Product Description
The Petrothene GA501 series of resins is pelletized linear low density polyethylene selected by customers for film extrusion applications that require excellent drawdown and toughness. These resins have excellent puncture resistance, elongation and heat seal strength. Typical applications include heavy duty shipping sacks, trash can liners, commercial and industrial packaging, as well as food and consumer packaging. GA501 is available without additives or fully formulated with slip and antiblock additives.

Regulatory Status
For regulatory compliance information, see Petrothene GA501022 Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status
Commercial: Active
Availability
North America
Application
Agriculture Film; Bags & Pouches; Can Liners; Film Wrap; Food Packaging Film; Heavy Duty Packaging; Lamination Film; Liner Film; Retail Carryout Bags; Shrink Film
Market
Flexible Packaging
Processing Method
Blown Film

<table>
<thead>
<tr>
<th>Typical Properties</th>
<th>Nominal Value (English Units)</th>
<th>Nominal Value (SI Units)</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melt Flow Rate, (190 °C/2.16 kg)</td>
<td>1.0 g/10 min</td>
<td>1.0 g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Base Resin Density, (23 °C)</td>
<td>0.918 g/cm³</td>
<td>0.918 g/cm³</td>
<td>ASTM D1505</td>
</tr>
<tr>
<td>Product Density, (23 °C)</td>
<td>0.923 g/cm³</td>
<td>0.923 g/cm³</td>
<td>ASTM D1505</td>
</tr>
<tr>
<td><strong>Film</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Dart Drop Impact Strength, F50</td>
<td>100 g</td>
<td>100 g</td>
<td>ASTM D1709</td>
</tr>
<tr>
<td><strong>Tensile Strength at Break</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>6600 psi</td>
<td>45.5 MPa</td>
<td>ASTM D882</td>
</tr>
<tr>
<td>TD</td>
<td>4700 psi</td>
<td>32.4 MPa</td>
<td>ASTM D882</td>
</tr>
<tr>
<td><strong>Tensile Elongation at Break</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>580 %</td>
<td>580 %</td>
<td>ASTM D882</td>
</tr>
<tr>
<td>TD</td>
<td>725 %</td>
<td>725 %</td>
<td>ASTM D882</td>
</tr>
<tr>
<td><strong>1% Secant Modulus</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>27000 psi</td>
<td>186 MPa</td>
<td>ASTM D882</td>
</tr>
<tr>
<td>TD</td>
<td>28000 psi</td>
<td>193 MPa</td>
<td>ASTM D882</td>
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<tr>
<td><strong>Elmendorf Tear Strength</strong></td>
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<td></td>
</tr>
<tr>
<td>MD</td>
<td>125 g</td>
<td>125 g</td>
<td>ASTM D1922</td>
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<tr>
<td>TD</td>
<td>330 g</td>
<td>330 g</td>
<td>ASTM D1922</td>
</tr>
<tr>
<td><strong>Thermal</strong></td>
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<tr>
<td>Vicat Softening Point</td>
<td>225 °F</td>
<td>107 °C</td>
<td>ASTM D1525</td>
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<tr>
<td><strong>Additive</strong></td>
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<tr>
<td>Slip</td>
<td>1350 ppm</td>
<td>1350 ppm</td>
<td>LYB Method</td>
</tr>
<tr>
<td>Antiblock</td>
<td>7000 ppm</td>
<td>7000 ppm</td>
<td>LYB Method</td>
</tr>
<tr>
<td>Polymer Processing Aid</td>
<td>None</td>
<td>None</td>
<td>LYB Method</td>
</tr>
</tbody>
</table>
Notes

Film sample used for testing was 1.0 mil gauge, 2.5:1 BUR.

These are typical property values not to be construed as specification limits.

Processing Techniques

Recommended processing conditions for this product are a melt temperature of 400 - 450 °F and a 1.5 to 3.0:1 blow-up ratio.

Using proper techniques, these products can readily be drawn below 0.90 mils at optimum production rates.

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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