

## CABELEC® CA3178 CONDUCTIVE COMPOUND

### Product highlights

CABELEC CA3178 electrically conductive compound is made from a conductive carbon black dispersed in polyamide 6. Its electrical and mechanical properties are not impacted by normal atmospheric conditions. It is suitable for use in injection molding applications.

### Key applications

CABELEC CA3178 conductive compound is suitable for use in products for packaging and handling of electronic products where it is desirable to mitigate the hazard of electrostatic discharge.

### Processing

#### Pre-drying

CABELEC CA3178 conductive compound absorbs moisture under normal storage conditions and this can result in surface blemishes. It is therefore advisable to dry the compound prior to use. Usually 3-4 hours drying at 80°C is sufficient to reduce the moisture content to an acceptable level.

#### Injection molding

CABELEC CA3178 conductive compound can be processed on most types of injection molding machinery. To promote good electrical conductivity, it should be processed under low shear conditions. The optimal processing conditions depend on the machinery, output rate and complexity of the injected part under manufacture. As general guidance, the following injection molding temperatures have been used successfully:

- ◆ Barrel/nozzle: 220 – 275°C
- ◆ Mold: 60°C

#### 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 for guidance only as different equipment could require different operating conditions to achieve the desired results.



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TYPICAL PROPERTIES			
PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
Density @ 23 °C	1196	kg/m <sup>3</sup>	ISO 1183
Melt Flow Index (275°C/10 kg)	10	g/10min	ISO 1133
Hardness (15 second value)	78	Shore D	ISO 868
Heat Distortion Temperature @ 1.80 MPa	66	°C	ISO 75
Vicat Softening Point @ 10 N	215	°C	ISO 306
Mold Shrinkage	1.5 - 2.0	%	ASTM D955
Volume Resistivity	< 10 <sup>3</sup>	Ohm.cm	IEC 61340-2-3
Surface Resistivity	< 10 <sup>4</sup>	Ohm/sq	IEC 61340-2-3
Flexural Modulus	2700	MPa	ISO 178
Flexural Strength	89	MPa	ISO 178
Tensile Strength at Break	45	MPa	ISO 527
Tensile Strength at Yield	55	MPa	ISO 527
Elongation at Break	15	%	ISO 527
Izod Notched Impact Strength @ 23°C	15	kJ/m <sup>2</sup>	ISO 180A
Charpy Notched Impact Strength @ 23°C	12	kJ/m <sup>2</sup>	ISO 179
Charpy Notched Impact Strength @ -30°C	7	kJ/m <sup>2</sup>	ISO 179
Flammability classification (3mm)	HB 40	rating	UL94

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](http://cabotcorp.com).

The CABELEC name is a registered trademark of Cabot Corporation.

#### NORTH AMERICA

Cabot Plastics Canada  
707 Pierre Tremblay Boulevard  
Saint-Jean-sur-Richelieu  
QC, J2X 5G5  
Canada  
T +1 450 347 4371  
F +1 450 347 9936

#### SOUTH AMERICA

Cabot Brasil Indústria e  
Comércio Ltda.  
Rua do Paraíso 148 - 5ª andar  
04103-000 São Paulo  
Brazil  
T +55 11 2144 6400  
F +55 11 3253 0051

#### EUROPE

SIA Cabot Latvia  
101 Mukusalas Street  
LV-1004 Riga  
Latvia  
T +371 670 50 900  
F +371 670 50 985

#### MIDDLE EAST/AFRICA

Cabot Specialty Chemicals  
Jebel Ali Free Zone  
LOB 15, Office 424, Dubai  
United Arab Emirates  
T +971 4 8871 800  
F +971 4 8871 801

#### ASIA PACIFIC

Cabot China Ltd.  
558 Shuangbai Road  
Minghang District  
Shanghai 201108  
China  
T +86 21 5175 8800  
F +86 21 6434 5532

#### JAPAN

Cabot Specialty Chemicals, Inc.  
Sumitomo Chiba-Daimon Bldg, 3F  
2-5-5 Shiba Daimon,  
Minato-ku, Tokyo 105-0012  
Japan  
T +81 6820 0255  
F +81 3 5425 4500

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## Product form and logistics

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

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Comercio Ltda.  
Rua do Paraíso 148 - 5º andar  
04103-000 São Paulo  
Brazil  
T +55 11 2144 6400  
F +55 11 3253 0051

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