resistivity	ASTM D257	Ω/sq	10 <sup>5</sup> -10 <sup>7</sup>

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### **General Recommendations For Injection Molding**

- Molding pressure: 50-100 bar
- Melt temperature 220-260 °C
- Injection speed: 50-320 mL/sec
- Mold temperature: 80-100 °C
- Back pressure: 10 bar

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