CONDUCTIVE COMPOUNDS AND CONCENTRATES

CABELEC® CA6114 CONDUCTIVE COMPOUND

Product highlights
CABELEC CA6114 electrically conductive compound is made from conductive carbon black dispersed in a modified high-density polyethylene resin. Its electrical and mechanical properties are not impacted by normal atmospheric conditions.

Key applications
CABELEC CA6114 conductive compound is used for injection molding applications. It is suitable for product handling applications where it is desirable to mitigate the hazard of electrostatic discharge, such as in automotive fuel systems or the handling and packaging of explosive powders and liquids, pigments or electronic components.

Processing

Pre-drying

CABELEC CA6114 conductive compound absorbs moisture under normal storage conditions and this can result in surface blemishes in the final product. It is therefore advisable to dry the compound prior to use. Typically, 2-3 hours in a dryer at 90°C is sufficient time to reduce the moisture content to an acceptable level.

Injection molding

CABELEC CA6114 conductive compound can be processed on most types of injection molding machinery. Low shear conditions are nevertheless required 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 guidance, the following injection molding temperatures have been used successfully:

- barrel to nozzle: 200°C/230°C
- mold: 35-45°C
- screw speed: 50-60 rpm
- injection speed: low
- injection pressure: moderate

Mold design

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

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	1065	kg/m^3	ISO 1183
Hardness (15 second value)	61	Shore D	ISO 868
Heat distortion temperature at 1.81 MPa	40	°C	ISO 75/2
Heat distortion temperature at 0.45 MPa	65	°C	ISO 75/2
Vicat softening point at 10 N	119	°C	ISO 306
Mold shrinkage (longitudinal) on UL94 bars	2.5 – 3.5	%	ASTM D955
MFI (190°C/5 kg)	1	g/10 min	ISO 1133
MFI (190°C/10 kg)	5	g/10 min	ISO 1133
MFI (190°C/21.6 kg)	16	g/10 min	ISO 1133
Volume resistivity injection molding	$< 10^2$	Ohm.cm	IEC 61340-2-3
Surface resistivity injection molding	$< 10^3$	Ohm/sq	IEC 61340-2-3
Flexural modulus	744	MPa	ISO 178
Flexural strength	23	MPa	ISO 178
Tensile modulus	649	MPa	ISO 527
Tensile strength at break	18	MPa	ISO 527
Tensile strength at yield	22	MPa	ISO 527
Elongation at break	147	%	ISO 527
Elongation at yield	19	%	ISO 527
Notched izod impact @ 23°C	20	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.

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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.

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