BALIQ for Reamers

Precise coatings for high quality machining

BALIQ ALCRONOS

BALIQ TISINOS
BALIQ coatings for reamers
Innovative reaming with high process reliability

The technological progress
- Revolutionary smooth and defect-free coatings with outstanding adhesion
- High coating thickness precision of ultra-sharp cutting edges
- Low susceptibility to sticking of BALIQ® coatings
- Precise coating of ultra-sharp cutting edges
- High abrasive wear resistance of BALIQ® coatings
- Outstanding wear resistance of BALIQ® even at extreme service temperatures

The hands-on advantages
- High bore precision and surface quality thanks to top-quality coating surface
- Ultimate tool precision
- No adhesion and built-up edge formation even with difficult-to-machine materials such as titanium and stainless steels
- Significant performance gains primarily with ultra-small chip thicknesses and optimised component surface quality
- Long tool life with noticeably fewer tool changes
- Very high thermal stability and oxidation resistance for long tool life, especially for difficult-to-cut materials

Superior cutting performance with BALIQ for Reamers

BALIQ® ALCRONOS
Reaming stainless steel

Tool life [number of parts]

<table>
<thead>
<tr>
<th>Tool life [number of parts]</th>
<th>BALIQ® ALCRONOS</th>
<th>Competitor 1 (+ post-treatment)</th>
<th>Competitor 2 (+ post-treatment)</th>
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</thead>
<tbody>
<tr>
<td>60,000</td>
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</tr>
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</table>

Tool
Solid carbide reamer Ø 10.0 mm

Workpiece
Steel 1.4301 X5CrNi189 (AISI 304, SUS 304)

Cutting parameters
\( v_c = 48 \text{ m/min} \)

Source
Automotive industry supplier

+ 900%

BALIQ® ALCRONOS
Reaming hardened steel

Tool life [%]

<table>
<thead>
<tr>
<th>Tool life [%]</th>
<th>BALIQ® ALCRONOS</th>
<th>TAIW (DC Sputtering)</th>
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</table>

Tool
Solid carbide reamer Ø 3.0 mm

Workpiece
Steel 1.7147 20MnCr5 (AISI 5120)

Cutting parameters
Confidential

Source
European tool manufacturer

All given data are approximate values and they depend on application, environment and test conditions.
Precise, high-performance coating for superior manufacturing quality

Reliable final machining of critical and expensive components

High tool reliability for tangible cost savings

High surface quality with high process reliability and efficiency

**BALIQ® TISINOS**
Reaming hardened steel

- **Tool**: Solid carbide reamer Ø 11.1 mm
- **Workpiece**: Steel 1.2379 X155CrVMo12 (AISI D2, SKD11) HRC 62
- **Cutting parameters**: Confidential
- **Source**: Enduser in the aerospace industry

**Tool life [parts]**

<table>
<thead>
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<th>Parts</th>
<th>BALIQ® TISINOS</th>
<th>+ 200%</th>
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<tbody>
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</tr>
<tr>
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<tr>
<td>1</td>
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**BALIQ® TISINOS**
Reaming aerospace parts

- **Tool**: Solid carbide reamer Ø 2.99 mm
- **Workpiece**: Steel 1.4540 20X4CrNiCuNb164MnCr5 (AISI S15500) Blade housing/ Aerospace
- **Cutting parameters**: $v_c = 10$ m/min $a_p = 4$ mm Wet
- **Source**: Enduser in the aerospace industry

**Tool life [1000 parts]**

<table>
<thead>
<tr>
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<th>Uncoated</th>
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<th>+ 180%</th>
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<tbody>
<tr>
<td>140</td>
<td>Uncoated</td>
<td>BALIQ® TISINOS</td>
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</tr>
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</table>
Discover a new world of possibilities with BALIQ for Reamers
Get in touch with us today!

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

China
Oerlikon Balzers Coating
(Suzhou) Co., Ltd
No.9 Changyang Street,
Suzhou Industrial Park
Suzhou, Jiangsu Province
215024 Suzhou
T +86 512 67620369
www.oerlikon.com/balzers/cn

Belgium
Oerlikon Balzers Coating
Benelux N.V./S.A.
Nijverheidslaan 5470
3800 Sint-Truiden
T +32 11 69 3040
www.oerlikon.com/balzers/be

India
Oerlikon Balzers Coating
India Pvt. Ltd.
EL-22, J Block, MIDC, Bhosari
411 026 Pune
T +91 20 3061 6000
www.oerlikon.com/balzers/in

Czech Republic
Oerlikon Balzers Coating
Austria GmbH
Červený Kříž 282
58602 Jihlava
T +420 561 201 500
www.oerlikon.com/balzers/cz

Japan
Oerlikon Japan Co., Ltd. Balzers
7-2-2 Shinomiya, Hiratsuka-shi,
254-0014 Kanagawa
T +81 463 54 2220
www.oerlikon.com/balzers/jp

Germany
Oerlikon Balzers Coating
Germany GmbH
Am Ockenheimer Graben 41
55411 Bingen
T +49 67 217 930
www.oerlikon.com/balzers/de

South Korea
Oerlikon Balzers Coating
Korea Co. Ltd.
49, Hansan-gil, Cheongbuk-eup, Gyeonggi-do
17792 Pyeongtaek
T +82 31 680 9900
www.oerlikon.com/balzers/kr

Liechtenstein
Oerlikon Balzers Coating AG
Coating Centre
Iramali 18
9496 Balzers
Liechtenstein
T +423 388 5701
www.oerlikon.com/balzers/ch

USA
Oerlikon Balzers Coating USA, Inc.
1700 E. Golf Road, suite 200
60173 Schaumburg, IL
T +1 847 619 5541
www.oerlikon.com/balzers/us

Our worldwide coating centre network addresses are listed at:
www.oerlikon.com/balzers