

CABELEC® CA3817 CONDUCTIVE COMPOUND

Electrically conductive linear low density polyethylene compound for blown film applications

CABELECCA3817 electrically conductive compound is made from conductive carbon black and a modified linear low density polyethylene resin. Its electrical and mechanical properties are not impacted by atmospheric conditions.

Applications

CABELECCA3817 conductive compound is suggested for packaging and product handling applications where it is desirable to mitigate the hazard of electrostatic discharge, including use in film packaging for explosive powders, pigments and electronic components.

Processing

Special Features

CABELECCA3817 conductive compound absorbs very little moisture from the atmosphere during normal storage and usage conditions. Therefore predrying of the compound before processing is not necessary for most applications. Nevertheless, for critical applications, if the compound is stored outside, and/or used in climates with high relative humidity, it is advisable to predry the material to achieve good quality film. Usually 2 - 4 hours in a dryer at 80°C is sufficient time to reduce the moisture content to an acceptable level.

Blown Film Extrusion

CABELECCA3817 conductive compound can be processed on most types of extrusion equipment. Low shear conditions are nevertheless required in order to achieve good electrical conductivity and mechanical properties. For optimal conductivity, it is advisable to operate with moderate blow up ratios and the highest processing temperatures defined by the manufacturing parameters for good quality film.

As a general guidance, extrusion temperatures and die temperatures of 200°C have been used successfully on blown film extrusion lines.

The information given in this section is provided as guidance only as different equipment could require different processing conditions to achieve the desired results.



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TYPICAL PROPERTIES		
PROPERTY	DATA	TEST METHOD
Density @ 23°C	1038 kg/m ³	CTM E023***
Melt Flow Index (190°C/5 kg)	2 g/10 min	ISO 1133
Melt Flow Index (190°C/10 kg)	6 g/10 min	ISO 1133
Surface Resistivity on 100 µm film	10 ⁴ Ohm/sq	CTM E042B***
Flexural Modulus	284 MPa	ISO 178
Hardness Shore D	63 (15 second value)	CTM E030***
Tensile Strength at Yield * on 100 µm film LD	11.8 MPa	ISO 527
Tensile Strength at Break * on 100 µm film TD	11.5 MPa	ISO 527
Tensile Strength at Break * on 100 µm film LD	25.1 MPa	ISO 527
Tensile Strength at Break * on 100 µm film TD	22.4 MPa	ISO 527
Elongation at Break* on 100 µm film LD	1077%	ISO 527
Elongation at Break* on 100 µm film TD	944%	ISO 527
Trouser Tear Resistance ** on 50 µm film LD	10.6 cN/µm	ASTM D1938
Trouser Tear Resistance ** on 50 µm film TD	10.4 cN/µm	ASTM D1938

* 500 mm/min LD - longitudinal direction

** 250 mm/min TD - transverse direction

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

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

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Product form and logistics

- ◆ Product form: pellets
- ◆ Regional availability: global
- ◆ Packaging options: 25 kg bags or larger quantities to suit customers' specific needs

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.

The CABELEC name is a registered trademark of Cabot Corporation.

NORTH AMERICA

Business & Technology Center
157 Concord Road
Billerica, MA 01821-7001
United States
T +1 800 462 2313
F +1 978 670 7035

SOUTH AMERICA

Cabot Brasil Industria e
Comercio Ltda.
Rua do Paraíso 148 - 5º 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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