Aquathene FR409800

Technical Data Sheet

Aquathene FR409800 is a colorable flame retardant masterbatch selected by customers for thermoplastic or moisture cure applications. When FR409800 is melt blended with Aquathene AQ120000 and Aquathene CM04482 or Aquathene CM04483 in a 30% / 65% / 5% ratio, respectively, and crosslinked after exposure to moisture, this formulation is typically used in low voltage power and control cable applications where UL44 and CSA 22.2 (No. 38 and No. 52) specify horizontal flame rating with 90°C service in wet locations.

Product Description

For regulatory compliance information, see Aquathene FR409800 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>Physical</th>
<th>Nominal Value</th>
<th>Units</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melt Flow Rate, (190 °C/2.16 kg)</td>
<td>0.70</td>
<td>g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Density, (23 °C)</td>
<td>1.47</td>
<td>g/cm³</td>
<td>ASTM D1505</td>
</tr>
</tbody>
</table>
Notes
These are typical property values not to be construed as specification limits.

Processing Techniques
Users should determine the conditions necessary to obtain optimum product properties and suitability of the product for the intended application.

The moisture curable system of FR409800, CM04482 and AQ120000 can be extruded onto wire using conventional extrusion equipment.

The total system crosslinks after the materials are mixed during extrusion and subsequently exposed to moisture. Crosslinking can be achieved by exposure to steam, immersion in water or storage at ambient conditions. Since cure time varies considerably with environmental conditions and cable constructions, contact your LyondellBasell sales or technical service representative for detailed cure conditions.

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
Aquathene FR409800, like other thermoplastic polyolefin compounds, can be extruded using a conventional extruder. Below are suggested extrusion conditions for Aquathene FR409800. 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 compounds.

A suggested temperature profile for use with a 2.5", 24:1 extruder equipped with a Maddock mixing screw follows:

<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>130 - 140 °C (266 - 284 °F)</td>
<td>Zone 5</td>
<td>165 - 170 °C (329 - 338 °F)</td>
</tr>
<tr>
<td>Zone 2</td>
<td>140 - 150 °C (284 - 302 °F)</td>
<td>Adapter</td>
<td>165 - 170 °C (329 - 338 °F)</td>
</tr>
<tr>
<td>Zone 3</td>
<td>150 - 160 °C (302 - 320 °F)</td>
<td>Die / Head</td>
<td>165 - 170 °C (329 - 338 °F)</td>
</tr>
<tr>
<td>Zone 4</td>
<td>155 - 165 °C (311 - 329 °F)</td>
<td>Melt</td>
<td>175 - 185 °C (347 - 365 °F)</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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