

BALINIT HARD CARBON

For a sharp cut

Highly productive machining in non-ferrous metals



Cutting Tools



BALINIT HARD CARBON for cutting tools

High quality delivers superior results

When machining nonferrous metals, 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 tap into unique advantages that make the difference.

OPTIMIZED 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



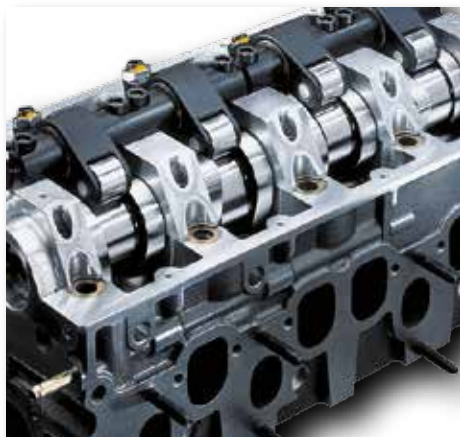
Low torques
Low tendency to adhesion

BALINIT® HARD CARBON
Increased productivity, reliability and process stability

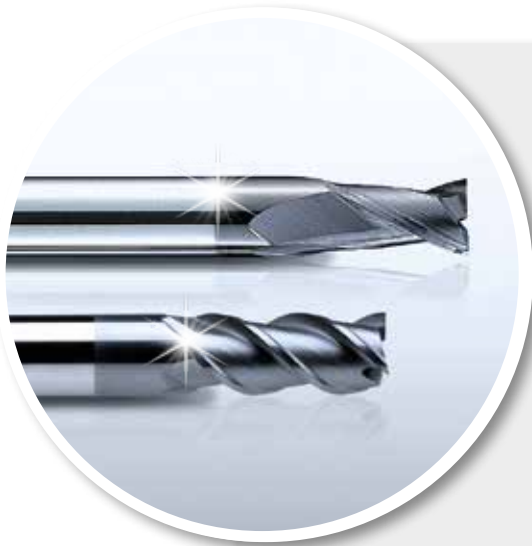
Application recommendations

Drilling, milling, countersinking

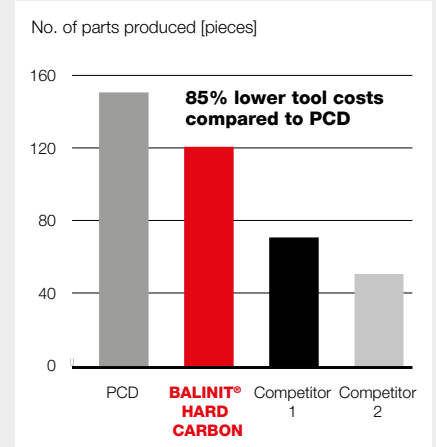
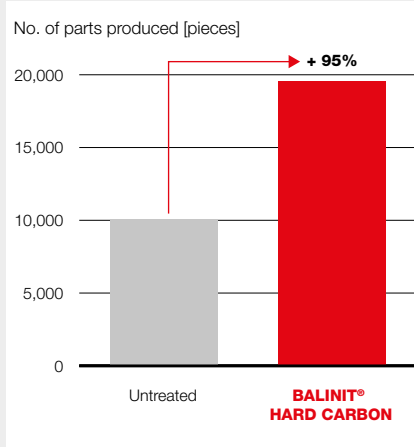
- Aluminium and aluminium alloys with up to 12% Si
- Copper, bronze, silver, gold, platinum
- Composites such as CFRP and GFRP
- Organic materials such as wood, paper



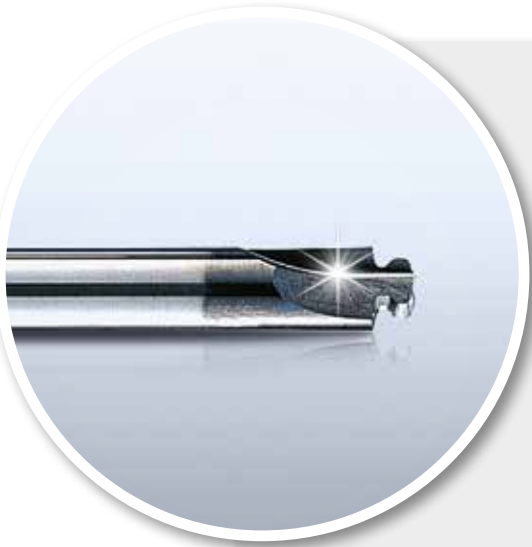
Considerable performance gain when milling non-ferrous metals



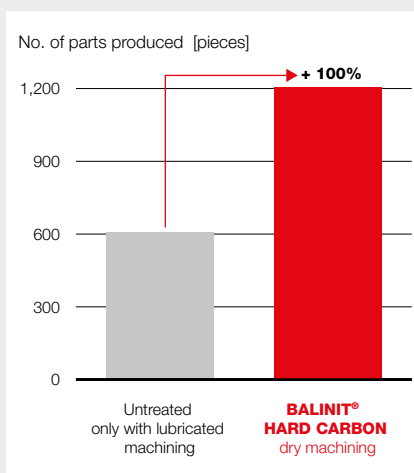
BALINIT® HARD CARBON for carbide end mills



Tool	Carbide end mill	Carbide end mill Ø 8 mm
Workpiece	HDD aluminium alloy baseplate (ADC12) (AlSi 12Cu)	Al-ABS-Pc GF 20 Sandwich
Cutting data	$v_c = 5,000$ rpm Cooling	$n = 40,000$ U/min $v_f = 2.4$ m/min
Challenge	Untreated: Premature abrasive wear	Untreated: Premature abrasive wear
The solution	BALINIT® HARD CARBON - Less abrasive wear - 95% more parts produced - Production costs 55% lower	BALINIT® HARD CARBON - Less abrasive and adhesive wear - Tool costs over 85% lower versus PCD
Source	End-user Malaysia	Tool manufacturer Germany



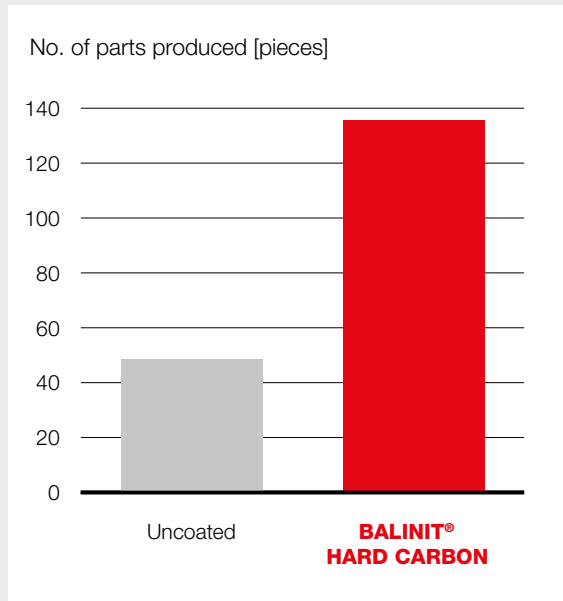
BALINIT® HARD CARBON for carbide contour mills



Tool	Carbide end mill 10 x 12
Workpiece	Brass 2.0321 (CuZn37)
Cutting data	Dry machining $v_c = 150$ m/min $f = 0.2$ mm/rev
Challenge	Untreated: Premature abrasive wear with additional edge build-up
The solution	BALINIT® HARD CARBON - Less abrasive and adhesive wear - Longer tool service life in dry machining - 100% more parts produced
Source	End-user

Counter sinking of sandwich material, CFRP/Thermoplastics

BALINIT® HARD CARBON for counter sinks



Tool

Counter sink
11 x 22

Workpiece

CFRP + Thermoplastics

Cutting data

Dry machining

Challenge

- Build-up edges due to thermoplastics
- Abrasive wear and delamination of CFRP

The solution

BALINIT® HARD CARBON

- Less abrasive and adhesive wear
- Longer tool life

180%
more
parts
produced

When machining nonferrous metals, take advantage of BALINIT HARD CARBON

Contact us now!

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