CONDUCTIVE COMPOUNDS AND CONCENTRATES

CABELEC® CC6495 CONDUCTIVE CONCENTRATE

Product highlights

CABELEC CC6495 conductive concentrate is an electrically conductive concentrate made from a carefully selected carbon black finely dispersed in polystyrene resins. Its electrical and mechanical properties are not dependent on atmospheric conditions; however, they depend on the type and level of dilution of the resin used and the processing conditions.

Unlike standard conductive compounds, which have very limited dilution potential, CABELEC CC6495 conductive concentrate can be diluted with a high quantity of natural resin. This allows users of CABELEC CC6495 conductive concentrate to benefit from the versatility of this product and from the enhanced physical properties due to higher levels of dilution resin.

The specific carrier resin of CABELEC CC6495 conductive concentrate allows dilution with recycled polystyrene while maintaining good mechanical properties.

Typical applications

CABELEC CC6495 conductive concentrate can be used in extrusion applications such as plain sheets thermoformed for electronics packaging, where it is desirable to mitigate the hazard of electrostatic discharge.

Processing

The information given in this section should be used as a guidance only.

Pre-drying

CABELEC CC6495 conductive concentrate absorbs moisture under normal storage conditions, and this can result in surface blemishes. It is therefore advisable to dry the concentrate prior to use. Usually, 2-3 hours in a dryer at 80°C is sufficient time to reduce the moisture content to an acceptable level.

Compounding

CABELEC CC6495 conductive concentrate may be diluted efficiently on single screw extruders. However, in case of more complex formulations, better results may be obtained by using twin-screw extruders and a temperature profile about 20°C higher than is typically used with virgin resins.

Extrusion

CABELEC CC6495 conductive concentrate can be processed on conventional extrusion equipment. To promote good electrical and mechanical properties of the material it is strongly recommended to use low shear mixing elements. As a general guide, for diluted compounds, extrusion temperatures of 170-210°C have been used successfully on extrusion lines. Temperatures more than 230°C should be avoided. Actual extrusion temperatures should be adapted according to the nature of the equipment and the article to be manufactured to give optimum extrusion quality.

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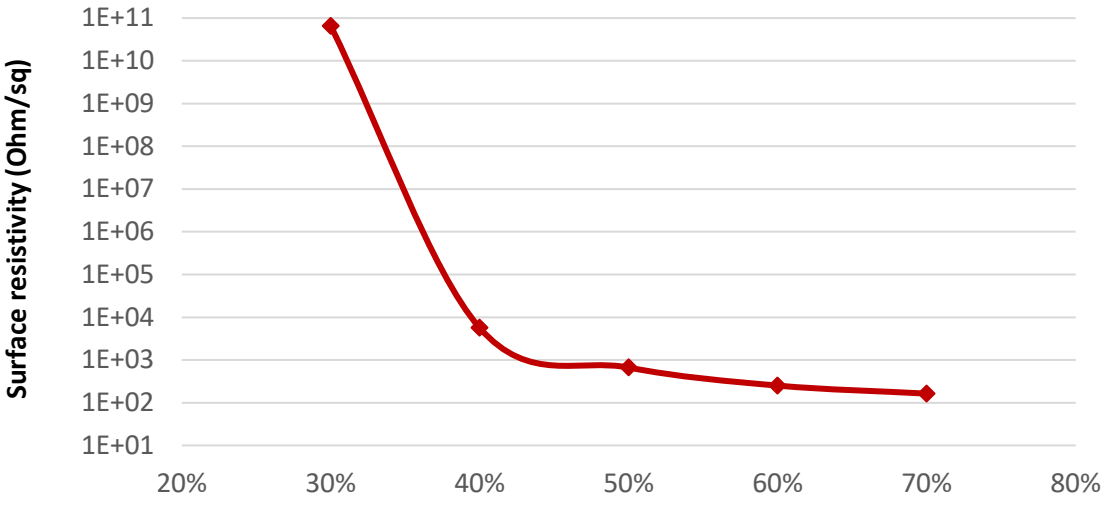
TYPICAL PROPERTIES			
PROPERTY	**TYPICAL VALUE**	**UNIT**	**TEST METHOD**
Density	1200	kg/m^3	ISO 1183
MFI (230°C/21.6 kg)	4.5	g/10 min	ISO 1133

The data in the table above are intended as guidance only and are not product specifications. Product specifications are available upon request from your Cabot representative.

When diluted with a commercially available extrusion grade high impact polystyrene (HIPS), the following surface resistivity levels have been measured on 400µm thick extruded tape (according to internal Cabot Test Method CTM E042):



Properties measured on CABELEC CC6495 conductive concentrate used at 50% dilution rate:

TYPICAL PROPERTIES			
PROPERTY	**DATA**	**UNIT**	**TEST METHOD**
Tensile strength at break (machine direction)*	20	MPa	ISO 527
Tensile elongation at break (machine direction)*	21	%	ISO 527
Notched izod impact @23°C**	9.1	kJ/m^2	ISO 180A
Flexural modulus**	1970	MPa	ISO 178

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Note: Results obtained can depend on the grade of diluent resin used and may vary.
* Test performed on 400µm thick extruded specimens
** Test performed on injection molded specimens

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.

Product form and logistics

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

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.

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

EUROPE
SIA Cabot Latvia
74A Gustava Zemgala gatve
LV- 1039 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