AGILITY™ EC 7000 New Generation Extrusion Coating Resin
Future Proof Technology Available Today
AGILITY™ EC 7000 is a new generation extrusion coating resin being part of our new AGILITY™ Performance LDPE portfolio. Enhanced process technology will make AGILITY™ EC 7000 available from multiple sources in multiple global regions thus representing a true global and future proof solution to your demanding extrusion coating needs.

AGILITY™ EC 7000 is specifically designed to allow for higher coating speed at lower gauges, in combination with excellent adhesion, sealing and optical properties.

**Application and Process**
AGILITY™ EC 7000 is a robust and versatile material that can be used as décor, lamination or sealant layer in either single or co-extruded structures. With very forgiving ramp up behavior it reaches highest coating speeds at thinnest web gauges. The table below shows how AGILITY™ EC 7000 compares to renowned extrusion coating materials.

<table>
<thead>
<tr>
<th>Product Reference</th>
<th>MFI 2 (g/10min)</th>
<th>Density (g/cm³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOW™ LDPE PT 7007 / PG 7008</td>
<td>7.5</td>
<td>0.9180</td>
</tr>
<tr>
<td>DOW™ LDPE 7010E</td>
<td>8.5</td>
<td>0.9190</td>
</tr>
<tr>
<td>AGILITY™ EC 7000</td>
<td>4.1</td>
<td>0.9190</td>
</tr>
<tr>
<td>DOW™ LDPE PG 7004</td>
<td>4.1</td>
<td>0.9215</td>
</tr>
</tbody>
</table>

In general, high pressure polyethylene is characterized by shear thinning properties allowing easy conversion at high temperatures and melt shear in the extrusion equipment. Modeling efforts and equipment capabilities demand more than comparisons of melt indices. It is the full rheological response in form of a viscosity curve or metrics like melt elasticity, storage – and loss modulus to characterize the interaction of different set parameters with the ease of conversion of a polymer solution. By the specific molecular design, AGILITY™ EC 7000 is fulfilling the demands for a high speed coating polymer.

The rheological behavior and excellent draw down properties of AGILITY™ EC 7000 allow stable and high speed extrusion applying less than 12 g/m² coating weights at extrusion line speeds higher than 500 m/min. The shear thinning behavior is supporting high temperature extrusion and results in high throughputs with acceptable melt pressure and motor load with a homogeneous melt curtain for equal gauges and constant surface properties.
As can be seen in below diagrams, AGILITY™ EC 7000 is meeting or exceeding renowned extrusion coating industry benchmarks like DOW LDPE PG7008 and DOW LDPE PG7004 when it comes down to process parameters and packaging performance.

AGILITY™ EC 7000 shows excellent heat seal characteristics. Both fin seals and overlap seals to itself or to polyethylene based (co-)polymers show high tightness values. Laboratory- and field testing confirm good sealing characteristics as shown below.

Studies and pilot trials have meanwhile proven very consistent conversion and application properties and Dow’s accredited Organoleptic Laboratory in Terneuzen (The Netherlands) has done extensive taste and odor studies for direct food contact. AGILITY™ EC 7000 also met the requirements for the highly demanding mineral water test as rated by an 18 person organoleptic panel.

In order to make the best possible adjustment to your extrusion coating process, Dow has developed blend solutions that are also based on the new extrusion coating technology. These blends make it possible to adjust the density and rheology of the formulation exactly to the needs of the process and its specific parameters.

Conclusion
With enhanced and globally available process technology, Dow has created AGILITY™ EC 7000 for high speed low gauge processing, meeting the most stringent extrusion coating industry requirements.

Dow is ready to grow with the extrusion coating industry….are you?
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