Product Description

Adflex X 101 H is a reactor TPO (thermoplastic polyolefin) manufactured using LyondellBasell’ s proprietary Catalloy process technology. It exhibits a high softness and a low modulus, with a relatively high melt flow index. Adflex X 101 H is tailored to replace atactic polypropylene copolymers (APP) used for the modification of bitumen in roofing membranes. The percentage to be added can vary according to the quantity of the atactic polypropylene used in combination with Adflex X 101 H and the requested cold bending temperature of the end product. Due to the high molecular weight of Adflex X 101 H, high blend viscosity and good penetration values are obtained. Its structure is tailored to obtain easy dispersion and phase inversion in the bitumen blend. Adflex X101H is also used in other industrial applications where high flexibility and the capability of accepting high filler loading levels are required. The grade is available in natural pellet form.

Regulatory Status

For regulatory compliance information, see Adflex X 101 H Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status

Commercial: Active

Availability

Africa-Middle East; Asia-Pacific; Australia and New Zealand; Europe; North America; South & Central America

Application

Bitumen Modification; Cured in Place Pipe; Industrial; Specialty Film

Market

Flexible Packaging; Industrial, Building & Construction

Processing Method

Cast Film; Compounding; Injection Molding

Attribute

Good Chemical Resistance; Good Flexibility; High ESCR (Environmental Stress Cracking Resistance); High Flow; Low Temperature Impact Resistance; Soft

Typical Properties

<table>
<thead>
<tr>
<th>Typical Properties</th>
<th>Nominal Value</th>
<th>Units</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melt Flow Rate, (230 °C/2.16 kg)</td>
<td>8</td>
<td>g/10 min</td>
<td>ISO 1133-1</td>
</tr>
<tr>
<td>Density, (23 °C, Method A)</td>
<td>0.88</td>
<td>g/cm³</td>
<td>ISO 1183-1</td>
</tr>
<tr>
<td>Mechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexural Modulus</td>
<td>80</td>
<td>MPa</td>
<td>ISO 178</td>
</tr>
<tr>
<td>Tensile Stress at Break</td>
<td>10</td>
<td>MPa</td>
<td>ISO 527-1, -2</td>
</tr>
<tr>
<td>Tensile Stress at Yield</td>
<td>6</td>
<td>MPa</td>
<td>ISO 527-1, -2</td>
</tr>
<tr>
<td>Tensile Strain at Break</td>
<td>&gt;600</td>
<td>%</td>
<td>ISO 527-1, -2</td>
</tr>
<tr>
<td>Tensile Strain at Yield</td>
<td>&gt;40</td>
<td>%</td>
<td>ISO 527-1, -2</td>
</tr>
<tr>
<td>Impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charpy Impact Strength - Notched</td>
<td>40</td>
<td>kJ/m²</td>
<td>ISO 179</td>
</tr>
<tr>
<td>(23 °C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note: Failure Mode - Partial Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-20 °C)</td>
<td>105</td>
<td>kJ/m²</td>
<td>ISO 179</td>
</tr>
<tr>
<td>Note: Failure Mode - Partial Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-40 °C)</td>
<td>3.6</td>
<td>kJ/m²</td>
<td>ISO 179</td>
</tr>
<tr>
<td>Note: Failure Mode - Complete Break</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Notes**

These are typical property values not to be construed as specification limits.

**Processing Techniques**

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

**Company Information**

For further information regarding the LyondellBasell company, please visit [http://www.lyb.com/](http://www.lyb.com/).

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### Hardness

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Standard</th>
</tr>
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<tbody>
<tr>
<td>Shore Hardness (Shore D, 15 sec)</td>
<td>30</td>
<td>ISO 868</td>
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### Thermal

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Standard</th>
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</thead>
<tbody>
<tr>
<td>Vicat Softening Temperature, (A50)</td>
<td>54 °C</td>
<td>ISO 306</td>
</tr>
<tr>
<td>Heat Deflection Temperature B, (0.45 MPa, Unannealed)</td>
<td>39 °C</td>
<td>ISO 75B-1,-2</td>
</tr>
<tr>
<td>DSC Melting Point</td>
<td>142 °C</td>
<td>ISO 11357-3</td>
</tr>
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</table>

### Additional Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mold Shrinkage</td>
<td></td>
<td>ISO 294-4</td>
</tr>
</tbody>
</table>

Please contact LyondellBasell for shrinkage information.