The solution for high-performance rubber compounds

Unilene®, Braskem’s hydrocarbon resin, offers technical and economic advantages in the processing of rubber formulations and in the performance of finished goods. Its main characteristics include compatibility with a wide range of polymeric materials and applications in rubber compounds in general, such as tires, retreads, injected and extruded parts.
Processing benefits

- Reduces compound viscosity
- Enables higher filler amounts
- Reduces degradation of elastomers
- Reduces energy consumption and equipment wear
- Tackifying agent
- Plasticizer
- Avoids formation of lumps

Flow agent

Benefits for finished goods

- Superior mechanical properties
- Better surface finish and gloss
- Lower failure rate caused by weak points
- Lower abrasion wear

Better balance between grip and friction

TIRE PERFORMANCE

The use of Unilene® in rubber formulations increases tan delta at 0 °C, which means better tire adherence to wet surfaces. Its use also presents a slight reduction in tan delta at 60 °C, which is associated with lower rolling resistance, resulting in fuel savings, lower noise and reduced tire wear.

Series A – Rubber

HIGH TACK RESIN

A80

Lower molecular weight

• Retread and pre-molded parts
• Footwear soles
• General articles

GOOD BALANCE BETWEEN TACK AND PROCESSABILITY

A90

Intermediary molecular weight

• Retread and pre-molded parts
• Tire industry

EXCELLENT PROCESSABILITY

A100

Higher molecular weight

• Tire industry
• Rubber parts and articles

Technical properties

<table>
<thead>
<tr>
<th>Unilene® Hydrocarbon Resins – C9</th>
<th>Tg, °C (DSC)</th>
<th>Softening Point RB (°C) (ASTM E-28)</th>
<th>Gardner Color (ASTM D-1544)</th>
<th>Acid Number (ASTM D-974)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series A (high styrene content)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-80</td>
<td>38</td>
<td>75 – 86</td>
<td>7 max</td>
<td>&lt; 0.10</td>
</tr>
<tr>
<td>A-90</td>
<td>42</td>
<td>87 – 95</td>
<td>7 max</td>
<td>&lt; 0.10</td>
</tr>
<tr>
<td>A-100</td>
<td>54</td>
<td>96 – 105</td>
<td>6 max</td>
<td>&lt; 0.10</td>
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</tbody>
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