

CABELEC® CA6141 Conductive Compound



Conductive Polycarbonate Compound for Injection Moulding Applications

CABELEC CA6141 electrically conductive compound is made from conductive carbon black dispersed in a modified polycarbonate. CABELEC CA6141 conductive compound is suitable for injection moulding applications. It provides a good balance of electrical and mechanical properties that are not impacted by normal atmospheric conditions.

Applications

CABELEC CA6141 conductive compound is used for packaging and electronic product handling applications where it is desirable to mitigate the hazard of electrostatic discharge. Examples of use are the handling and packaging of explosive powders, pigments and electronic components.

Processing

Pre-drying

CABELEC CA6141 conductive compound absorbs moisture under normal storage conditions and this can result in surface blemishes on mouldings. It is therefore advisable to dry the compound prior to use. Typically 2 - 4 hours in a dryer at 100°C is sufficient time to reduce the moisture content to an acceptable level.

Injection Moulding

CABELEC CA6141 conductive compound can be processed on most types of injection moulding machinery. Low shear conditions are nevertheless required in order to achieve good electrical conductivity. The precise processing conditions depend on the machinery, output rate and complexity of the injected part being manufactured. As general guidance, the following injection moulding temperatures have been used successfully: barrel/nozzle: 270°C/290°C and mould: 80°C.

Mould Design

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

The information given in this section should be used for guidance only as different equipment could require different processing parameters.

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Physical properties

Typical values for CABELEC CA6141 conductive compound are presented in the following table. Some of them are characteristic of injection moulded pieces.

PROPERTY	TEST METHOD	UNIT	VALUE
Density @ 23°C	CTM E023*	kg/m ³	1200
Hardness (15 second value)	ASTM D2240	Shore D	80
Heat Distortion Temperature @ 1.80 MPa	ISO 75	°C	121
Vicat Softening Point @ 10 N	ISO 306	°C	149
Mould Shrinkage	ASTM D955	%	0.7 - 0.9
Melt Flow Index (260°C/2.16 kg)	ISO 1133	g/10 min	0.6
Melt Flow Index (260°C/5 kg)	ISO 1133	g/10 min	4
Melt Flow Index (260°C/10 kg)	ISO 1133	g/10 min	12
Volume Resistivity	CTM E043B*	Ohm.cm	200
Surface Resistivity	CTM E042E*	Ohm/sq	10 ⁶
Flexural Modulus	ISO 178	MPa	2168
Tensile Strength at Break	ISO 527	MPa	47
Tensile Strength at Yield	ISO 527	MPa	54
Elongation at Break	ISO 527	%	24
Notched Izod Impact @ 23°C	ISO 180	kJ/m ²	22

*Tests are performed according to Cabot Test Methods (CTM).

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

Packaging

CABELEC compounds are supplied in regular pellet form packed in 25 kg bags and should be stored in a dry place. Larger quantities can be packaged to suit customer's specific requirements.

Storage life: up to 6 months provided it is stored as directed.



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