



# Technical Data Sheet

ABC-SC-PBT-101 - Polybutylene Terephthalate –  
carbon nanotubes masterbatches

## General Information

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ABC-SC-PBT-101 – Polybutylene Terephthalate (PBT) – Carbon Nanotubes Masterbatch is a conductive masterbatch based on PBT resin, developed to provide reliable electrical conductivity and electrostatic discharge (ESD) protection. This material is ideal for applications in automotive electronics, electrical housings, and industrial components where both static control and mechanical integrity are critical. With excellent dimensional stability, chemical resistance, and fast crystallization behavior, it is well-suited for injection molding and extrusion processes. The masterbatch is optimized for uniform dispersion of carbon nanotubes, ensuring stable electrical performance while preserving the inherent strength, stiffness, and heat resistance of the PBT base polymer.

### 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

### Features & Benefits

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

### Available Sizes:

See website for details.

## Quality

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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, ABC3D recommends the use of polymers with a high Melt Flow Index (MFI). Surface Resistivity results can be significantly influenced by molding/extrusion conditions.

## Main Characteristics

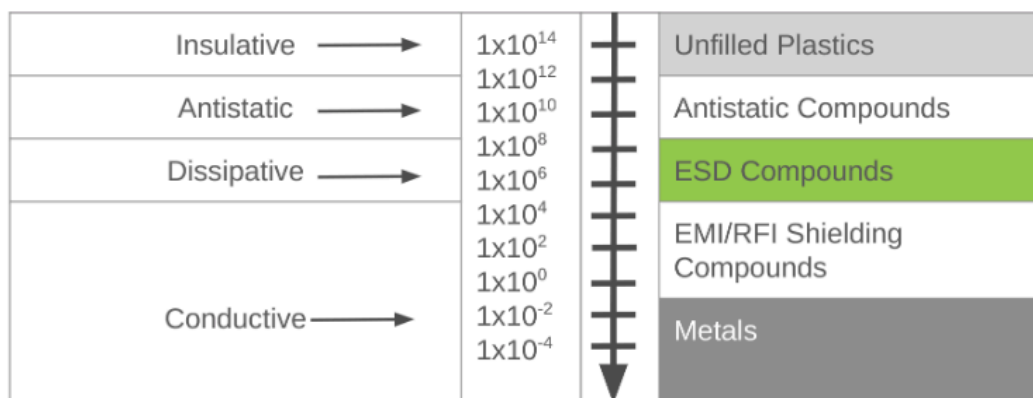
CARBON NANOTUBES LOADING (%WT)	Real Density (G/L) ISO 1183	MFI (G/10 MIN) NON-STANDARD TEST: 250°C; 20 kg; 4 mm	MELTING POINT (°C) ISO 11357-1,-3
15 ± 1,0	1300	0,88	227

## Typical Performance after Injection Molding

Properties	Standard	Unit	Neat PBT	EMI/RFI Shielding PBT
Melt Flow Index (250°C; 2.16 kg)	ISO 1133:1997	g/10 min	-	3.76

## Volume Resistivity Index

### Volume Resistivity ( $\Omega$ -CM)



**Note:** Electrical resistivity measurement in accordance with ABC3D standard method based on standard injection molded IZOD specimens, processed according to parameters provided before (General Processing Guidelines for Injection Molding).

## Commercial/Safety Information

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### Minimum Order Quantity:

Minimum order quantity for ABC-SC-PBT-101 is 20 kg.

### Custom Grades:

Besides the commercial grades, ABC3D 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 ABC-SC-PBT-101. 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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The technical data contained on this data sheet is furnished without charge or obligation and accepted at the recipient's sole risk. This data should not be used to establish specifications limits or used alone as the basis of design. The data provided is not intended to substitute any testing that may be required to determine fitness for any specific use.