Make your products shine with BALITHERM PRIMEFORM

The innovative and highly efficient treatment for brilliant mould surfaces
BALITHERM PRIMEFORM: The innovative repair effect for mould surfaces and higher productivity

As a professional, you are aware of this problem: Mirror-polished surfaces in plastics injection moulding are very sensitive. Heavily stressed surfaces in particular are prone to wear and scratches caused by environmental effects or improper handling. Subsequent repairs or even repolishing is time-consuming and costly.

That’s why we developed BALITHERM® PRIMEFORM – a plasma-assisted treatment that perceptibly boosts the surface hardness of your moulds with a diffusion coating. Additionally, it prevents build-up, flaking, and embrittlement at edges.

Brilliant benefits for you

<table>
<thead>
<tr>
<th>Wear resistance</th>
<th>Corrosion resistance</th>
<th>Scratch resistance</th>
<th>Very good polishability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface hardness increase to over 1400 HV</td>
<td>Greater protection against aggressive substances and condensates</td>
<td>Reduced mould sensitivity to improper handling</td>
<td>Repolishing possible without repeating the BALITHERM® PRIMEFORM treatment</td>
</tr>
</tbody>
</table>

Reduced maintenance costs
Mould repairs possible without stripping and recoating (good weldability)

Consistently high component surface quality
Preservation of mould gloss

Efficient production

Steel moulds for plastics treated with BALITHERM PRIMEFORM have better properties

<table>
<thead>
<tr>
<th>Steel grade</th>
<th>1.2738/1.2311/1.2312</th>
<th>1.2343/1.2344</th>
<th>1.4112/1.4122</th>
<th>1.8519/1.8550/1.7735</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P20+Ni/P20/P20+S</td>
<td>H11/H13</td>
<td>440B/-</td>
<td>-/-/A470</td>
</tr>
<tr>
<td></td>
<td>SKD 6/SKD 61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>untreated</td>
<td>BALITHERM® PRIMEFORM</td>
<td>BALITHERM® PRIMEFORM</td>
<td>BALITHERM® PRIMEFORM</td>
<td>BALITHERM® PRIMEFORM</td>
</tr>
<tr>
<td>Polishability</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Etchability</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Weldability</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Surface hardness</td>
<td>--</td>
<td>+</td>
<td>++</td>
<td>+</td>
</tr>
</tbody>
</table>

BALITHERM® is a registered trademark in the Principality of Liechtenstein.
The optimised solution for every application

Automobiles
Examples: bumpers, headlights, and seat shells

Agricultural machinery
Examples: external parts

Trucks
Examples: external parts

Furniture
Example: plastic seats

Household appliances
Examples: high-gloss fittings and fascia panels

Electrical devices
Example: covers

Medical technology
Example: Reusable syringes

Packaging industry
Example: Beverage bottles

A compelling advantage

Problem so far
Slight corrosion in hard-to-reach places despite TiN / CrN. Scratches caused while cleaning the mould – difficult or impossible to remove. Disadvantages: Multiple stripping and recoating or new hard chrome-plating, elaborate maintenance required.

Solution
BALITHERM® PRIMEFORM. For noticeably improved demoulding, optimised process reliability, enhanced component quality.

Result
Improved production efficiency and reliability. Reduced scrap costs. Productivity gain in the magnitude of 60%.
Specifications

| Treatable steels | Strong steels with dimensional stability up to temperatures of 450°C, e.g. 1.2311, 1.2738, 1.2316, 1.2343, 1.2344, 1.2379, 1.2083 (secondary heat treatment), 1.4112/1.4122, 1.8519/1.8550/1.7735 |
| Treatment temperature | 450°C standard, 380°C on request (steels with > 10% Cr). Please always double check with the BALITHERM® PRIMEFORM product information |
| Treatable surfaces | Polished surfaces (mirror/brushed) and textured surfaces (shot-peened, etched, eroded) |
| Post-treatment | Generally possible |
| Combinations with other coatings | BALINIT® C, BALINIT® ALCRONA PRO, BALINIT® FUTURA NANO, BALINIT® LUMENA, BALINIT® D, BALINIT® A, BALINIT® CROMA, BALINIT® CROMA PLUS, BALINIT® DYLYN, BALINIT® DYLYN PLUS, BALINIT® DYLYN PRO |
| Tool dimensions | Length max. 9.500 mm Part weights up to 25 t |

Tap into our global network of coating centres to fully exploit the potential of your plastic injection moulds

Balzers Headquarters
Oerlikon Balzers Coating AG
Balzers Technology and Service Centre
Iramai 18
LI-9496 Balzers
Liechtenstein
T +423 388 7500
www.oerlikon.com/balzers

Brazil
Oerlikon Balzers Revestimentos Metálicos Ltda
Rua Balzers, 250
Parque Industrial Jundai-SP 13213-084
T +55 11 2152 0464
www.oerlikon.com/balzers/br

Germany
Oerlikon Balzers Coating Germany GmbH
Am Ockenheimer Graben 41
D-55411 Bingen
T +49 67 21 7 93-0
www.oerlikon.com/balzers/de

France
Oerlikon Balzers Coating France SAS
P.A. des 3 Noyers
16 avenue James de Rothschild
F-77164 Ferrières-en-Brie
T +33 1 64 12 49 00
www.oerlikon.com/balzers/fr

Korea
Oerlikon Balzers Coating Korea Co., Ltd.
49, Hansan-gil, Cheongbuk-myeon,
Pyeongtaek, Gyonggi-do,
Korea, 451-833
T +82 31 680 9900
www.oerlikon.com/balzers.kr

Mexico
Oerlikon Balzers Coating México, S.A. de C.V.
Acceso III No. 304 y 306
Colonia Industrial La Montaña
C.P. 76150
Querétaro, Qro.
T +52 442 209 68 00
www.oerlikon.com/balzers/mx

USA
Oerlikon Balzers Coating USA, Inc.
1475 E. Woodfield Rd.
Suite 201
Schaumburg, IL 60173
www.oerlikon.com/balzers/us

Further coating centres
Argentina, India, Indonesia, Italy, Japan, Canada, Liechtenstein, Malaysia, Netherlands, Austria, Poland, Portugal, Romania, Russia, Scandinavia, Switzerland, Spain, Thailand, Czech Republic, Turkey, Ungaria

You can find a full listing of our locations at: www.oerlikon.com/balzers