

CABELEC® 3842

CABELEC® 3842 is an electrically conductive compound based on carbon black and a polypropylene copolymer. It has very good mechanical properties and can be easily processed on conventional moulding equipment.

APPLICATIONS

CABELEC® 3842 is recommended for the manufacture of containers and specialised mouldings. Suggested areas of application are ordnance and ammunition works, hospitals, mines, petroleum plants, electronics and other environments where freedom from the hazard of electrostatic discharge is an important consideration.

PROCESSING

Pre-drying (moisture)

CABELEC® 3842 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. Usually 2 - 4 hours in a drier at 95°C is sufficient time to reduce the moisture content to an acceptable level.

Injection Moulding

CABELEC® 3842 can be processed on most types of injection moulding 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 moulding temperatures have been used successfully:
Barrel/nozzle: 170°C / 200°C
Mould: 15°C

Mould design:

Generous gates are helpful for the moulding of filled CABELEC 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.



PHYSICAL PROPERTIES

Typical values for CABELEC® 3842 on injection moulded pieces are presented below :

PROPERTY	CABOT TEST METHOD	UNIT	VALUE
Density @ 23°C	CTM E023	kg/m ³	1090
Hardness (15 second value)	CTM E030 (ASTM D2240)	Shore D	66
Heat Distortion Temperature @ 1.80 MPa	CTM E038 (ISO 75)	° C	46
Vicat Softening Point @ 10 N	CTM E039 (ISO 306)	° C	148
Mould Shrinkage (in flow direction)	CTM E047 (ASTM D955)	%	0.8 - 1.0
Melt Flow Index (230°C/2.16 kg)	CTM E005 (ISO 1133)	g/10 min	0.4
Melt Flow Index (230°C/5 kg)	CTM E005 (ISO 1133)	g/10 min	5
Melt Flow Index (230°C/10 kg)	CTM E005 (ISO 1133)	g/10 min	22
Volume Resistivity	CTM E043B	Ohm.cm	20
Surface Resistivity	CTM E042E	Ohm/sq	200
Flexural Modulus	CTM E040A (ISO 178)	MPa	1500
Tensile Strength at Break	CTM E041 (ISO 527)	MPa	15.6
Tensile Strength at Yield	CTM E041 (ISO 527)	MPa	21
Elongation at Break	CTM E041 (ISO 527)	%	20
Notched Izod Impact @ 23°C	CTM E044A (ISO 180)	kJ/m ²	31
Flammability class (3mm)	UL94	rating	HB 40

Tests are performed according to Cabot Test Methods (CTM) based on international Standards.

Quoted test results should not be used for specification purposes but are typical test values intended for guidance only.

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. Recommended storage life: up to 1 year provided it is stored as directed.

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