Technical Data Sheet

Alathon H5234

High Density Polyethylene

Product Description

Alathon H5234 is a high flow injection molding grade of resin selected by customers for fast cycle and thin wall molding. It provides good cold temperature impact resistance. Typical applications include frozen food, ice cream, and deli/condiment containers.

Regulatory Status

For regulatory compliance information, see Alathon H5234 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status

Commercial: Active

Availability
North America

Application
Housewares; TWIM Food Containers

Market
Rigid Packaging

Processing Method
Injection Molding

Typical Properties

<table>
<thead>
<tr>
<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>34 g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Density, (23 °C)</td>
<td>0.952 g/cm³</td>
<td>ASTM D1505</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>37-39 lb/ft³</td>
<td>ASTM D1895</td>
</tr>
<tr>
<td>Spiral Flow</td>
<td>15.5 in</td>
<td>LYB Method</td>
</tr>
</tbody>
</table>

Mechanical

<table>
<thead>
<tr>
<th>Flexural Modulus</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1% Secant) 169000 psi</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>(2% Secant) 137000 psi</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>Flexural Young's Modulus 175400 psi</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>Tensile Modulus, (1% Secant) 110000 psi</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Young's Modulus 136000 psi</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Stress at Break, (23 °C) 3820 psi</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Elongation at Break, (23 °C) 9.0 %</td>
<td>ASTM D638</td>
</tr>
</tbody>
</table>

Impact

Notched Izod Impact Strength, (23 °C) 0.49 ft-lb/in 26 J/m ASTM D256

Unnotched Impact Strength, (-18 °C) 10 ft-lb/in 530 J/m ASTM D4812

Hardness

Shore Hardness, (Shore D, max) 68 ASTM D2240

Thermal

Vicat Softening Temperature 250 °F 121 °C ASTM D1525

Low Temperature Britleness, Fₜₜ < -105 °F < -76 °C ASTM D746

Deflection Temperature Under Load, (66 psi, Unannealed) 157 °F 69 °C ASTM D648

Melting Temperature 262.9 °F 128.3 °C ASTM D3418

Crystallization Temperature 237.2 °F 114.0 °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 Britteness 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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