

BALINIT HARD CARBON

For a sharp cut

Highly productive machining in non-ferrous materials



Cutting Tools



BALINIT HARD CARBON for cutting tools

High quality delivers superior results

When machining nonferrous materials, this formula applies: The sharper the edge and the smoother the surface, the more efficient and successful the manufacturing process. You can reliably attain this goal

with BALINIT® HARD CARBON by Oerlikon Balzers, a technology leader in hard coatings. BALINIT® HARD CARBON lets you step into unique advantages that make the difference.

OPTIMISED PERFORMANCE

High coating hardness



Protection against abrasive wear results in longer tool lifetime

Smooth coating surface with consistently sharp tool edges, for micro tools as well



Protection against adhesive wear and improved tool surface quality lead to reduced tooling costs

High thermal stability with a maximum application temperature of 500 °C



MQL and dry machining possible
Improved capacity utilisation
Reduced production costs

Low coefficient of friction due to reduced roughness



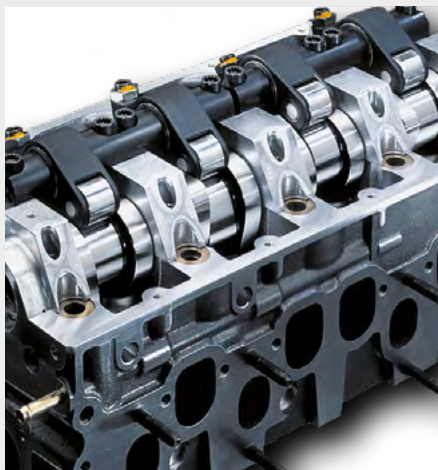
Low torques
Low tendency to adhesion

BALINIT® HARD CARBON
Increased productivity, reliability and process stability

Application recommendations

Drilling, milling, countersinking, reaming

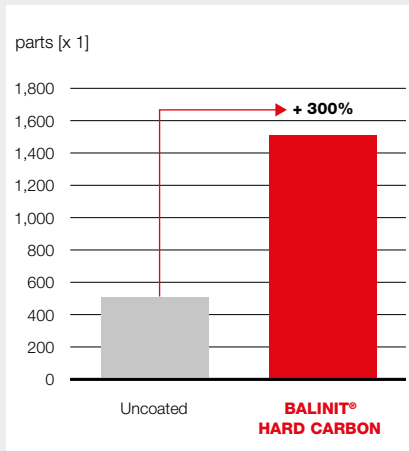
- Aluminium and aluminium alloys with up to 14% Si
- Organic materials such as wood and paper
- Copper, bronze, silver, gold, platinum



Considerable performance gain when machining non-ferrous materials



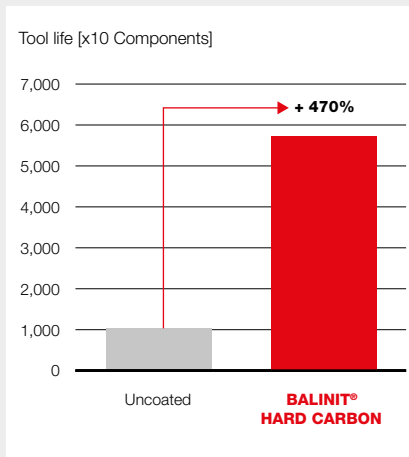
BALINIT® HARD CARBON: Drilling of engine block



| | |
|---------------------|--|
| Tool | Carbide drill Ø 9,33 x 150 mm |
| Workpiece | Aluminum ADC12 Engine Block |
| Cutting data | $n = 7530$ 1/min $v_f = 3470$ mm/min $v_c = 220$ m/min |
| Benefit | Increased tool life by 300% due to less friction and improved wear resistance |
| Source | Automotive end user Brazil |



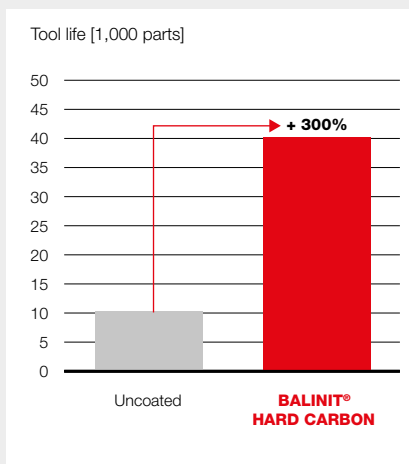
BALINIT® HARD CARBON: Drilling aluminum crankcase



| | |
|---------------------|---|
| Tool | Carbide drill Ø 5.1 x 125 mm |
| Workpiece | Crankcase Aluminium alloy (ADC 12% Si) |
| Cutting data | $v_c = 85$ m/min $f_a = 0.1$ mm Micro-blasted Post-treated |
| Benefit | Lifetime improvement |
| Source | Indian 2 wheeler manufacturer |



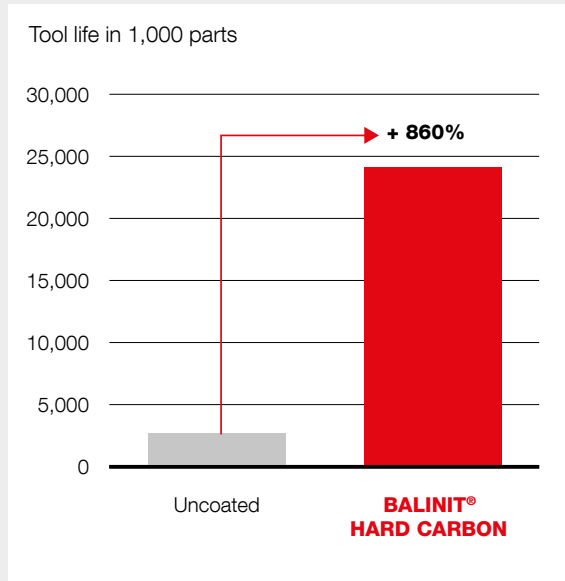
BALINIT® HARD CARBON: Grooving brass watch crown



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|---------------------|--|
| Tool | Grooving shank type tool 8 x 8 x 120 mm Carbide tip brazed |
| Workpiece | Watch component crown brass |
| Cutting data | $N = 3000$ rpm $F = 0.01$ Oil lubricated |
| Benefit | + 300% lifetime Improved surface quality |
| Source | French watch industry |

Efficient machining of aluminum parts

BALINIT® HARD CARBON: Interpolator thread of brakes



| | |
|---------------------|--|
| Tool | Interpolator thread mill |
| Workpiece | Aluminum 6061 ABS braking system |
| Cutting data | $n = 10000$ 1/min $v_f = 0,12$ mm/min |
| Benefit | Performance increase |
| Source | Automotive end user Brazil |

860%
more
parts
produced

**When machining non-ferrous materials, take advantage of
BALINIT HARD CARBON
Contact us now!**

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