

PLASTICYL™

CNT thermoplastic concentrates

PLASTICYL™ PBT1501

Polybutylene Terephthalate – carbon nanotubes masterbatches

General Information

Description

PLASTICYL™ is a family of multiwall carbon nanotubes (MWCNTs) thermoplastic concentrates for applications requiring superior electrical conductivity and electrostatic discharge (ESD) properties.

PLASTICYL™ PBT1501 is a conductive masterbatch based on Polybutylene Terephthalate loaded with 15% of Nanocyl's MWCNTs (NC7000™). Because of its high flow, PLASTICYL™ PBT1501 is ideal for injection molding and extrusion processes.

Key Applications

- Electrostatic Discharge (ESD) and electrically conductive parts
- Electrical and Electronics (E&E), automotive and industrial
- Injection molding, extrusion
- Electronic housing
- Electrostatic painting for automotive parts

Benefits

- Excellent electrical conductivity at low loading
- Retention of key mechanical properties
- Ease of processing

Main Characteristics

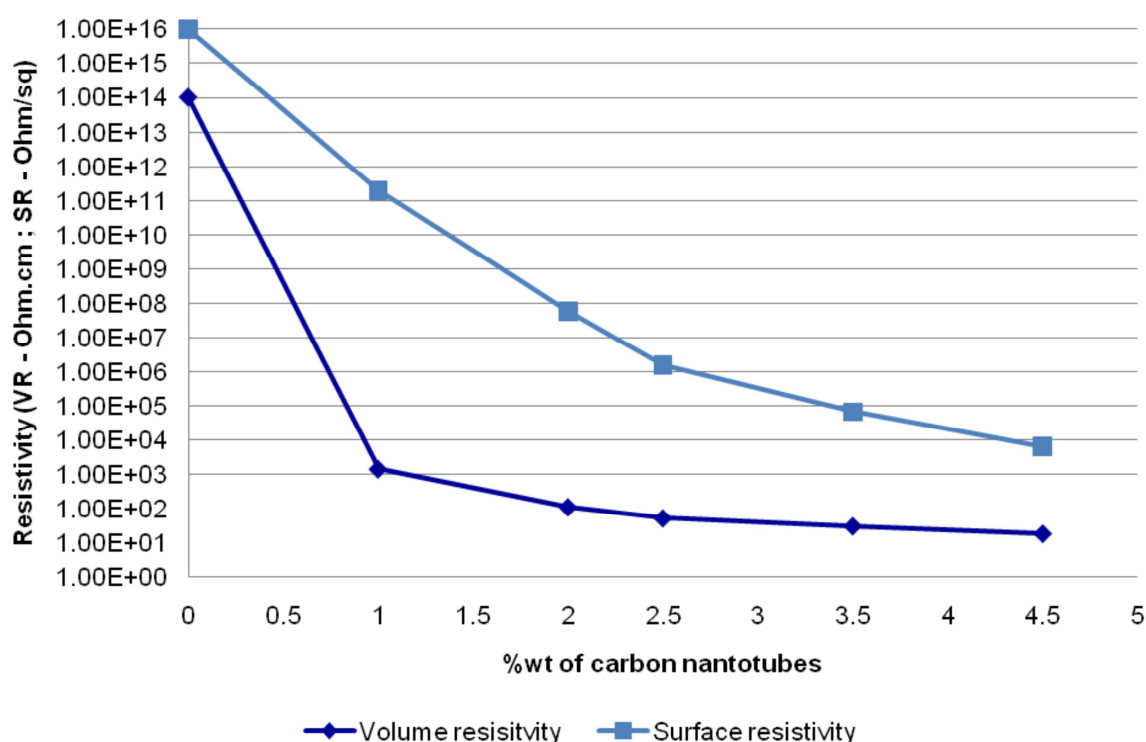
CARBON NANOTUBES LOADING (% _{WT})	REAL DENSITY (G/L) ISO 1183	MFI (G/10 MIN) NON-STANDARD TEST : 250°C ; 20 kg ; 4 mm	MELTING POINT (°C) ISO 11357-1,-3
15 ± 1,0	1300	0,88	227

Typical Performance after Dilution

	STANDARD	UNITS	NEAT PBT	DILUTION TO 3 % _{WT} OF CNTs	DILUTION TO 5 % _{WT} OF CNTs
<i>Melt flow index</i> (250°C; 2,160kg*; 5 kg**)	ISO 1133:1997	g/10 min	-	3,76*	5,51**

Compounds were processed using an L/D ratio and a 48 twin-screw extruder under proprietary conditions.

Percolation Curves for Volume and Surface Resistivity



Electrical resistivity measurement in accordance with Nanocyl standard method based on standard injection molded IZOD specimens, processed according to parameters provided before (General Processing Guide for Injection Molding).

In order to get well-dispersed CNT aggregates, Nanocyl recommends the use of polymers with a high Melt Flow Index (MFI). Surface Resistivity results can be significantly influenced by molding/extrusion conditions.

Commercial/Safety Information

Packaging

PLASTICYL™ PBT1501 masterbatches (pellets) are available in different packaging:

- 20 kg sealed white plastic bags,
- 600 kg cardboard octabins.

Minimum Order Quantity

Nanocyl's minimum order quantity for PLASTICYL™ PBT1501 is 20 kg.

Custom Grades

Besides the commercial grades, Nanocyl is able to toll-compound any type of PBT masterbatches to meet its clients' needs.

Health and Safety

A Material Safety Data Sheets (MSDS) is available to provide both workers and emergency personnel with the proper procedures for handling or working with the PLASTICYL™ PBT1501. This MSDS includes information such as physical data (form and color, melting point, etc.), handling and storage recommendations, first aid measures and ecological information. The Safety Data Sheet is provided with any order and should be observed.

Disclaimer

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