BALIQ for Inserts
Tailored coating solutions for demanding cutting applications

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

**The technological progress**

<table>
<thead>
<tr>
<th></th>
<th>The hands-on advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revolutionary smooth and defect-free coatings with outstanding adhesion</td>
<td>Top-quality coating surface for high component quality</td>
</tr>
<tr>
<td>High wear resistance of BALIQ® coatings even at high service temperatures</td>
<td>The tool has very high thermal stability, giving it a long service life with noticeably fewer tool changes</td>
</tr>
<tr>
<td>High coating thickness precision and precise coating of even the sharpest cutting edges</td>
<td>Significant performance gains primarily with ultra-small chip thicknesses and optimised component surface quality</td>
</tr>
<tr>
<td>Low susceptibility to sticking of BALIQ® coatings</td>
<td>No adhesion and built-up edge formation even with difficult-to-machine materials such as titanium and stainless steels</td>
</tr>
</tbody>
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**Superior results in demanding cutting applications**

**BALIQ® ALTINOS**

- **Steel grooving**
  - Tool: Carbide insert (grooving)
  - Workpiece: Steel 1.7225 42CrMo4 (AISI 1040, SCM 440)
  - Cutting parameters: 
    - \(v_c = 220 \text{ m/min}\)
    - \(a_e = 2 \text{ mm}\)
    - \(a_p = 4 \text{ mm}\)
    - Wet
  - Source: Oerlikon Balzers, Cutting laboratory
  - Tool life [number of cuts]
    - Competitor
    - BALINIT® LATUMA
    - BALIQ® ALTINOS
    - + 270%

**BALIQ® ALTINOS**

- **Steel turning with CBN inserts**
  - Tool: PCBN insert (CNMA 120408)
  - Workpiece: Steel 1.7262 15CrMo5 (SCM 415) 60–63 HRC
  - Cutting parameters: 
    - \(v_c = 220 \text{ m/min}\)
    - \(f = 0.15\text{ mm}\)
    - \(a_e = 0.10\text{ mm}\)
    - Wet
    - Interrupted cutting
  - Source: Tool manufacturer
  - Tool life [minutes]
    - Cutting tool manufacturer
    - BALIQ® ALTINOS
    - + 70%

All given data are approximate values and they depend on application, environment and test conditions.
**BALIQ® TISINOS and ALTINOS**

**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

<table>
<thead>
<tr>
<th>Tool life [m]</th>
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<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>BALIQ® TISINOS</td>
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</tbody>
</table>

Reliable machining of critical and expensive workpieces

Noticeable cost and time savings

Superior performance even for difficult-to-machine materials

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

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**BALIQ® TISINOS**

**Milling titanium alloy**

**Tool**
Carbide insert RPHT

**Workpiece**
Titanium 3.7165
(TiAl6V4 (AISI TAP640H 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

<table>
<thead>
<tr>
<th>Tool life [number of passes]</th>
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<tbody>
<tr>
<td>0</td>
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<tr>
<td>Cutting tool manufacturer</td>
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</table>

+ 400%
Discover a new world of possibilities with BALIQ for Inserts
Get in touch with us today!

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