

CABELEC® CA3899 CONDUCTIVE COMPOUND

Product highlights

CABELEC CA3899 is an electrically conductive compound based on carbon black and a polyacetal copolymer. Its electrical properties are permanent and are not dependent on atmospheric conditions. The compound can easily be processed on conventional moulding equipment.

Key applications

CABELEC CA3899 electrically conductive compound is principally recommended for applications where freedom from the hazard of electrostatic discharge is necessary. Examples of use are in handling of explosive powders, pigments, liquids and electronic components.



Processing

Pre-drying

CABELEC CA3899 electrically conductive compound absorbs very little moisture from the atmosphere during normal storage and usage conditions. Pre-drying of the compound before processing can thus usually be avoided. Nevertheless, for critical applications, in case of external storage and when the compound is used in climates with high relative humidity it is still recommended to pre-dry the material to achieve a good product quality. Usually 3 hours in a drier at 100°C is sufficient time to reduce the moisture content to an acceptable level.

Injection molding

CABELEC CA3899 electrically conductive compound can be processed on most types of injection molding machine. Low shear conditions are nevertheless strongly recommended in order to achieve good electrical conductivity. The precise processing conditions depend on the machinery, output rate and complexity of the injected part under consideration.

As a general guide, the following injection molding temperatures have been used successfully:

- ◆ Barrel/nozzle: 180°C / 200°C
- ◆ Mold: 60°C

Mold design

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

The information given in this section is provided as guidance only as different equipment could require different processing conditions to achieve the desired results.

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TYPICAL PROPERTIES			
PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
Density @ 23°C	1390	kg/m ³	ISO 1183
Hardness (15 second value)	79	Shore D	ISO 868
Heat Distortion Temperature @ 1.80 MPa	72	°C	ISO 75
Vicat Softening Point @ 10 N	168	°C	ISO 306
Mold Shrinkage	1.5 - 2.5	%	ASTM D955
Melt Flow Index (190°C/2.16 kg)	3	g/10 min	ISO 1133
Melt Flow Index (190°C/5 kg)	9	g/10 min	ISO 1133
Melt Flow Index (190°C/10 kg)	28	g/10 min	ISO 1133
Volume Resistivity	< 10 ³	Ohm.cm	IEC 61340-2-3
Surface Resistivity	< 10 ⁴	Ohm/sq	IEC 61340-2-3
Flexural Modulus	1900	MPa	ISO 178
Tensile Strength at Break	45	MPa	ISO 527
Tensile Strength at Yield	45	MPa	ISO 527
Elongation at Break	42	%	ISO 527
Notched Izod Impact @ 23°C	11	kJ/m ²	ISO 180A

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.

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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