

## CABELEC® CA3842



### **Polypropylene Compound for Injection Moulding**

CABELEC CA3842 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 CA3842 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 CA3842 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 CA3842 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.

# CABELEC® CA3842

## Physical Properties

Typical values for CABELEC CA3842 on injection moulded pieces are presented below:

| PROPERTY                               | TEST METHOD*          | UNIT              | VALUE     |
|--|-----------------------|-------------------|-----------|
| Density @ 23°C                         | CTM E023              | kg/m <sup>3</sup> | 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 <sup>3</sup> | 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.



cabotcorp.com

### NORTH AMERICA

Cabot Corporation Business and Technical Center  
157 Concord Road  
Billerica, MA 01821-7001  
USA

**TEL** +1 800 462 2313  
**FAX** +1 978 670 7035

### SOUTH AMERICA

Cabot Latin American Division  
Rue do Paraíso, 148 - 5º andar  
04103-000, Sao Paulo, SP BRAZIL

**TEL** +55 11 2144 6400  
**FAX** +55 11 3253 0051

### EUROPE

Cabot Specialty Chemicals  
Interleuvenlaan 15 i  
3001 Leuven, BELGIUM

**TEL** +32 16 39 24 31  
**TEL** +32 16 39 25 68  
**FAX** +32 16 39 24 44

### MIDDLE EAST/AFRICA

Cabot Specialty Chemicals  
Jebel Ali Free Zone  
LOB 15, Office 424  
Dubai

UNITED ARAB EMIRATES  
**TEL** +971 4 8871 800  
**FAX** +971 4 8871 801

### ASIA PACIFIC

Cabot China Ltd.  
558 Shuangbai Road  
Shanghai 201108, CHINA

**TEL** +86 21 5175 8800  
**FAX** +86 21 6434 5532

### JAPAN

Cabot Specialty Chemicals, Inc.  
Sumitomo Chiba-Daimon Idg. 3F  
2-5-5 Shiba Daimon, Minato-ku, Tokyo 105-0012, JAPAN

**TEL** +81 3 6820 0255  
**FAX** +81 3 5425 4500

This information is provided as a convenience and for informational purposes only. No guarantee or warranty as to this information, or any product to which it relates, is given or implied. This information may contain inaccuracies, errors or omissions and CABOT DISCLAIMS ALL WARRANTIES EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AS TO (i) SUCH INFORMATION, (ii) ANY PRODUCT OR (iii) INTELLECTUAL PROPERTY INFRINGEMENT. In no event is Cabot responsible for, and Cabot does not accept and hereby disclaims liability for, any damages whatsoever in connection with the use of or reliance on this information or any product to which it relates.