Your partner in
ELTEX® CAP311
The bimodal HDPE for still water caps
Superstress grade with improved injectability and stiffness

INEOS Olefins & Polymers Europe
ELTEX® Superstress™ CAP311 Series

Product features

/ Very good injectability (MFR 11-like resin)
/ High rigidity
/ Good stress cracking resistance
/ Improved rigidity/stress cracking resistance balance
/ Excellent quality controlled organoleptic properties

This Superstress™ grade is dedicated for the injection moulding and the compression moulding of caps & closures for still mineral water and slightly carbonated or pressurized beverages.
Benefits for the customers

The developed ELTEX® Superstress™ CAP311 produced with INEOS proprietary supported catalyst & process offers the following advantages:

- **Improved stress cracking resistance** allowing more severe storage conditions (higher temperature in hot countries, ...)
- **Enhanced cap rigidity** at same weight
- **Lightweighting potential** as a consequence of higher rigidity and improved ESCR
- **Increased productivity** resulting from lower processing temperatures
- **Energy savings** from lower processing temperatures and reduced cycle times
## Product Characteristics

**Comparison with current INEOS HDPE grades for still mineral water**

<table>
<thead>
<tr>
<th>Properties</th>
<th>Unit</th>
<th>Standard</th>
<th>CAP311</th>
<th>HD6070EA-B</th>
<th>HD5211EA-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>kg/m³</td>
<td>ISO 1183-1</td>
<td>960</td>
<td>960</td>
<td>951</td>
</tr>
<tr>
<td>MI 190°C/2.16 kg</td>
<td>g/10 min</td>
<td>ISO 1133-1</td>
<td>4</td>
<td>7.6</td>
<td>11</td>
</tr>
<tr>
<td>HLMI 190°C/21.6 kg</td>
<td>g/10 min</td>
<td>ISO 1133-1</td>
<td>205</td>
<td>200</td>
<td>&gt;230</td>
</tr>
<tr>
<td>Spiral flow 1 mm/1000 bars/250°C</td>
<td>mm</td>
<td>INEOS</td>
<td>185</td>
<td>164</td>
<td>185</td>
</tr>
<tr>
<td>ESCR on cap (1 bar/40°C/10% Igepal)</td>
<td>h</td>
<td>INEOS</td>
<td>&gt;200</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Apparent cap plateau stiffness</td>
<td>N/mm</td>
<td>INEOS</td>
<td>40</td>
<td>35</td>
<td>29</td>
</tr>
</tbody>
</table>

Data not to be considered as specification

### Spiral flow - MI2.16

- **MFR 7-like resin after temperature decrease of 40°C**
- **MFR 11-like resin**
- **HD5211EA-B**
- **HD6070EA-B**
- **250°C**
- **210°C**

Graph showing spiral flow (MI2.16) at 250°C and 210°C with corresponding MFR values for different resin types.
About us

INEOS is one of the world’s largest chemical companies, founded in 1998. INEOS Olefins & Polymers Europe is a leading producer of olefins and polyolefins.

INEOS Olefins & Polymers Europe offers a full range of high value polyolefins solutions for market applications such as food and industrial packaging, pipe and automotive through dedicated sales, and technical service teams.

INEOS is a safe and environmentally responsible company. We are engaged in developing our sustainable agenda to improve our operations and to implement sustainable solutions for our customers. This includes products that offer lightweighting, energy efficiency, durability (extended lifetime) or conservation of resources. We care.

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