

# **BALINIT CROMA: Maximum performance for plastics processing.**

The innovative wear protection solution  
for more productivity and efficiency.

Plastics



# With **BALINIT CROMA**, your plastics processing will be in top form.

Whether injection molding, extrusion or blow molding: Only forming tool surfaces of the best quality ensure optimal productivity and efficiency in manufacturing processes. Take advantage of the **BALINIT® CROMA** and **BALINIT® CROMA PLUS**

**PLUS** wear protection solutions from Oerlikon Balzers, a worldwide technological leader in the field of hard coatings. They offer you the precise advantages that are essential for reliability and success in your plastics processing.

## **Extremely coating hardness**

High-level protection from abrasive wear  
Protection from wear due to cleaning processes and tool damage

## **Multi-layer structure**

Significantly less corrosion due to a chemically saturated, dense multi-layer structure

## **Low coefficient of friction**

The molding materials show very good sliding behaviour on the tool surfaces

## **First-class surface properties**

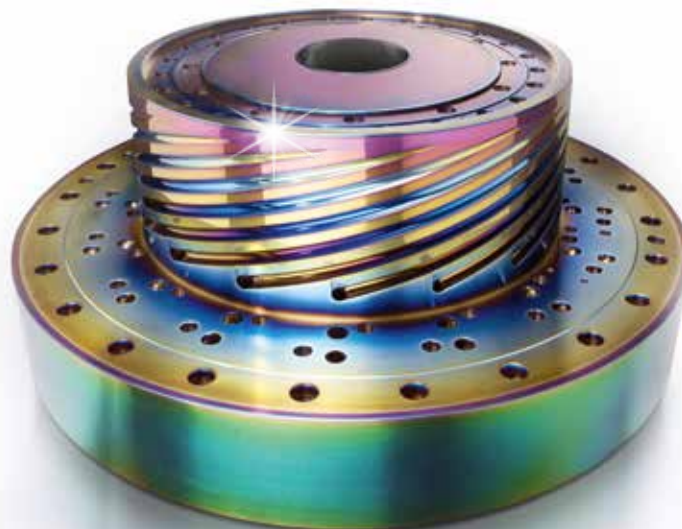
Excellent adhesion  
Surfaces with low reactivity  
Significant reduction of deposits

**Reduction of tool costs due to longer tool service lives**

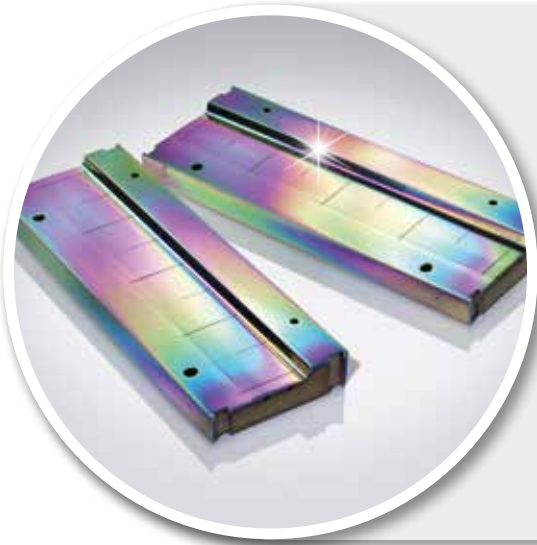
**Reduction of product and piece costs through decreased machine downtimes and improved tool surface quality**

**Reduction of maintenance costs through decreased servicing and cleaning requirements**

**BALINIT® CROMA and BALINIT® CROMA PLUS:  
Increased productivity, economy and manufacturing process reliability**



## Top performance data for added value.



### BALINIT® CROMA PLUS for plastic window frames

**Tool**

Vacuum calibration unit

**Workpiece**

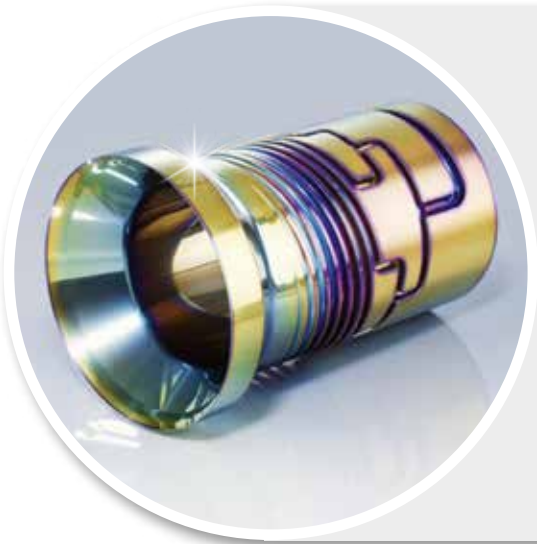
PVC window frames

**Challenge**

Untreated: Glass fibres and TiO<sub>2</sub> cause abrasion on the edges of the vacuum grooves as well as on the flat sliding surface; this leads to scratches on the profile and stick-slip effects

**The solution: BALINIT® CROMA PLUS**

- High-level abrasion and scratch resistance
- Increased coating service life by up to 6,000 miles / 9.600 kilometres
- Oxide coating produces 30% better material flow
- Reduction of sticking
- Higher productivity and manufacturing process reliability



### BALINIT® CROMA PLUS for plastic films

**Tool**

Spiral mandrel die

**Workpiece**

HDPE packaging film

**Challenge**

Quality issues in the films due to local plastic spots sticking to the surface, abrasive cleaning causing wear and scratches, surface gets dull and rougher after ~1 year process

**The solution: BALINIT® CROMA PLUS**

- Greater production efficiency and reliability
- Significantly reduced or even eliminated sticking
- Excellent scratch protection
- No chemical interaction – no visual change of BALINIT® CROMA PLUS

## Persuasive coating properties!

	BALINIT® CROMA	BALINIT® CROMA PLUS
Micro hardness (HV 0.05)	2,500	2,500
Coefficient of friction (dry against steel)	0.3 – 0.5	0.3 – 0.5
Coating thickness (µm)	4 – 10	4 – 10
Coating material / coating structure	CrN (multi-layer)	CrN+OX (multi-layer with top layer)
Maximum service temperature (°C)	700	700
Coating temperature (°C)	250 – 450	250 – 450
Corrosion protection	++	++
Intrinsic roughness	++	++
Colour	Silver-grey	Rainbow

Coatings also available in the DUPLEX series.

All data is understood to represent guideline values. Exact values are dependent on the respective substrate, the geometry and the surface finish.

# Benefit from the high-performance coatings **BALINIT CROMA and BALINIT CROMA PLUS.** Contact us now!

## **Headquarters Balzers**

Oerlikon Balzers Coating AG  
Balzers Technology and  
Service Centre  
Iramali 18  
LI-9496 Balzers  
Liechtenstein  
T +423 388 7500  
[www.oerlikon.com/balzers](http://www.oerlikon.com/balzers)

## **Liechtenstein**

Oerlikon Balzers Coating AG  
Beschichtungszentrum  
Iramali 18  
LI-9496 Balzers  
T +423 388 5701  
[www.oerlikon.com/balzers/fl](http://www.oerlikon.com/balzers/fl)

## **Belgium**

Oerlikon Balzers Coating Benelux  
N.V./S.A.  
Schurhovenveld 4050  
B-3800 Sint-Truiden  
T +32 1169 30 40  
[www.oerlikon.com/balzers/be](http://www.oerlikon.com/balzers/be)

## **Brazil**

Oerlikon Balzers Revestimentos  
Metálicos Ltda  
Rua Balzers, 250  
Parque Industrial  
Jundiáí-SP 13213-084  
T +55 11 2152 0464  
[www.oerlikon.com/balzers/br](http://www.oerlikon.com/balzers/br)

## **China**

Oerlikon Balzers Coating (Suzhou)  
Co., Ltd  
No.9 Chang Yang Street  
Suzhou Industry Park  
Jiangsu Province  
Suzhou 215024  
China  
T +86 512 67620369  
[www.oerlikon.com/balzers/cn](http://www.oerlikon.com/balzers/cn)

## **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](http://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  
France  
T +33 1 64 12 49 00 [www.oerlikon.com/balzers/fr](http://www.oerlikon.com/balzers/fr)

## **Italy**

Oerlikon Balzers Coating Italy S.p.A.  
Via Volturmo 37  
20861 Brugherio  
Italy  
T +39 039 289 901  
[www.oerlikon.com/balzers/it](http://www.oerlikon.com/balzers/it)

## **Korea**

Oerlikon Balzers Coating  
Korea Co., Ltd.  
49, Hansan-gil, Cheongbuk-myeon,  
Pyeongtaek,  
Gyeonggi-do,  
Korea, 451-833  
T +82 31 680 9900  
[www.oerlikon.com/balzers/kr](http://www.oerlikon.com/balzers/kr)

## **Luxembourg**

Oerlikon Balzers Coating Luxembourg  
s.à.r.l.  
Route de Bascharage  
Zone Industrielle Haaneboesch  
4513 Niedercorn  
Luxembourg  
T +352 265 80891  
[www.oerlikon.com/balzers/be](http://www.oerlikon.com/balzers/be)

## **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](http://www.oerlikon.com/balzers/mx)

## **Austria**

Oerlikon Balzers Coating Austria  
GmbH  
Burgstallweg 27  
A-8605 Kapfenberg  
T +43 38 62 34144  
[www.oerlikon.com/balzers/at](http://www.oerlikon.com/balzers/at)

## **Switzerland**

Oerlikon Balzers Coating SA, Brügg  
Erlenstrasse 39  
CH-2555 Brügg  
T +41 323 65 74 74  
[www.oerlikon.com/balzers/ch](http://www.oerlikon.com/balzers/ch)

## **USA**

Oerlikon Balzers Coating USA, Inc.  
1475 E. Woodfield Rd.  
Suite 201  
Schaumburg, IL 60173  
United States  
T +1 847 619-5541  
[www.oerlikon.com/balzers/us](http://www.oerlikon.com/balzers/us)

Our worldwide coating centre network  
addresses are listed at:

[www.oerlikon.com/balzers](http://www.oerlikon.com/balzers)