BALINIT MOLDENA

Abrasion and corrosion resistant coating for injection moulding and extrusion of filled polymers
Longer mould service life and high product quality for injection moulding and extrusion of filled polymers

The newly developed coating from Oerlikon Balzers is 7 µm thin, exceeds the hardness of almost all previous coatings for processing plastics and offers outstanding abrasion and corrosion resistance. These last two properties make it the perfect coating for injection moulding and extrusion of abrasive materials such as glass fibre reinforced plastics, and it is also ideal for injection moulding of corrosive materials such as fully recycled materials or those with a high flame retarder content. When a standard coating is applied to injection moulds used to process unsaturated polyester (40%), the coating peeled off after 40,000 shots. With the new coating BALINIT® MOLDENA, the same high product quality was provided even after 200,000 shots.

BALINIT MOLDENA in detail

Characteristics

- Superior abrasive and corrosion resistance
- High hardness
- Less sticking

Applications

- Injection moulding of abrasive materials
  e.g. glass fiber filled materials (> 30%)
- Extrusion of abrasive and corrosive materials
- Injection moulding of corrosive materials
  e.g. high recycled material content
  e.g. high flame retarder content
**Technical data comparison**

<table>
<thead>
<tr>
<th></th>
<th>BALINIT® CROMA</th>
<th>BALINIT® CROMA PLUS</th>
<th>BALINIT® MOLDENA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coating material</td>
<td>CrN</td>
<td>CrN+OX</td>
<td>CrN/CrON</td>
</tr>
<tr>
<td>Microhardness (HV 0.05)</td>
<td>2,300</td>
<td>2,500</td>
<td>2,800</td>
</tr>
<tr>
<td>Coating thickness (μm)</td>
<td>3 coating thicknesses available: 4 – 6 / 6 – 8 / 8 – 10</td>
<td>1 thickness: ~7</td>
<td></td>
</tr>
<tr>
<td>Hardness (GPa)</td>
<td>25 +/- 3</td>
<td>25 +/- 3</td>
<td>28 +/- 3</td>
</tr>
<tr>
<td>Max. service temperature (°C)</td>
<td>700</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td>Coating temperature (°C)</td>
<td>250 – 450</td>
<td>250 – 450</td>
<td>350</td>
</tr>
<tr>
<td>Coating colour</td>
<td>Silver grey</td>
<td>Rainbow</td>
<td>Dark rainbow</td>
</tr>
<tr>
<td>Coating structure</td>
<td>Multilayer</td>
<td>Multilayer</td>
<td>Multilayer</td>
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<tr>
<td>Available in BALINIT® DUPLEX Series</td>
<td>Yes</td>
<td>Yes</td>
<td>DUPLEX</td>
</tr>
</tbody>
</table>

All given data are approximate values, they depend on application, environment and test condition.

**Abrasive resistance**

BALINIT® MOLDENA shows much less wear compared to all standard Oerlikon Balzers abrasive resistant coatings.

![Abrasive resistance chart]

Measured wear depth after 60 min accelerated wear test (SRV) against Al2O3.
Explore the new coating-solution BALINIT MOLDENA!
Contact us now!

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