

CABELEC® CC6277 CONDUCTIVE CONCENTRATE

Product highlights

CABELEC CC6277 conductive concentrate is an electrically conductive concentrate made from a carefully selected carbon black finely dispersed in polyethylene resins. 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.

Unlike standard conductive compounds, which have very limited dilution potential, CABELEC CC6277 conductive concentrate has the potential to be diluted with a high quantity of natural resin (see chart below). This allows users of CABELEC CC6277 conductive concentrate to benefit from the versatility of this product and from the enhanced physical properties due to higher levels of dilution resin.



Key applications

CABELEC CC6277 conductive concentrate can be used in extrusion applications such as monofilament and for injection molding applications such as boxes where it can be diluted at high rates with natural or even recycled polyethylene and polypropylene.

Processing

The information given in this section should be used for guidance only as different equipment could require different operating conditions to achieve the desired results.

Pre-drying

CABELEC CC6277 conductive concentrate absorbs moisture under normal storage conditions, and this can result in surface blemishes. It is therefore advisable to dry the compound prior to use. About 2-3 hours in a hopper dryer at 90°C is generally sufficient time to reduce the moisture content to an acceptable level.

Extrusion

CABELEC CC6277 conductive concentrate can be processed on conventional extrusion equipment. It should be processed under low shear conditions. To promote good electrical and mechanical properties of the material, it is suggested that high shear mixing elements be avoided. As a general guide, extrusion temperatures of 200-230°C have been used successfully on extrusion lines. Actual extrusion temperatures should be adapted according to the nature of the equipment and the manufactured article to give optimum extrusion quality.

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Injection molding

CABELEC CC6277 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

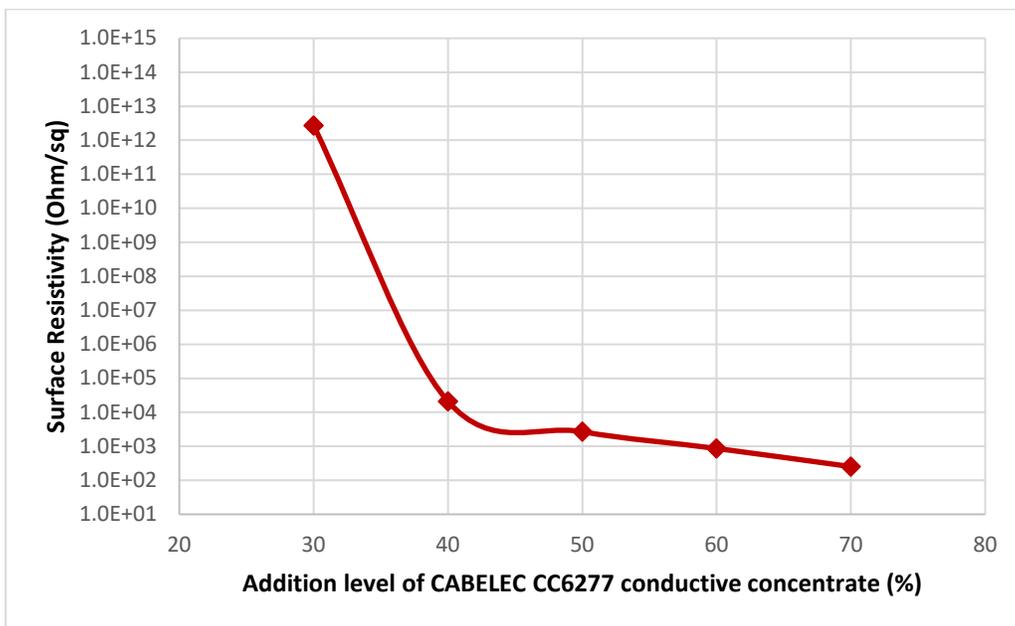
Mold design

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
Density @23°C	1150	kg/m ³	ISO 1183
MFI (21.6 Kg/190°C)	4	g/10 min	ISO 1133

The data in the table above are typical test values intended as guidance only and are not product specifications. Product specifications are available upon request from your Cabot representative.

When diluting the concentrate with a polypropylene copolymer (PPC) MFI 0.8 g/10min. (230°C/2.16kg), the following surface resistivity levels have been measured on 300µm extruded tape:



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Product form and logistics

- ◆ Product form: pellets
- ◆ Regional availability: global
- ◆ Packaging options: 25 kg bags

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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