LDPE 312E
Low Density Polyethylene Resin

Overview
LDPE 312E is a fractional melt index low density polyethylene resin, containing slip and antiblock additives. LDPE 312E has been specially designed for superior processability on blown films lines leading to significant output improvements. The resin offers additionally excellent draw down. It can be used pure or in blends with LLDPE resins.

Main Characteristics and Applications:
- Lamination films, Collation shrink, Shopping bags, Garbage bags.
- Health & hygiene films, Food packaging, Collation shrink, Agricultural films.
- Excellent processability and draw down
- Good physical properties in blends with LLDPE
- Can be readily extruded using conventional blown films techniques at melt temperatures between 160 and 195°C

Complies with:
- U.S FDA 21 CFR 177.1520 (c) 2.2
- EU, No 10/2011
- U.S. FDA-DMF
- Canadian HPFB No Objection

Consult the regulations for complete details.

### Additive
- **Antiblock:** 900 ppm
- **Slip:** 385 ppm
- **Processing Aid:** No

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>0.923 g/cm³</td>
<td>0.923 g/cm³</td>
<td>ASTM D792</td>
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<tr>
<td>Melt Index (190°C/2.16 kg)</td>
<td>0.75 g/10 min</td>
<td>0.75 g/10 min</td>
<td>ASTM D1238</td>
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<table>
<thead>
<tr>
<th>Mechanical Properties</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Coefficient of Friction</td>
<td>0.15</td>
<td>0.15</td>
<td>ASTM D1894</td>
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<table>
<thead>
<tr>
<th>Film Properties</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Film Thickness – Tested</td>
<td>2.0 mil</td>
<td>50 µm</td>
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<tr>
<td>Film Puncture Energy</td>
<td>15.9 in./lb</td>
<td>1.80 J</td>
<td>Dow Method</td>
</tr>
<tr>
<td>Film Puncture Force</td>
<td>11.2 lbf</td>
<td>50.0 N</td>
<td>Dow Method</td>
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<tr>
<td>Film Puncture Resistance</td>
<td>48.3 ft/lb/in³</td>
<td>4.00 J/cm³</td>
<td>Dow Method</td>
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</tbody>
</table>

### Secant Modulus
- 2% Secant, MD: 25400 psi, 175 MPa
- 2% Secant, TD: 26800 psi, 185 MPa

### Tensile Strength
- Yield: MD: 1600 psi, 11.0 MPa
- Yield: TD: 1600 psi, 11.0 MPa
- Break: MD: 3630 psi, 25.0 MPa
- Break: TD: 3340 psi, 23.0 MPa

### Tensile Elongation
- Break: MD: 390 %
- Break: TD: 570 %

### Dart Drop Impact
- MD: 170 g
- TD: 170 g

### Elmendorf Tear Strength
- MD: 350 g
- TD: 260 g

<table>
<thead>
<tr>
<th>Optical Properties</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
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<tbody>
<tr>
<td>Gloss (45°)</td>
<td>58</td>
<td>58</td>
<td>ASTM D2457</td>
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<tr>
<td>Haze</td>
<td>9.2 %</td>
<td>9.2 %</td>
<td>ASTM D1003</td>
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<tr>
<td>Extrusion</td>
<td>Nominal Value (English)</td>
<td>Nominal Value (SI)</td>
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<tr>
<td>------------------</td>
<td>-------------------------</td>
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<tr>
<td>Melt Temperature</td>
<td>320 – 383 °F</td>
<td>160 - 196 °C</td>
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</tbody>
</table>

**Extrusion Notes**

Fabrication Conditions for Blown Film:

- Screw Type: Universal
- Output: 25 kg/hr
- Die Diameter: 150 mm
- Blow-Up Ratio: 2.5:1
- Screw Speed: 77 rpm

**Notes**

These are typical properties only and are not to be construed as specifications. User should confirm results by their own tests.
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