

PLASTICYL™

CNT thermoplastic concentrates

PLASTICYL™ PA1503

Polyamide 6 – 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™ PA1503 is a conductive masterbatch based on polyamide 6 loaded with 15% of Nanocyl's MWCNTs (NC7000™). Because of its high flow, PLASTICYL™ PA1503 is ideal for injection molding and extrusion processes.

Key Applications

- Electrostatic Discharge (ESD) and electrically conductive parts
- Electrical and Electronics (E&E) and industrial
- Injection molding, extrusion

Benefits

- Excellent electrical conductivity at low loading
- Retention of key mechanical properties
- Ease of processing
- Meets SAE J1645 automotive standards

Main Characteristics

CARBON NANOTUBES LOADING (% _{WT})	REAL DENSITY (G/L) ISO 1183	MFI (G/10 MIN) NON STANDARD TEST : 280°C ; 20 KG ; 4 MM	MELTING POINT (°C) ISO 11357-1,-3
15 ± 1,0	1175	3,16	221

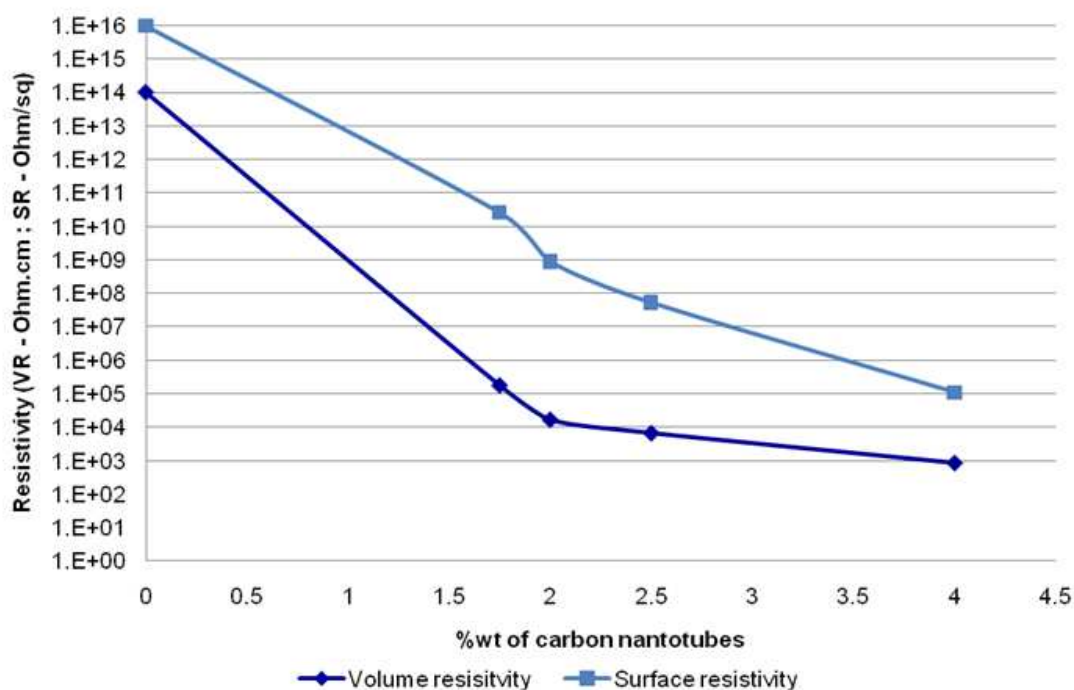
Typical Performance dilution

	STANDARD	UNITS	NEAT POLYAMAMIDE 6	DILUTION TO 1 % _{WT} OF CNT	DILUTION TO 3 % _{WT} OF CNT
<i>Melt flow index</i> (280°C ; 1,2 kg)	ISO 1133:1997	g/10 min	-	42,48	5,40

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

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.

Electrical percolation curve 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).

Commercial/Safety Information

Packaging

PLASTICYL™ PA1503 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™ PA1503 is 20 kg.

Custom Grades

Besides the commercial grades, Nanocyl is able to toll-compound any type of polyamide 6 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™ PA1503. 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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