oerlikon
balzers

BALINIT ALCRONA EVO

Born to evolve.
Made to last.
为进化而生
为高效而来

Cutting Tools
切削工具

BALINIT ALCRONA EVO – the evolution of a coating legacy, pushing the boundaries of universal machining
传奇涂层进化，突破多种金属加工极限

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.
现今的金属加工操作对您的诸多工具提出了更高的热力学需求。BALINIT® ALCRONA EVO是2004年推出的通用涂层的全新升级，再次提高了标准， 并在高速干湿切削加工中取得了卓越的成果。

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.
BALINIT® ALCRONA EVO比其前代涂层更具生产力，其增强的涂层性能，可将刀具的使用寿命延长30%。

Increase your performance by more than 30% and benefit from the numerous advantages of BALINIT ALCRONA EVO
受益于BALINIT ALCRONA EVO的诸多优势，提升您的工具性能30%以上。

Higher wear resistance
更高的耐磨性
through optimized coating structure and increased hardness
得益于优化的涂层结构及增强的硬度

Improved performance
增强的性能
as a result of higher coating toughness
得益于更高的涂层韧性

Decreased risk of flaking
剥落的风险降低
due to reduced compressive stress
得益于降低的内应力

Reduced crater wear on HSS tools
减少了高速钢工具上的月牙洼磨损
thanks to lower thermal conductivity
得益于更低的导热系数

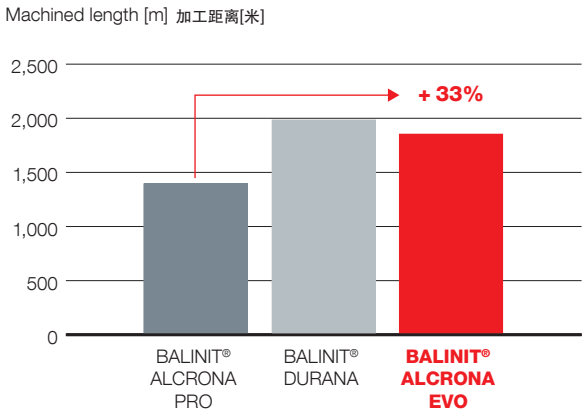
Lower tool costs and more sustainability
更低工具成本，更可持续
through reconditioning
得益于修磨

Discover a variety of machining applications and results!
加工应用及其结果展示

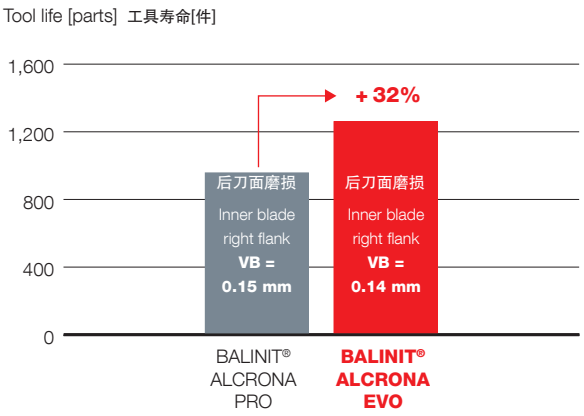
Visit our website for detailed information: 详情请访问我们的网站：
www.oerlikon.com/balzers/balinit-alcrona-evo

BALINIT ALCRONA EVO – significant performance improvements at a glance
显著的性能提升一览

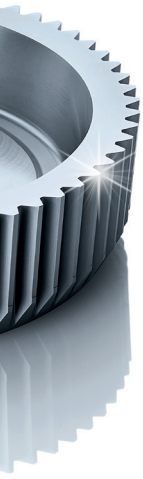
Dry milling in 52 HRC material
HRC52硬度材料的干式铣削



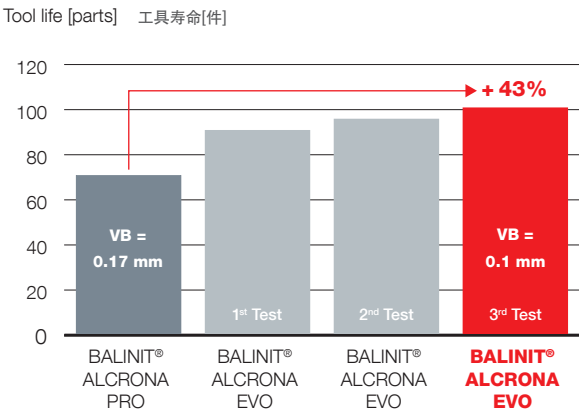
Dry bevel gear cutting with stick blades
刀条的伞齿轮切削



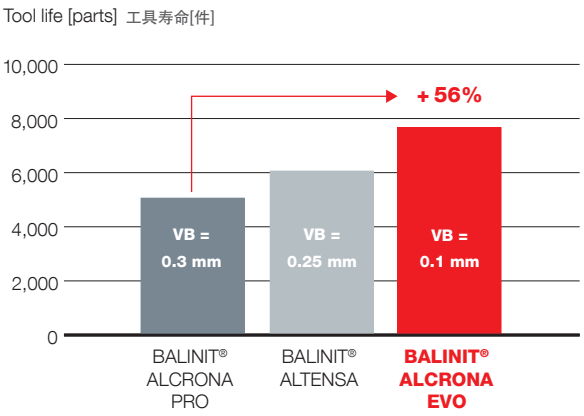
Tool 刀具	Carbide ball nose endmill 硬质合金球头铣刀 D = 10 mm	Carbide stick blades 硬质合金刀条
Workpiece 工件	X153CrMoV12, 1.2379 52 HRC	20MnCrS5
Cutting data 切削参数	Dry machining 干式加工 v_c = 320 m/min f_z = 0.12 mm a_p = 0.3 mm a_e = 0.3 mm VB_{max} = 0.13 mm	Dry machining 干式加工 v_c = 190 m/min f_1 = 0.16 mm, f_2 = 0.14 mm f_3 = 0.1 mm, f_4 = 0.06 mm VB_{max} = 0.2 mm
Source 来源	Oerlikon Balzers cutting lab 欧瑞康巴尔查斯切削实验室	Automotive end customer 汽车行业终端用户



Gear hobbing for bigger modules
用于大模数的齿轮加工



Gear hobbing in the two-wheeler industry
用于两轮车行业的齿轮加工



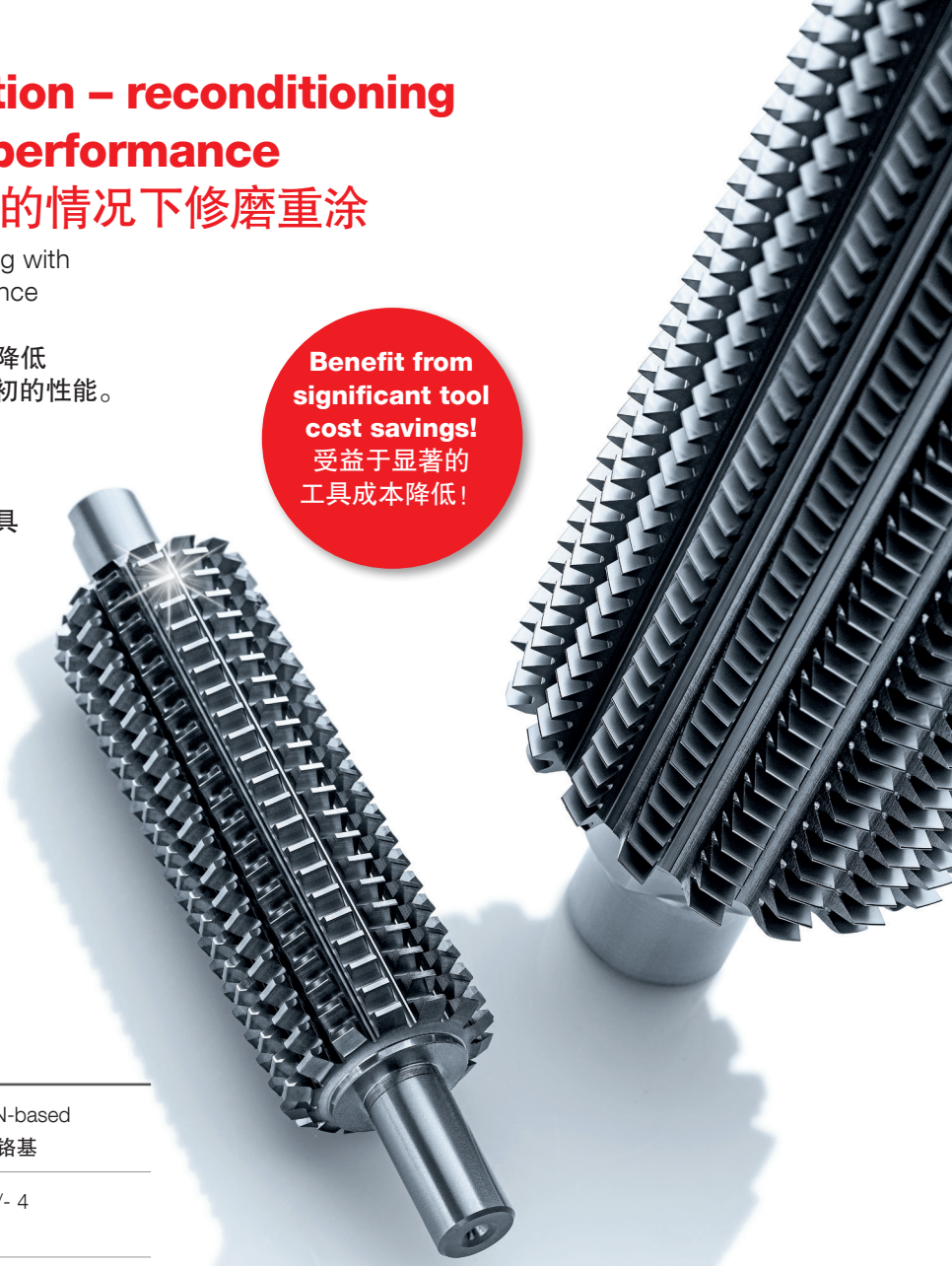
Tool 刀具	Shank type hob 带柄滚刀 – HSS 高速钢 PM14, D = 80 mm × L = 385 mm	Bore type hob 带孔滚刀– HSS, D = 70 mm × L = 170 mm
Workpiece 工件	Material 材质: 20MnCrS4 Module 模数: 5.30	Two-wheeler gear 两轮车齿轮, material 材质: 16MnCr5 Module 模数: 2.0
Cutting data 切削参数	Dry machining 干式加工 v_{c1} = 130 mm/min, f_1 = 0.5 mm/rev v_{c2} = 170 mm/min, f_2 = 2 mm/rev	Dry machining 干式加工 v_c = 220 mm/min f = 1.2 mm/rev
Source 来源	Automotive tier 1 supplier 汽车行业一级供应商	Two-wheeler industry 两轮车行业

All given data are approximate values and depend on application, environment and test conditions.
所有给定的数据都是近似值，取决于应用、环境和测试条件。

For sustainable production – reconditioning without compromising performance
可持续生产–在不影响性能的情况下修磨重涂

Reducing tool costs by regrinding and recoating with BALINIT® ALCRONA EVO means the performance of the initial coating is maintained for longer.
通过使用BALINIT® ALCRONA EVO修磨重涂可降低工具成本，这意味着在后续使用中刀具维持最初的性能。
The improved wear resistance reduces the regrinding stock volume, increasing the number of regrinding cycles for each tool.
增强的耐磨性减少了修磨余量，增加了每个工具的修磨次数
This significantly reduces the annual cost of new tools. It also helps protect the environment by conserving our planet's valuable resources.
这显著降低了新工具的年成本，这还有助于通过保护地球上的宝贵资源来保护环境。

Benefit from significant tool cost savings!
受益于显著的工具成本降低！



Coating properties at a glance
涂层属性一览

BALINIT® ALCRONA EVO

Coating material 涂层材料	AlCrN-based 氮铝铬基
Coating hardness H_{IT} [GPa] 涂层硬度 H_{IT} [GPa]	44 +/- 4
Compressive stress [GPa] 内应力 [GPa]	-3.5 +/- 1
Max. service temperature [°C] 最大工作温度 [°C]	1,100
Coating temperature [°C] 涂层温度 [°C]	< 500
Coating color 涂层颜色	bright gray 亮灰色

Increase the performance of your cutting tools with BALINIT ALCRONA EVO. Contact us!
即刻联系我们！使用**BALINIT ALCRONA EVO**增强您的工具性能。

Balzers Headquarters 巴尔查斯总部
Oerlikon Balzers Coating AG
Balzers Technology and
Service Center
Iramali 18
9496 Balzers
Liechtenstein
T +423 388 7500

Our worldwide coating center network addresses are listed at:
我们的全球涂层中心网络地址：
www.oerlikon.com/balzers

HQ315EN (2401)

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