ENGAGE™ 8842 Polyolefin Elastomer

Overview
ENGAGE™ 8842 Polyolefin Elastomer is an ultra-low density ethylene-octene copolymer which offers exceptional properties of an ultra-low density elastomer with the added potential of handling this polymer in pellet form.

ENGAGE 8842 has excellent flow characteristics and provides superb impact properties in blends with polypropylene (PP) and polyethylene (PE). It performs well in TPO applications where superior low temperature impact properties are desired.

Main Characteristics:
- Pellet form
- Excellent flow characteristics
- Improved impact in polypropylene and polyethylene
- Talc dusted (untreated, 1 µm)

Applications:
- Injection molded industrial and consumer durable goods
- Impact modification of TPO

<table>
<thead>
<tr>
<th>Physical</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>0.857 g/cm³</td>
<td>0.857 g/cm³</td>
<td>ASTM D792</td>
</tr>
<tr>
<td>Melt Index (190°C/2.16 kg)</td>
<td>1.0 g/10 min</td>
<td>1.0 g/10 min</td>
<td>ASTM D1238</td>
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<tr>
<td>Mooney Viscosity (ML 1+4, 250°F (121°C))</td>
<td>25 MU</td>
<td>25 MU</td>
<td>ASTM D1646</td>
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</table>

<table>
<thead>
<tr>
<th>Mechanical</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Tensile Modulus - 100% Secant (^1) (Compression Molded)</td>
<td>203 psi</td>
<td>1.40 MPa</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Strength (^1) (Break, Compression Molded)</td>
<td>435 psi</td>
<td>3.00 MPa</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Elongation (^1) Break, Compression Molded</td>
<td>1200 %</td>
<td>1200 %</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Flexural Modulus 1% Secant : Compression Molded</td>
<td>653 psi</td>
<td>4.50 MPa</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>Flexural Modulus 2% Secant : Compression Molded</td>
<td>580 psi</td>
<td>4.00 MPa</td>
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<table>
<thead>
<tr>
<th>Elastomers</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Tear Strength (^2)</td>
<td>145 lbf/in</td>
<td>25.4 kN/m</td>
<td>ASTM D624</td>
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<thead>
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<th>Hardness</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Durometer Hardness</td>
<td>54</td>
<td>54</td>
<td>ASTM D2240</td>
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<table>
<thead>
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<th>Thermal</th>
<th>Nominal Value (English)</th>
<th>Nominal Value (SI)</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Glass Transition Temperature</td>
<td>-72.4 °F</td>
<td>-58.0 °C</td>
<td>Dow Method</td>
</tr>
<tr>
<td>Melting Temperature (DSC) (^3)</td>
<td>100 °F</td>
<td>38.0 °C</td>
<td>Dow Method</td>
</tr>
<tr>
<td>Peak Crystallization Temperature (DSC)</td>
<td>68.0 °F</td>
<td>20.0 °C</td>
<td>Dow Method</td>
</tr>
</tbody>
</table>

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

\(^1\) 20 in/min (510 mm/min)

\(^2\) Die C

\(^3\) 10°C/min
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