Alathon H4837
High Density Polyethylene

Product Description
Alathon H4837 is a high-flow “freezer” grade resin that exhibits enhanced cold temperature impact performance, enhanced processing, and thermal stability with good color and organoleptic properties. Typical applications are rigid food containers such as 4-, 5- and 6- quart ice cream containers that are produced in fast cycling multi-cavity stack molds.

Regulatory Status
For regulatory compliance information, see Alathon H4837 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status
Commercial: Active
Availability
North America
Application
TWIM Food Containers
Market
Rigid Packaging
Processing Method
Injection Molding

Typical Properties

<table>
<thead>
<tr>
<th>Physical</th>
<th>Nominal Value</th>
<th>English Units</th>
<th>SI Units</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melt Flow Rate, (190 °C/2.16 kg)</td>
<td>40</td>
<td>g/10 min</td>
<td>40 g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Density, (23 °C)</td>
<td>0.948</td>
<td>g/cm³</td>
<td>0.948 g/cm³</td>
<td>ASTM D1505</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>37-39</td>
<td>lb/ft³</td>
<td>593-625 kg/m³</td>
<td>ASTM D1895</td>
</tr>
<tr>
<td>Spiral Flow</td>
<td>18.4</td>
<td>in</td>
<td>46.7 cm</td>
<td>LYB Method</td>
</tr>
</tbody>
</table>

| Mechanical               |               |               |          |             |
| Flexural Modulus         |               |               |          |             |
| (1% Secant)              | 143000        | psi           | 985 MPa  | ASTM D790   |
| (2% Secant)              | 120000        | psi           | 827 MPa  | ASTM D790   |
| Flexural Yong’s Modulus  | 154000        | psi           | 1060 MPa | ASTM D790   |
| Tensile Modulus, (1% Secant) | 96200        | psi           | 663 MPa  | ASTM D638   |
| Tensile Yong’s Modulus   | 120000        | psi           | 827 MPa  | ASTM D638   |
| Tensile Stress at Break, (23 °C) | 3160        | psi           | 22 MPa   | ASTM D638   |
| Tensile Elongation at Break, (23 °C) | 5.4          | %             | 5.4 %    | ASTM D638   |

Impact
- Notched Izod Impact Strength, (23 °C) | 0.43 ft-lb/in | 23 J/m | ASTM D256 |
- Unnotched Impact Strength, (-18 °C) | 6.8 ft-lb/in  | 360 J/m | ASTM D4812 |

Hardness
- Shore Hardness, (Shore D, max) | 62          | 62          | ASTM D2240 |

Thermal
- Vicat Softening Temperature | 250 °F | 121 °C | ASTM D1525 |
- Deflection Temperature Under Load, (66 psi, Unannealed) | 147 °F | 64 °C | ASTM D648 |
- Melting Temperature | 259.7 °F | 126.5 °C | ASTM D3418 |
- Crystallization Temperature | 236.5 °F | 113.6 °C | ASTM D3418 |
Notes
Conditions of Tensile Stress and Elongation values are: 50 mm/min, Type IV specimen.
Conditions of Flexural Modulus values are: 0.5 inches/min or 12.5 mm/min.
Conditions of Tensile Modulus values are: 50 mm/min, Type I Specimen.
Spiral Flow measures the number of inches of flow produced when molten resin is injected into a long, spiral channel (0.0625" insert), at a constant injection pressure of 1000 psi with a melt temperature of 440 °F.
Deflection Temperature Under Load and Low Temperature Brittleness data are for control and development work and are not intended for use in design or predicting performance at elevated or sub-ambient temperatures.
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.

Company Information
For further information regarding the LyondellBasell company, please visit http://www.lyb.com/.

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