BALIQ for Inserts

Tailored coating solutions for demanding cutting applications

BALIQ TISINOS
BALIQ ALTINOS

Inserts
BALIQ coatings for inserts
Innovative machining with high precision and process reliability

The technological progress

Revolutionary smooth and defect-free coatings with outstanding adhesion
High wear resistance of BALIQ® coatings even at high service temperatures
High coating thickness precision and precise coating of even the sharpest cutting edges
Low susceptibility to sticking of BALIQ® coatings

The hands-on advantages

Top-quality coating surface for high component quality
The tool has very high thermal stability, giving it a long service life with noticeably fewer tool changes
Significant performance gains primarily with ultra-small chip thicknesses and optimised component surface quality
No adhesion and built-up edge formation even with difficult-to-machine materials such as titanium and stainless steels

Superior results in demanding cutting applications

BALIQ® ALTINOS
Steel grooving

<table>
<thead>
<tr>
<th>Tool life [number of cuts]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>Competitor</td>
</tr>
<tr>
<td>BALINIT® LATUMA</td>
</tr>
<tr>
<td>BALIQ® ALTINOS</td>
</tr>
</tbody>
</table>

+ 270%

Tool
Carbide insert (grooving)

Workpiece
Steel 1.7225 42CrMo4 (AISI 1040, SCM 440)

Cutting parameters

| vc | 220 m/min |
| ae | 2 mm |
| ap | 4 mm |

Wet

Source
Oerlikon Balzers Cutting laboratory

BALIQ® ALTINOS
Steel turning with CBN inserts

<table>
<thead>
<tr>
<th>Tool life [minutes]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>Cutting tool manufacturer</td>
</tr>
<tr>
<td>BALIQ® ALTINOS</td>
</tr>
</tbody>
</table>

+ 70%

Tool
PCBN insert (CNMA 120408)

Workpiece
Steel 1.7262 15CrMo5 (SCM 415) 60–63 HRC

Cutting parameters

| vc | 220 m/min |
| f | 0.15 mm |
| ae | 0.1 mm |

Wet
Interrupted cutting

Source
Tool manufacturer

All given data are approximate values and they depend on application, environment and test conditions.
Milling with carbide inserts

**Tool**
Carbide insert for milling
SPAN 1203

**Workpiece**
Cast iron GG20
160 to 230 BHN

**Cutting parameters**
- \( v_c = 150 \text{ m/min} \)
- \( f_t = 0.15 \text{ mm/rev} \)
- \( a_p = 2.5 \text{ mm} \)
- Dry

**Source**
Enduser

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**New manufacturing options with high process reliability and efficiency**

**Reliable machining of critical and expensive workpieces**

**Noticeable cost and time savings**

**Superior performance even for difficult-to-machine materials**

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**BALIQ® TISINOS and ALTINOS**

**Milling with carbide inserts**

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**Source**
Enduser

---

**BALIQ® TISINOS**

**Milling titanium alloy**

**Tool**
Carbide insert RPHT

**Workpiece**
Titanium 3.7165
TiAl6V4
(AISI TAP6400H
SUS R56400)

**Cutting parameters**
- \( v_c = 50 \text{ m/min} \)
- \( f_t = 0.3 \text{ mm/tooth} \)
- \( a_p = 2.0 \text{ mm} \)
- \( a_e = 37 \text{ mm} \)
- Wet

**Source**
Japanese tool manufacturer/Oerlikon Balzers

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**Superior results in demanding cutting applications**

**Reliable machining of critical and expensive workpieces**

**Noticeable cost and time savings**

**Superior performance even for difficult-to-machine materials**

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**New manufacturing options with high process reliability and efficiency**

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**BALIQ coatings for inserts**

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**Innovative machining with high precision and process reliability**

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**New manufacturing options with high process reliability and efficiency**

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**BALIQ® TISINOS and ALTINOS**

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**Source**
Enduser

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- Wet

**Source**
Japanese tool manufacturer/Oerlikon Balzers
Discover a new world of possibilities with BALIQ for Inserts
Get in touch with us today!

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