CONDUCTIVE COMPOUNDS AND CONCENTRATES

CABELEC® CA4918 CONDUCTIVE COMPOUND

Product highlights
CABELEC CA4918 electrically conductive compound is made from conductive carbon black dispersed in a modified low density polyethylene resin. Its electrical and mechanical properties are not impacted by normal atmospheric conditions.

Key applications
CABELEC CA4918 conductive compound is suitable for applications where it is desirable to mitigate the hazard of electrostatic discharge, such as the handling and packaging of explosive powders, pigments and electronic components.

Processing

Pre-drying
CABELEC CA4918 conductive compound absorbs very little moisture from the atmosphere under normal storage and usage conditions. Pre-drying of the compound before processing can therefore be avoided in most cases. For critical applications, if the compound is stored outside, and/or used in climates with high relative humidity, it is advisable to pre-dry the material to achieve a good film quality. Typically 2 - 4 hours in a dryer at 80°C is sufficient time to reduce the moisture content to an acceptable level.

Blown film extrusion
CABELEC CA4918 conductive compound can be processed on most types of extrusion equipment. Low shear conditions are required to achieve good electrical conductivity and mechanical properties. For optimal conductivity and good film quality, it is advisable to operate with moderate blow up ratios and the highest processing temperatures defined by the manufacturing parameters.

As general guidance, extrusion temperatures of 180 - 200°C have been used successfully on blown film extrusion lines. Temperatures above 230°C should be avoided.

To promote good electrical and mechanical properties of the material it is nevertheless strongly suggested to avoid high shear mixing elements.

The information given in this section should be used as a guide only as different equipment could need different conditions.
### CABELEC® CA4918 CONDUCTIVE COMPOUND

**TYPICAL PROPERTIES**

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TYPICAL VALUE</th>
<th>UNITS</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density @ 23°C</td>
<td>1060</td>
<td>kg/m³</td>
<td>ISO 1183</td>
</tr>
<tr>
<td>Melt Flow Index (190°C/5 kg)</td>
<td>0.8</td>
<td>g/10 min</td>
<td>ISO 1133</td>
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<tr>
<td>Melt Flow Index (190°C/10 kg)</td>
<td>3.5</td>
<td>g/10 min</td>
<td>ISO 1133</td>
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<tr>
<td>Surface Resistivity on 100 μm film</td>
<td>&lt; 10³</td>
<td>Ohm/sq</td>
<td>IEC 61340-2-3</td>
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<tr>
<td>Tensile Strength at Break* on 100 μm film LD</td>
<td>20</td>
<td>MPa</td>
<td>ISO 527</td>
</tr>
<tr>
<td>Tensile Strength at Break* on 100 μm film TD</td>
<td>20</td>
<td>MPa</td>
<td>ISO 527</td>
</tr>
<tr>
<td>Tensile Strength at Yield* on 100 μm film LD</td>
<td>11</td>
<td>MPa</td>
<td>ISO 527</td>
</tr>
<tr>
<td>Tensile Strength at Yield* on 100 μm film TD</td>
<td>11</td>
<td>MPa</td>
<td>ISO 527</td>
</tr>
<tr>
<td>Elongation at Break* on 100 μm film LD</td>
<td>580</td>
<td>%</td>
<td>ISO 527</td>
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<tr>
<td>Elongation at Break* on 100 μm film TD</td>
<td>425</td>
<td>%</td>
<td>ISO 527</td>
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<tr>
<td>Elongation at Yield* on 100 μm film LD</td>
<td>23</td>
<td>%</td>
<td>ISO 527</td>
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<tr>
<td>Elongation at Yield* on 100 μm film TD</td>
<td>22</td>
<td>%</td>
<td>ISO 527</td>
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<tr>
<td>Trouser Tear Resistance** on 50 μm film LD</td>
<td>5</td>
<td>cN/μm</td>
<td>ASTM D1938</td>
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<tr>
<td>Trouser Tear Resistance** on 50 μm film TD</td>
<td>3</td>
<td>cN/μm</td>
<td>ASTM D1938</td>
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<td>Elmendorf Tear Resistance on 100 μm film LD</td>
<td>21</td>
<td>cN/μm</td>
<td>ASTM D1922</td>
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<tr>
<td>Elmendorf Tear Resistance on 100 μm film TD</td>
<td>20</td>
<td>cN/μm</td>
<td>ASTM D1922</td>
</tr>
</tbody>
</table>

* 500 mm/min
** 250 mm/min
LD - longitudinal direction
TD - transverse direction

NB. No yield was observed. The values quoted are calculated for a theoretical yield at 15% offset.

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.

The CABELEC name is a registered trademark of Cabot Corporation.

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Product form and logistics

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

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