

PLASTICYL™

CNT thermoplastic concentrates

PLASTICYL™ HIPS1001

High impact Polystyrene – carbon nanotubes masterbatches

General Information

Description

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

PLASTICYL™ HIPS1001 is a conductive masterbatch based on high impact polystyrene. Because of its low viscosity and high flow formulation, PLASTICYL™ HIPS1001 is ideal for standard injection molding and extrusion processes.

Key Applications

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

Benefits

- Excellent electrical conductivity at low loading
- Retention of key mechanical properties
- Ease of processing
- High cleanliness
- Low sloughing

Technical Data

Main Characteristics

CARBON NANOTUBES LOADING (%_{WT})

10 ± 1,0

Typical Performance after dilution

LOADING	SURFACE RESISTIVITY	VOLUME RESISTIVITY
<i>wt.% CNT</i>	<i>Ω/sq</i>	<i>Ω.cm</i>
2%	3,62E+07	8,70E+07
3%	7,23E+05	9,83E+04
4%	3,62E+03	3,90E+02
5%	3,40E+02	1,68E+02
6%	1,24E+02	1,32E+02

Compounds were processed using an L/D ratio and a 48 twin-screw extruder under proprietary conditions. Specimens were molded by injection, according to the processing parameters below. 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™ HIPS1001 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™ HIPS1001 is 20 kg.

Custom Grades

Besides the commercial grades, Nanocyl is able to toll-compound any type of HIPS 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™ HIPS1001. 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.

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