Anti-fog agents
MODIPER® H series

- Excellent anti-fog property and abrasion resistance
- Excellent age resistance of anti-fog property and durability
- Two types (UV curing and thermal curing)

Mechanism of anti-fog property

- Before: Water vapor adheres to the lens surface and becomes tiny droplets.
- Due to tiny water droplets, fogging appears.
- After: The film absorbs water droplets.
- It is not foggy, because the film absorbs water droplets.

Expected applications

- Transparent parts of automobile
- Disaster prevention mask, and lens
Typical film properties of MODIPER® H

<table>
<thead>
<tr>
<th>Test Condition</th>
<th>Non treated Polycarbonate</th>
<th>UV curing</th>
<th>Thermal curing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MODIPER® H1100</td>
<td>MODIPER® H2000</td>
</tr>
<tr>
<td>Anti-fog property (Exposure 35 °C steam for 5 min.)</td>
<td>Fogging</td>
<td>No fogging</td>
<td>No fogging</td>
</tr>
<tr>
<td>Anti-fog property (After water washing, exposure 35 °C steam for 5 min.)</td>
<td>Fogging</td>
<td>No fogging</td>
<td>No fogging</td>
</tr>
<tr>
<td>Abrasion resistance (Taber 500 g weight 100 times, haze)</td>
<td>44 %</td>
<td>4 %</td>
<td>10 %</td>
</tr>
<tr>
<td>Abrasion resistance (Steel wool 500 g weight 10 times, haze)</td>
<td>19 %</td>
<td>1 %</td>
<td>4 %</td>
</tr>
<tr>
<td>Heat-resistance (Exposure 80 °C for 100 hrs.)</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
</tbody>
</table>

**MODIPER® H1100 Curing condition**
Pre-heating: 100 °C 30 min., UV: 1 J/cm²(O₂ concentration: Under 1000 ppm), Dry film thickness: 20 μm

**MODIPER® H2000 Curing condition**
Heating: 100 °C 30 min., Dry film thickness: 7 μm
Substrate: Polycarbonate

**Antifog property (Rear window)**

<table>
<thead>
<tr>
<th></th>
<th>Non coat</th>
<th>MODIPER® H1100 coat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharp view!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Abrasion resistance (Polycarbonate)**

<table>
<thead>
<tr>
<th></th>
<th>Non coat</th>
<th>MODIPER® H1100 coat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent abrasion resistance!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“MODIPER” is a registered trademark of NOF CORPORATION.

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