BALIQ MICRO ALCRONOS
The coating revolution for micromachining up to HRC 50.
BALIQ MICRO ALCRONOS redefines the benchmark in process reliability.

Convincing microdrilling test results:

**The technological progress**
- Revolutionary smooth and defect-free coatings with outstanding adhesion
- High coating thickness precision for very sharp edges
- Low susceptibility to sticking of AlCrN-based coatings
- High wear resistance of AlCrN-based coatings even under severe thermal stress

**The hands-on advantages**
- Smooth chip removal without mechanical post-treatment, high coating surface quality for high component quality
- The ultimate in tool precision
- Prevention of adhesion and build-up edges even with difficult-to-machine materials
- High thermal stress resistance of tools with small dimensions, highly reproducible tool service lives

### Application: stainless steel

<table>
<thead>
<tr>
<th>Tool life (number of holes)</th>
<th>Tool fracture / process not reliable</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>BALIQ™ MICRO ALCRONOS</td>
</tr>
<tr>
<td>350</td>
<td>Arc Evaporation</td>
</tr>
<tr>
<td>300</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Tool**
- Microdrill
  - D = 1.0 mm

**Workpiece**
- Steel 1.4571 (AISI 316Ti, SUS 316 Ti)

**Machining**
- $L_c$: 20 x d
- Emulsion

**Source**
- Tool manufacturer
- Europe
Perceptible cost and time savings
Precise high-performance coatings possible even for very small tool diameters
Reliable production of critical and expensive components

New manufacturing options with high process reliability and efficiency

Application: steel

<table>
<thead>
<tr>
<th>Relative tool life (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
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</table>

End of life not attained (low wear)

+400 %

<table>
<thead>
<tr>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microdrill</td>
</tr>
<tr>
<td>D = 0.6 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workpiece</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel 1.3505 (AISI 52100, SUJ 2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Machining</th>
</tr>
</thead>
<tbody>
<tr>
<td>$v_c$ = confidential</td>
</tr>
<tr>
<td>$L_T$ = confidential</td>
</tr>
<tr>
<td>Emulsion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool manufacturer / end user Europe</td>
</tr>
</tbody>
</table>

BALIQ™ MICRO ALCRONOS
TiAlN (DC Sputter)
Are you ready for BALIQ MICRO ALCRONOS? 
Contact us now!

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