

CABELEC® CA3839 CONDUCTIVE COMPOUND

Product highlights

CABELEC CA3839 conductive compound is a static dissipative compound made from carbon black dispersed in a polypropylene copolymer. Its electrical and mechanical properties are not dependent on atmospheric conditions. It has good rigidity and can be easily processed on conventional molding equipment.

Key applications

The static dissipative nature of CABELEC CA3839 conductive compound provides products with a higher resistivity than typical conductive materials and can provide long-lasting static dissipation.

Typical areas of applications are electronics packaging, ammunition works, mines, petroleum plants, and other environments where it is important to mitigate the hazard of electrostatic discharge.

Processing

Pre-drying

CABELEC CA3839 conductive compound absorbs very little moisture from the atmosphere during normal storage and usage conditions, which is a significant benefit for applications where a very low moisture absorption is essential for a good surface appearance. Therefore, pre-drying of the compound before processing is not necessary for most applications. Nevertheless, for critical applications, if the compound is stored outside, and/or used in climates with high relative humidity, it is advisable to pre-dry the material to achieve a good final product quality. Usually 2 - 3 hours in a dryer at 90°C is sufficient time to reduce the moisture content to an acceptable level.

Injection molding

CABELEC CA3839 conductive compound can be processed on most types of injection molding machinery. Low shear conditions are nevertheless required in order to achieve good electrical conductivity. The optimal processing conditions depend on the machinery, output rate and complexity of the injected part under manufacture. As a general guidance, 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 CABELEC CA3839 conductive compound 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	1038	kg/m ³	ISO 1183
Hardness (15 second value)	63	Shore D	ISO 868
Heat Distortion Temperature @ 1.80 MPa	47	°C	ISO 75
Vicat Softening Point @ 10 N	150	°C	ISO 306
Mold Shrinkage	0.8 - 1.0	%	ASTM D955
Melt Flow Index (230°C/2.16 kg)	4	g/10 min	ISO 1133
Melt Flow Index (230°C/5.0 kg)	20	g/10 min	ISO 1133
Melt Flow Index (230°C/10.0 kg)	94	g/10 min	ISO 1133
Volume Resistivity	< 5*10 ⁸	Ohm.cm	IEC 61340-2-3
Surface Resistivity	< 5*10 ⁶	Ohm/sq	IEC 61340-2-3
Flexural Modulus	1200	MPa	ISO 178
Tensile Strength at Break	15	MPa	ISO 527
Tensile Strength at Yield	21	MPa	ISO 527
Elongation at Break	60	%	ISO 527
Notched Izod Impact @ 23°C	50	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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