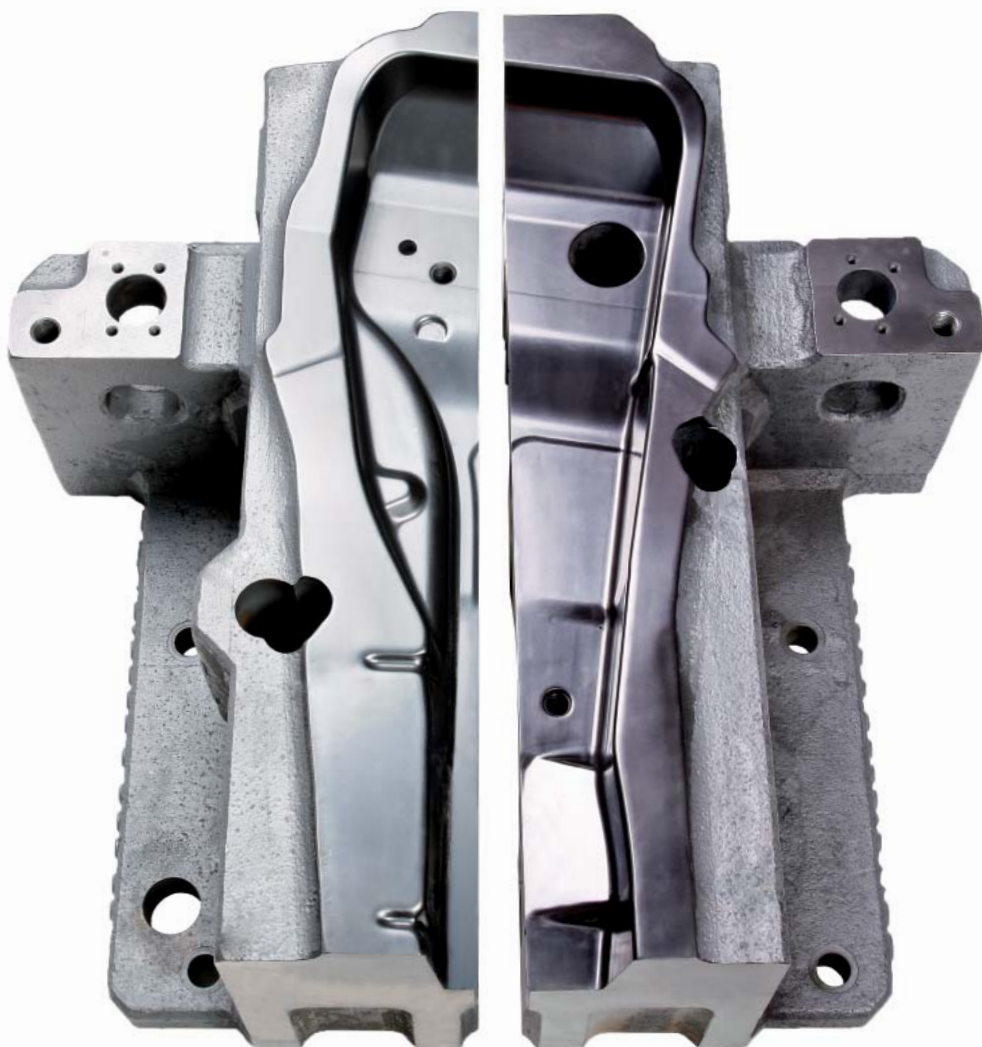


BALINIT[®] ADVANCED Series: Good times for round edges



Optimised adhesion, improved surface support and resistance to abrasive wear

Punching and forming tools as well as pressure die-casting moulds are exposed to complex stress profiles, particularly in edge zones. Moreover, significant stress gradients occur between the surface and the remaining volume of the tool.

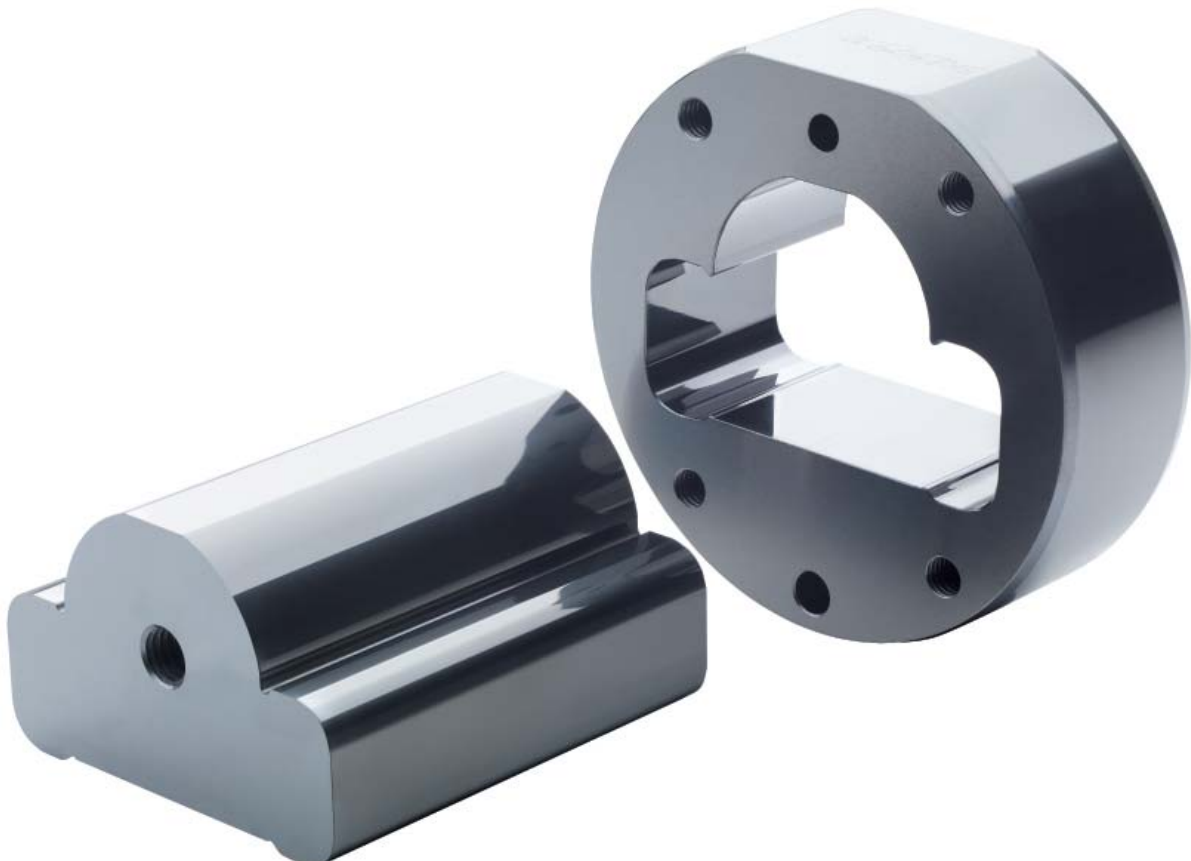
Balzers' solution The ADVANCED Series coatings developed by Oerlikon Balzers enhance the support effect of the tool surface and substantially improve the performance potential of the hard coating. Tool service life is prolonged by as much as 100%.

The ADVANCED Series is also an alternative for tools that so far have been treated with CVD or TD (Toyoda Diffusion) because of service life considerations. The PVD ADVANCED technology prevents geometrical and dimensional changes and delivers equivalent or better results.

Oerlikon Balzers' BALINIT® FUTURA NANO ADVANCED, BALINIT® LUMENA ADVANCED, and BALINIT® ALCRONA PRO ADVANCED are optimised PVD coatings with perceptibly enhanced performance. Additional advantages of this series of coatings also include greater surface hardness and homogeneous hardness profiles.

Advantages

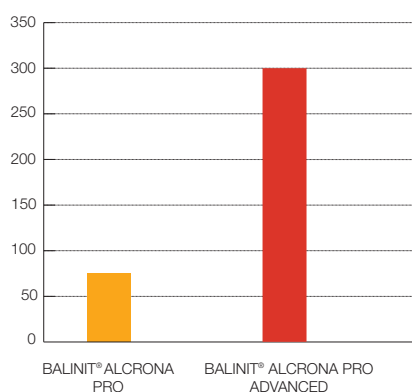
- Improved coating adhesion
- Higher load capacity
- Greater resistance to abrasive wear
- Less tendency to heat checking
- Greater resistance to crack initiation and propagation
- Optimised critical load



Greater performance potential due to optimised parameters

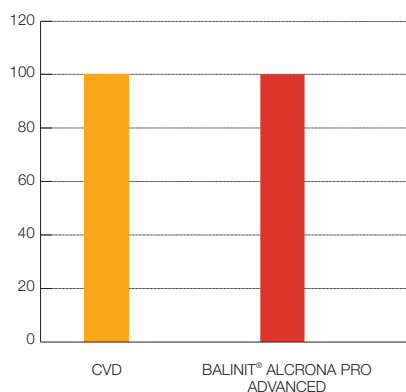
Success stories with BALINIT® ALCRONA PRO ADVANCED

Produced parts [x 1'000]



Application: Press forming
Component: Bolt head
Tool: Press forming punch
Material: CPM1V (PM Steel)
Coating: BALINIT® ALCRONA PRO ADVANCED
Advantages: Longer service life
 Less machine downtime
 Less scrap

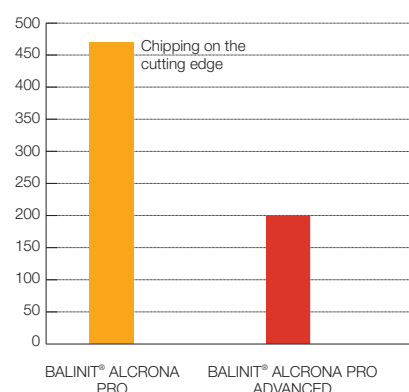
Produced parts [x 1'000]



Application: Blanking of 10-mm sheet steel
Component: Pedal parts
Tool: Blanking punch
Material: 1.2379 (~ AISI D2), 61 HRC
Coating: BALINIT® ALCRONA PRO ADVANCED
Advantages: Same service life as with CVD

Wear comparison

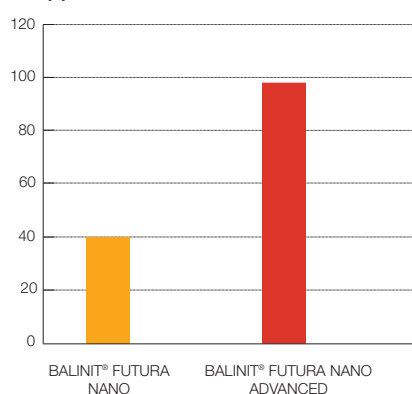
Lateral surface wear [µm] after 25'000 strokes



Application: Blanking of 4-mm sheet steel
Component: Steering part
Tool: Blanking punch
Material: 1.2379 (~ AISI D2), 62 HRC
Coating: BALINIT® ALCRONA PRO ADVANCED
Advantages: Improved service life

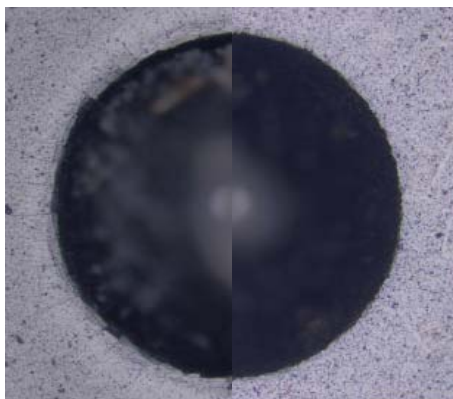
Improvement of critical load

Load [N]



Application: Press forming
Component: Bolt head
Tool: Press forming punch
Material: CPM1V (PM Steel)
Coating: BALINIT® FUTURA NANO ADVANCED
Advantages: Longer service life
 Less machine downtime
 Less scrap

Hardness indentation



BALINIT® ALCRONA PRO versus BALINIT® ALCRONA PRO ADVANCED: Less plastic deformation due to greater substrate surface hardness.

We are at your service. Worldwide.

Headquarters

OC Oerlikon Balzers AG
Oerlikon Balzers Headquarters
Iramali 18
LI-9496 Balzers
Liechtenstein
Tel +423 388 7500
www.oerlikon.com/balzers

Argentina

Oerlikon Balzers Revestimentos
Metálicos Ltda
Av. Pablo Richieri, 4240
Córdoba 5014
Tel +54 351 464-8999
www.oerlikon.com/balzers/ar

Benelux

Oerlikon Balzers Coating Benelux NV
Schurhovenveld 4 050
B-3800 Sint-Truiden
Tel +32 11 69 30 40
www.oerlikon.com/balzers/be

Brasil

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

Canada

Oerlikon Balzers Coating USA Inc.
3250 Harvester Road
Burlington, Ontario L7N 3W9
Tel +1 905 631 7094
www.oerlikon.com/balzers/us

China

Oerlikon Balzers Coating
(Suzhou) Co., Ltd
No.9 Chang Yang Street
Suzhou Industry Park
Suzhou, 215024
Jiangsu Province, China
Tel +86 512 676 20369
www.oerlikon.com/balzers/cn

Česká Republika

Oerlikon Balzers Coating Austria GmbH
organizační složka
Červený Kříž 250
586 02 Jihlava
Czech Republic
Tel +420 561 201 500
www.oerlikon.com/balzers/cz

Deutschland

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

España

Oerlikon Balzers-Elay Coating S.A.U.
Antigua, 2
E-20577 Antzuola
Tel +34 9 43766208
www.oerlikon.com/balzers/es

France

Oerlikon Balzers Coating France SAS
4 rue Louis de Broglie
Parc d'Activités de l'Esplanade
Saint Thibault des Vignes
F-77462 Lagny-sur-Marne Cedex
Tel +33 1 6412 49 00
www.oerlikon.com/balzers/fr

India

Oerlikon Balzers Coating India Ltd.
EL-22, J Block
M.I.D.C. Bhosari
Pune 411 026
Tel +91 20 3061 6000
www.oerlikon.com/balzers/in

Indonesia

PT Oerlikon Balzers Artoda Indonesia
Kawasan Delta Silicon 2 Blok F5 No. 10A
Lippo Cikarang, Cibatu
Cikarang Selatan, Bekasi 17550
Tel +62 21 8911 7848
www.oerlikon.com/balzers

Italia

Oerlikon Balzers Italy Coating S.p.A.
Via Volturmo, 37
I-20047 Brugherio (MI)
Tel +39 039 28 9901
www.oerlikon.com/balzers/it

Korea

Oerlikon Balzers Coating Korea Co., Ltd.
Eyon-Hansan Industrial Park (5B-3, 4, 5)
833-2 Hansan-ri Chongbuk-myeon
Gyeonggi-do
Pyongtaek City 451-833
Tel +82 31 680 9900
www.oerlikon.com/balzers/kr

Liechtenstein

OC Oerlikon Balzers AG
Beschichtungszentrum
Iramali 18
LI-9496 Balzers
Tel +423 388 5701
www.oerlikon.com/balzers/ch

Magyarország

Oerlikon Balzers Coating Austria GmbH
Magyarországi Fióktelepe
Babér U. 6 (Alpa Ipari Zóna)
H-8000 Székesfehérvár
Tel +36 22 506-631
www.oerlikon.com/balzers/hu

México

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

Nippon

Oerlikon Nihon Balzers Coating Co., Ltd.
7-2-2 Shinomiya, Hiratsuka-City,
Kanagawa-Pref., Japan 254-0014
Tel +81 463 54-2220
www.oerlikon.com/balzers/jp

Nordic Countries

Oerlikon Balzers Coating Sweden AB
Buteljgatan 6
SE-117 43 Stockholm
Tel +46 8 681 4140
www.oerlikon.com/balzers/se

Österreich

Oerlikon Balzers Coating Austria GmbH
Burgstallweg 27
A-8605 Kapfenberg
Tel +43 38 62 34144
www.oerlikon.com/balzers/at

Polska

Oerlikon Balzers Coating
Poland Sp. z o.o.
ul. Fabryczna 4
PL-59-101 Polkowice
Tel +48 76 746 48 00
www.oerlikon.com/balzers/pl

Portugal

Oerlikon Balzers-Elay Coating S.A.
sucursal em Portugal
Zona Industrial do Casal da Areia,
Lote 17
PT-2460-392 Alcobaça
Tel +351 262 544 663
www.oerlikon.com/balzers/pt

Romania

S.C. Oerlikon Balzers Coating Austria
GmbH Kapfenberg
Austria - Maracineni Branch Office
Platforma „Europa 2“
sat Argeselu, nr. 537 bis - Hala 5
Com. Maracineni
Jud Arges - Romania
RO-110195 Pidești
Tel +40 372 706 819
www.oerlikon.com/balzers/ro

Schweiz/Suisse

Oerlikon Balzers Coating SA, Brügg
Erlenstrasse 39
CH-2555 Brügg
Tel +41 323 65 74 74
www.oerlikon.com/balzers/ch

Singapore

Oerlikon Balzers Coating
Singapore Pte. Ltd.
21 Kian Teck Drive
Singapore 628838
Tel +65 62 68 62 27
www.oerlikon.com/balzers/sg

Thailand

Oerlikon Balzers Coating
(Thailand) Co., Ltd.
Amata Nakorn Industrial Estate
700/38 Moo 6, T. Nongmairdaeng
A. Muang Chonburi 20000
Thailand
Tel +66 38 468 810/-813
www.oerlikon.com/balzers

Türkiye

Oerlikon Balzers
Kaplama Sanayi ve Ticaret Ltd. Sti
Nosab 120. Sokak No. 7
16140 Nilüfer Bursa / Turkey
Tel +90 224 411 00 77
www.oerlikon.com/balzers/tr

United Kingdom

Oerlikon Balzers Coating UK Ltd.
Bradbourne Drive, Tilbrook,
Milton Keynes, MK7 8AT
Great Britain
Tel +44 19 08 37 72 77
www.oerlikon.com/balzers/uk

USA

Oerlikon Balzers Coating USA, Inc.
2511 Technology Drive
Suite 114
Elgin, IL 60124
United States
Tel +1 847 844-1753
www.oerlikon.com/balzers/us

www.oerlikon.com/balzers