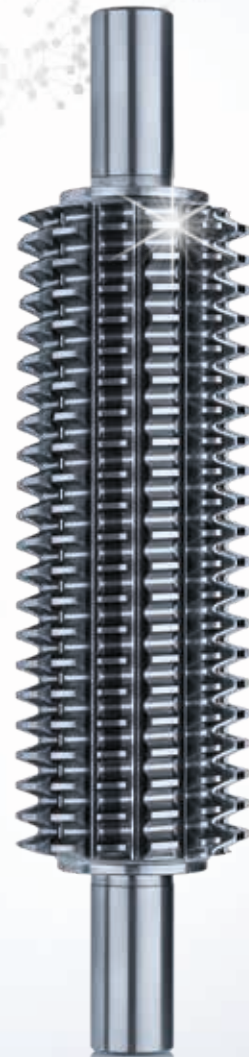


BALINIT ALCRONA EVO

Born to evolve.
Made to last.



Cutting Tools



BALINIT ALCRONA EVO – the evolution of a coating legacy, pushing the boundaries of universal machining

Today's machining operations place even greater mechanical and thermal demands on many of your tools. BALINIT® ALCRONA EVO, a true evolution of the universal PVD coating introduced in 2004, has raised the bar again and delivers outstanding results in both dry and wet machining with high cutting speeds.

BALINIT® ALCRONA EVO gives you even more productivity than its predecessor coating, with enhanced coating properties that extend the service life of your tools by more than 30% – even when reconditioned.

Increase your performance by more than 30% and benefit from the numerous advantages of BALINIT ALCRONA EVO

Higher wear resistance
through optimized coating structure and increased hardness

Improved performance
as a result of higher coating toughness

Decreased risk of flaking
due to reduced compressive stress



Reduced crater wear on HSS tools
thanks to lower thermal conductivity

Lower tool costs and more sustainability
through reconditioning



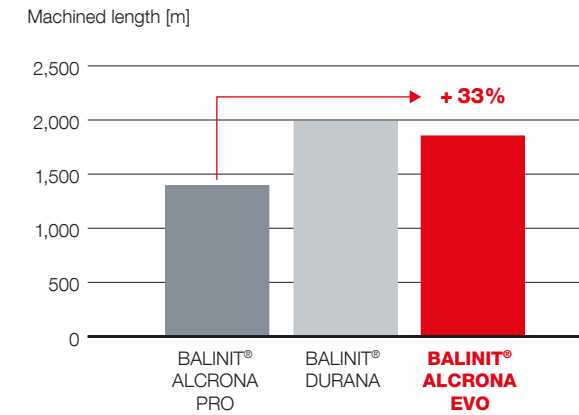
Discover a variety of machining applications and results!

Visit our website for detailed information: www.oerlikon.com/balzers/balinit-alcrona-evo



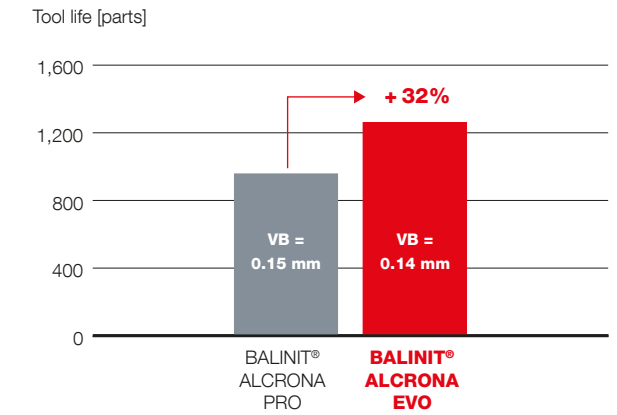
BALINIT ALCRONA EVO – significant performance improvements at a glance

Dry milling in 52 HRC material



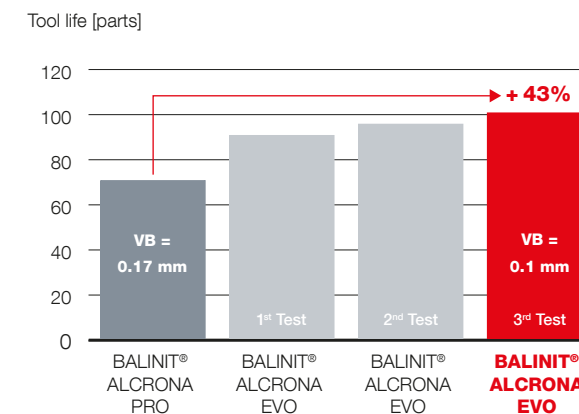
Tool	Carbide ball nose endmill, D = 10 mm
Workpiece	X153CrMoV12, 1.2379 52 HRC
Cutting data	Dry machining $v_c = 320$ m/min $f_z = 0.12$ mm $a_p = 0.3$ mm $a_g = 0.3$ mm $VB_{max} = 0.13$ mm
Source	Oerlikon Balzers cutting lab

Dry bevel gear cutting with stick blades



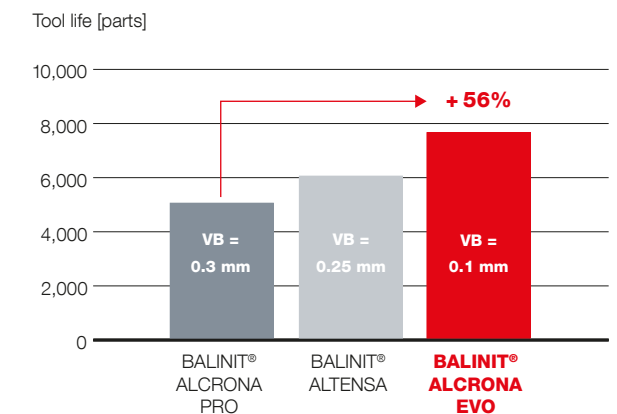
Tool	Carbide stick blades
Workpiece	20MnCrS5
Cutting data	Dry machining $v_c = 190$ m/min $f_1 = 0.16$ mm, $f_2 = 0.14$ mm $f_3 = 0.1$ mm, $f_4 = 0.06$ mm $VB_{max} = 0.2$ mm
Source	Automotive end customer

Gear hobbing for bigger modules



Tool	Shank type hob – HSS PM14, D = 80 mm × L = 385 mm
Workpiece	Material: 20MnCrS4 Module: 5.30
Cutting data	Dry machining $v_{c1} = 130$ mm/min, $f_1 = 0.5$ mm/rev $v_{c2} = 170$ mm/min, $f_2 = 2$ mm/rev
Source	Automotive tier 1 supplier

Gear hobbing in the two-wheeler industry



Tool	Bore type hob – HSS, D = 70 mm × L = 170 mm
Workpiece	Two-wheeler gear, material: 16MnCr5 Module: 2.0
Cutting data	Dry machining $v_c = 220$ mm/min $f = 1.2$ mm/rev
Source	Two-wheeler industry

All given data are approximate values and depend on application, environment and test conditions.

For sustainable production – reconditioning without compromising performance

Reducing tool costs by regrinding and recoating with BALINIT® ALCRONA EVO means the performance of the initial coating is maintained for longer.

The improved wear resistance reduces the regrinding stock volume, increasing the number of regrinding cycles for each tool.

This significantly reduces the annual cost of new tools. It also helps protect the environment by conserving our planet's valuable resources.

Benefit from significant tool cost savings!

Coating properties at a glance

BALINIT® ALCRONA EVO

Coating material	AlCrN-based
Coating hardness H_{IT} [GPa]	44 +/- 4
Compressive stress [GPa]	-3.5 +/- 1
Max. service temperature [°C]	1,100
Coating temperature [°C]	< 500
Coating color	bright gray

Increase the performance of your cutting tools with BALINIT ALCRONA EVO. Contact us!

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