Technical Data Sheet

**Aquathene AQ120000**

W&C Polyolefin Compound

**Product Description**

*Aquathene AQ120000* is an ethylene vinylsilane copolymer selected by customers for use in power cable applications. This natural resin can be crosslinked by exposure to moisture after extrusion with an appropriate catalyst.

**Regulatory Status**

For regulatory compliance information, see *Aquathene AQ120000* 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

<table>
<thead>
<tr>
<th>Typical Properties</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>1.5</td>
<td>g/10 min</td>
<td>1.5</td>
<td>g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Density, (23 °C)</td>
<td>0.923</td>
<td>g/cm³</td>
<td>0.923</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>Tensile Stress at Break</td>
<td>1920</td>
<td>psi</td>
<td>13.3</td>
<td>MPa</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Elongation at Break</td>
<td>720</td>
<td>%</td>
<td>720</td>
<td>%</td>
<td>ASTM D638</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.

AQ120000 may be combined with other *Aquathene* masterbatches to meet the requirements of UL listed and CSA certified designs and 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**

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>

**Material Handling**

AQ120000 should be stored separately from the crosslinking catalyst masterbatch until extrusion.

Pre-drying is typically not required. For additional handling information see the material's safety data sheet (SDS).

**Company Information**

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

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