

CABELEC® CC6720 CONDUCTIVE CONCENTRATE

Product highlights

CABELEC CC6720 conductive concentrate is an electrically conductive concentrate made from a carefully selected carbon black finely dispersed in polypropylene resin. Its electrical and mechanical properties are not dependent on atmospheric conditions; however, they depend on the type and level of dilution of the resin used and the processing conditions.

CABELEC CC6720 conductive concentrate can be diluted with a high quantity of natural resin. This allows users of CABELEC CC6720 conductive concentrate to benefit from the versatility of this product and from the enhanced physical properties due to higher levels of dilution resin.



Typical applications

CABELEC CC6720 conductive concentrate can be used in extrusion applications such as plain and corrugated sheets for packaging, where it is desirable to mitigate the hazard of electrostatic discharge.

CABELEC CC6720 conductive concentrate can also be used for injection molding applications such as pallets or boxes where it can be diluted at high rates with natural or even recycled polypropylene.

Processing

The information given in this section should be used as a guidance only.

Dilution rate

The amount of concentrate added depends on the performance requirements of the final application. Typical dilution rates vary from 40 to 70 wt% concentrate.

Pre-drying

CABELEC CC6720 conductive concentrate absorbs moisture under normal storage conditions, and this can result in surface blemishes. It is therefore advisable to dry the concentrate prior to use. Usually, the following conditions are sufficient to reduce the moisture content to an acceptable level:

Drying temperature : 80°C

Drying time : 2-4 h

Compounding

CABELEC CC6720 conductive concentrate may be diluted efficiently on single screw extruders. However, in case of more complex formulations, better results may be obtained by using twin-screw extruders and a temperature profile about 20°C higher than is typically used with virgin resins.

Extrusion

CABELEC CC6720 conductive concentrate can be processed on conventional extrusion equipment. To promote good electrical and mechanical properties of the material it is strongly recommended to use low shear mixing elements.

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Actual extrusion temperatures should be adapted according to the nature of the equipment and the article to be manufactured to give optimum extrusion quality.

Injection Molding

CABELEC CC6720 conductive concentrate can be processed on most injection molding machines. Low shear conditions are nevertheless strongly recommended to promote good electrical conductivity. The precise processing conditions depend on the machinery, output rate and complexity of the injected part to be manufactured. As a general guide, the following injection molding temperatures have been used successfully:

- ◆ Barrel/nozzle: 200°C/220°C
- ◆ Mold: 30°C

Mold Design

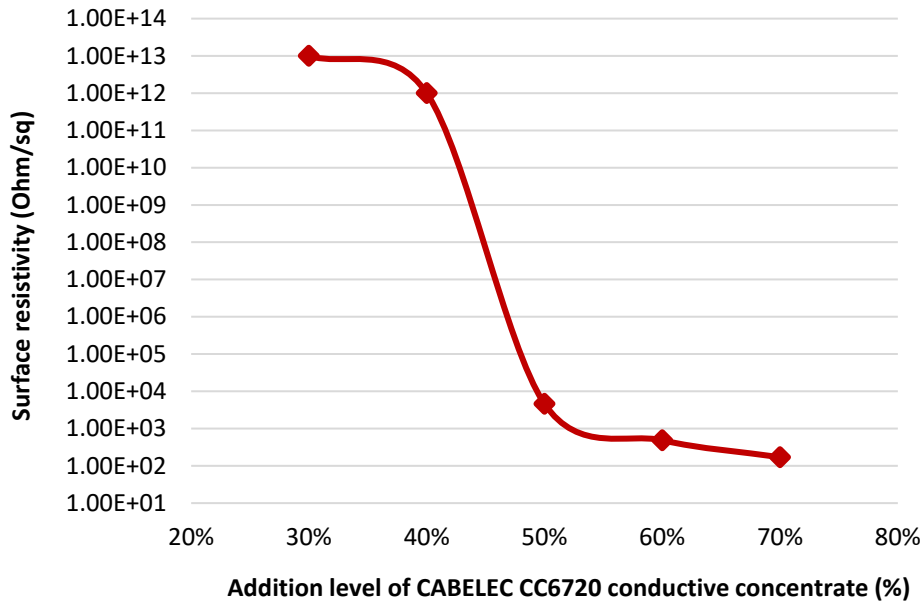
Generous gates are helpful for the molding of filled CABELEC conductive concentrates as for other highly filled thermoplastics.

TYPICAL PROPERTIES			
PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
Carrier	Polypropylene	-	
Compatibility	PP	-	
Density @23°C	1135	kg/m ³	ISO 1183
MFI (10 kg/230°C)	13	g/10 min	ISO 1133

The data in the table above are typical test values intended as guidance only and are not product specifications.

When diluting the concentrate with a polypropylene copolymer (PPC), the following surface resistivity levels have been measured on 300µm thick extruded tape:

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Product form and logistics

- ◆ Product form: pellet
- ◆ Packaging: 25 kg aluminum bags
- ◆ Regional availability: global

For information on product-specific storage conditions, please refer to the applicable Safety Data Sheet (SDS) available from your Cabot representative or at cabotcorp.com.

The CABELEC name is a registered trademark of Cabot Corporation.

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