

CABELEC® CA4701 CONDUCTIVE COMPOUND

Product highlights

CABELEC CA4701 electrically conductive compound is based on carbon black and a polypropylene copolymer. Its electrical and mechanical properties are permanent and are not dependent on atmospheric conditions.

Key applications

CABELEC CA4701 conductive compound is suitable for use in sensitive extrusion applications such as sheets and corrugated sheets for packaging electronics, where freedom from the hazard of electrostatic discharge is required.

Processing

Pre-drying

CABELEC CA4701 conductive compound absorbs very little water 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 2 - 3 hours in a drier at 90°C is sufficient time to reduce the moisture content to an acceptable level.

Extrusion

CABELEC CA4701 conductive compound can be processed on conventional extrusion equipment. It should be processed under low shear conditions. Actual extrusion temperatures should be adapted according to the nature of the equipment and the manufactured article to give optimum extrusion quality.

As a general guide, extrusion temperatures of 190 - 220°C have been used successfully on extrusion lines. Temperatures above 230°C should be avoided.

To ensure good electrical and mechanical properties of the material it is nevertheless strongly recommended that high shear mixing elements be avoided.

The information given in this section should be used as a guide only as different equipment could need different conditions.



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TYPICAL PROPERTIES			
PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
Density @ 23°C	1017	kg/m ³	ISO 1183
Hardness (15 second value)	68	Shore D	ISO 868
Heat Distortion Temperature @ 1.80 MPa	50	°C	ISO 75
Vicat Softening Point @ 10 N	155	°C	ISO 306
Melt Flow Index (230°C/5.0 kg)	2	g/10 min	ISO 1133
Melt Flow Index (230°C/10.0 kg)	70	g/10 min	ISO 1133
Volume Resistivity on injection molded plaque	< 10 ³	Ohm.cm	IEC 61340-2-3
Surface Resistivity on injection molded plaque	< 10 ⁴	Ohm/sq	IEC 61340-2-3
Flexural Modulus	1108	MPa	ISO 178
Tensile Strength at Yield	27	MPa	ISO 527
Tensile Strength at Break	19	MPa	ISO 527
Elongation at Break	37	%	ISO 527
Notched Izod Impact @ 23°C	72	kJ/m ²	ISO 180A

Typical values for CABELEC CA4701 conductive compound obtained on 0.4 mm thick extruded tape:

TYPICAL PROPERTIES			
PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
Surface Resistivity	< 10 ²	Ohm/sq	IEC 61340-2-3

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.

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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Product form and logistics

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

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