Technical Data Sheet

*Alathon H4250*

High Density Polyethylene

**Product Description**

*Alathon H4250* 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 four, five and six-quart ice cream containers that are produced at high speeds in fast cycling multi-cavity stack molds.

**Regulatory Status**

For regulatory compliance information, see *Alathon H4250* Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

<table>
<thead>
<tr>
<th>Status</th>
<th>Commercial: Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>North America</td>
</tr>
<tr>
<td>Application</td>
<td>TWIM Food Containers</td>
</tr>
<tr>
<td>Market</td>
<td>Rigid Packaging</td>
</tr>
<tr>
<td>Processing Method</td>
<td>Injection Molding</td>
</tr>
</tbody>
</table>

**Typical Properties**

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Nominal Value</th>
<th>Nominal Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melt Flow Rate, (190 °C/2.16 kg)</td>
<td>50 g/10 min</td>
<td>50 g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Density, (23 °C)</td>
<td>0.942 g/cm³</td>
<td>0.942 g/cm³</td>
<td>ASTM D1505</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>37-39 lb/ft³</td>
<td>593-625 kg/m³</td>
<td>ASTM D1895</td>
</tr>
<tr>
<td>Spiral Flow</td>
<td>17.2 in</td>
<td>43.7 cm</td>
<td>LYB Method</td>
</tr>
</tbody>
</table>

**Mechanical**

Flexural Modulus

(1% Secant) 120000 psi 827 MPa ASTM D790
(2% Secant) 102000 psi 703 MPa ASTM D790

Flexural Young's Modulus 137000 psi 945 MPa ASTM D790

Tensile Modulus, (1% Secant) 100000 psi 689 MPa ASTM D638

Tensile Young's Modulus 137000 psi 945 MPa ASTM D638

Tensile Stress at Break, (23 °C) 3060 psi 21.1 MPa ASTM D638

Tensile Stress at Yield, (23 °C) 3140 psi 21.6 MPa ASTM D638

Tensile Elongation at Break, (23 °C) 12 % 12 % ASTM D638

Tensile Elongation at Yield, (23 °C) 10 % 10 % ASTM D638

**Impact**

Notched Izod Impact Strength, (23 °C) 0.65 ft-lb/in 35 J/m ASTM D256

Unnotched Impact Strength, (-18 °C) No Break No Break ASTM D4812

**Hardness**

Shore Hardness, (Shore D, max) 61 61 ASTM D2240

**Thermal**

Vicat Softening Temperature 240 °F 116 °C ASTM D1525

Deflection Temperature Under Load, (66 psi, Unannealed) 139 °F 59.5 °C ASTM D648

Melting Temperature 255.2 °F 124.4 °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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