

GRAPHISTRENGTH® C HDPE1-25

CNT MASTERBATCH

TECHNICAL DATA SHEET

Description:

Graphistrength® C HDPE1-25 is a Multi Wall Carbon Nanotubes (MWCNT) concentrate that it is used as an additive for polyolefin based materials. It contains 25% in weight of MWCNT well dispersed in high-density Polyolefin.

Graphistrength® C HDPE1-25 is suited for the production of high performance engineering plastics intended for use in electrostatic discharge (ESD) protection.

Key features:

Graphistrength® C HDPE1-25 is provided in pellet form with the following key characteristics.

Property	Method	Unit	Typical value ⁽¹⁾
MWNT content		wt%	25 ⁽²⁾
Moisture content	Karl-Fisher	wt%	0.05 -0.15

⁽¹⁾ Data not intended for specification purposes

⁽²⁾ Graphistrength® C HDPE1-25 contains Graphistrength® MWCNT with purity > 90 %

Benefits and applications:

Graphistrength® C HDPE1-25 is generally diluted as an additive for extrusion and blow molding grades of MDPE and HDPE, and injection molding grades of HDPE. Typical final MWCNT loadings in the final compounds are in the range 0,002 to 10 wt% depending on the host matrix characteristics, the targeted performances, processing methods and conditions.

The typical electrical resistivity that can be achieved is in the range 10 – 10¹⁰ ohm.cm. The ESD properties obtained with Graphistrength® C HDPE1-25 are outstandingly consistent and uniform.

Thanks to their low loading use, and very small size, Graphistrength® MWCNT offer several additional advantages: smooth surface aspect, low increase in density and, high preservation of the neat matrix's ductility and mechanical properties specially at very low final loadings. Improvement of the mechanical performances of the neat resin are awaited.

With low particulate generation, Graphistrength® MWCNT are also ideal fillers for applications where cleanliness is key.

Dilution and processing:

The dilution of Graphistrength® C HDPE1-25 into high quality compounds can be achieved with standard equipments used in thermoplastics compounding such as twin-screw extruders. In some cases, optimizing process conditions may be necessary to get well-dispersed compounds. More information is provided in our *Dilution Guide of Graphistrength® Thermoplastic Masterbatches*.

It is recommended to process Graphistrength® C HDPE1-25 within the temperature range **140-320 °C** for compounding.

The compounds can be processed on most equipments (extrusion, blow molding, injection molding, melt spinning)

Safety and Handling:

Graphistrength® C HDPE1-25 is provided in pellet form where MWCNT are strongly embedded.

Graphistrength® C HDPE1-25 doesn't present any specific health risk when using in thermoplastic processing.

Graphistrength® C HDPE1-25 is provided in lined bags of 5 kg or 25 kg net. The product is indefinitely stable in its unopened original packaging when stored at normal temperatures. It may absorb water if exposed for long period of time to the atmosphere. In this case, the pellets must be dried at 80°C for 2 hours before use.

Consult the product MSDS for additional information on properties, hazards and handling.

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