Alathon M5370RF

W&C Polyolefin Compound

Product Description
Alathon M5370RF is a natural, high density polyethylene copolymer resin selected by customers for high-frequency coaxial cable primary insulation. Alathon M5370RF achieves low dissipation factors at high frequencies, and provides high impact strength, stress crack resistance, excellent color, and good processability.

For optimal performance in foamed insulation, Alathon M5370RF should be blended with Petrothene NA217080 and a nucleating package.

Alathon M5370RF meets the requirements of the following: ASTM D 1248, Type III, Class A, Category 3, Grade E11.

Regulatory Status
For regulatory compliance information, see Alathon M5370RF Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status
Commercial: Active

Availability
North America

Application
Wire & Cable

Market
Wire & Cable

Processing Method
Wire & Cable

Typical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Nominal Value</th>
<th>English Units</th>
<th>Nominal Value</th>
<th>SI Units</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melt Flow Rate, (190 °C/2.16 kg)</td>
<td>7.3</td>
<td>g/10 min</td>
<td>7.3</td>
<td>g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Density, (23 °C)</td>
<td>0.953</td>
<td>g/cm³</td>
<td>0.953</td>
<td>g/cm³</td>
<td>ASTM D1505</td>
</tr>
<tr>
<td><strong>Mechanical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexural Modulus, (1% Secant)</td>
<td>185000</td>
<td>psi</td>
<td>1280</td>
<td>MPa</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>Tensile Stress at Break</td>
<td>3500</td>
<td>psi</td>
<td>24.1</td>
<td>MPa</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Stress at Yield</td>
<td>3700</td>
<td>psi</td>
<td>25.5</td>
<td>MPa</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Elongation at Break</td>
<td>1700%</td>
<td>%</td>
<td>1700%</td>
<td>%</td>
<td>ASTM D638</td>
</tr>
<tr>
<td><strong>Hardness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Shore Hardness, (Shore D)</td>
<td>67</td>
<td></td>
<td>67</td>
<td></td>
<td>ASTM D2240</td>
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<tr>
<td><strong>Thermal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vicat Softening Temperature</td>
<td>255</td>
<td>°F</td>
<td>124</td>
<td>°C</td>
<td>ASTM D1525</td>
</tr>
<tr>
<td>Low Temperature Brittleness, F&lt;sub&gt;50&lt;/sub&gt;</td>
<td>&lt;-105</td>
<td>°F</td>
<td>&lt;-76</td>
<td>°C</td>
<td>ASTM D746</td>
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<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume Resistivity</td>
<td>4 x 10&lt;sup&gt;17&lt;/sup&gt;</td>
<td>ohm*cm</td>
<td>4 x 10&lt;sup&gt;17&lt;/sup&gt;</td>
<td>ohm*cm</td>
<td>ASTM D257</td>
</tr>
<tr>
<td>Dielectric Constant, 1 MHz</td>
<td>2.34</td>
<td></td>
<td>2.34</td>
<td></td>
<td>ASTM D150</td>
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<tr>
<td>Dissipation Factor, 1 MHz</td>
<td>0.00002</td>
<td></td>
<td>0.00002</td>
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<td>ASTM D150</td>
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<tr>
<td>Dielectric Strength</td>
<td>700</td>
<td>V/mil</td>
<td></td>
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<td>ASTM D149</td>
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</tbody>
</table>
Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

General Extrusion Conditions

*Aalathon* M5370RF, like other thermoplastic polyolefin resins, can be extruded using a conventional extruder. Below are suggested extrusion conditions for *Aalathon* M5370RF. These conditions are intended as general guidelines only, and are not optimum values, since manufacturing variables such as extruder type and size have an effect on processing of thermoplastic resins.

<table>
<thead>
<tr>
<th>Extruder Zone</th>
<th>Temperature Range</th>
<th>Extruder Zone</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed</td>
<td>300 - 325 °F (149 - 163°C)</td>
<td>Adapter</td>
<td>475 - 500 °F (246 - 260 °C)</td>
</tr>
<tr>
<td>Zone 2</td>
<td>350 - 400 °F (177 - 204 °C)</td>
<td>Die</td>
<td>475 - 500 °F (246 - 260 °C)</td>
</tr>
<tr>
<td>Zone 3</td>
<td>400 - 450 °F (204 - 232 °C)</td>
<td>Melt Temperature</td>
<td>475 - 500 °F (246 - 260 °C)</td>
</tr>
<tr>
<td>Zone 4-X</td>
<td>475 - 500 °F (246 - 260 °C)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Company Information

For further information regarding the LyondellBasell company, please visit [http://www.lyb.com/](http://www.lyb.com/).

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