Mowiflex for blown films

Technical data sheet

Characteristics:
Development grades of thermoplastic polyvinyl alcohol; cold, medium and hot water soluble

Recommended uses:
Development grade for water soluble blown films

Form supplied:
Pellets

Processing:

KEG blown film extruder: Dr. Collin, 2003

30 mm single screw, no mixing elements, no melt slieves, etc.
L/D = 25 = 5 D (Zone 8)
50 mm die, helix structure, 0,8 mm slit

Screw design:

\[
\begin{align*}
L1 &= 7 \, D \\
L2 &= 5 \, D \\
L3 &= 9 \, D \\
L4 &= 2 \, D \\
L5 &= 2 \, D \\
d &= 30,0 \, mm \\
d1 &= 17,6 \, mm \\
d2 &= 26,9 \, mm \\
\end{align*}
\]

Kompression (Compression / Compression)
Gangtiefenverhältnis / Depth of thread /
Rapport de profondeur de spire

3,34
4,00

Channel width: 2,5 cm (0,8 D)
Flight width: 0,4 cm
**Processing parameters:**

<table>
<thead>
<tr>
<th>Mowiflex film grade</th>
<th>Temperature - actual value [°C]</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Cold water soluble</td>
<td>50</td>
</tr>
<tr>
<td>Lukewarm water soluble</td>
<td>45</td>
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<tr>
<td>Hot water soluble</td>
<td>50</td>
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</tbody>
</table>

All Kuraray Mowiflex grades can be used on commercial standard extruders as known for the processing of thermoplastic polyolefins. The material absorbs moisture once the packaging is opened and should therefore be processed only from unopened original containers. Otherwise bubbles may occur in the film. Damp material can be dried at 60°C - 80°C for 6 - 8 hours in a circulating-air dryer. Dry content can be determined shortly before extrusion, e.g. using a Sartorius Moisture Analyzer MA 100.

Melt temperature during extrusion should not exceed 225°C because at higher temperatures the material suffers thermal damage, recognizable by yellow discoloration and an increase in melt pressure and torque. Residence time should be as short as possible, 5 - 10 minutes at most. It is recommended not to use melt sieves or filters because of degradation of PVOH.

**Cleaning the extruder**

Following the extrusion, it is necessary to purge the extruder with a polyolefin of similar melt viscosity. Depending on the design of the extruder (dead zones, screw configuration, etc.), however, this can leave polyvinyl alcohol residues in the barrel and/or die, which can then crosslink or degrade under the influence of heat and will contaminate further production runs. Therefore, it is advisable and strongly recommended to dismantle and to clean the extruder.

**Package**

Mowiflex grades are packed in 25 kg aluminium coated paper bags due to the fact that PVOH is moisture sensitive.

Pallet size: 500 kg. Blown Film samples are also available.

**Storage**

Mowiflex remains stable for at least 12 months in its original container provided if it is stored correctly, i.e. indoors in a dry environment and at room temperature.

**Occupational safety and environmental protection**

Mowiflex is not a dangerous substance or preparation as defined by German chemical law or dangerous goods regulations or EC Directives 67/548/EC and 1999/45/EC in their current versions.

A safety data sheet is available on request.