

Save up to 20% of your production costs
by increasing your cutting speed
通过提升切削速度，为您节约20%生产成本

Cutting costs for 1,800 gears [€]
加工1800件齿轮的成本

BALINIT® ALCRONA PRO

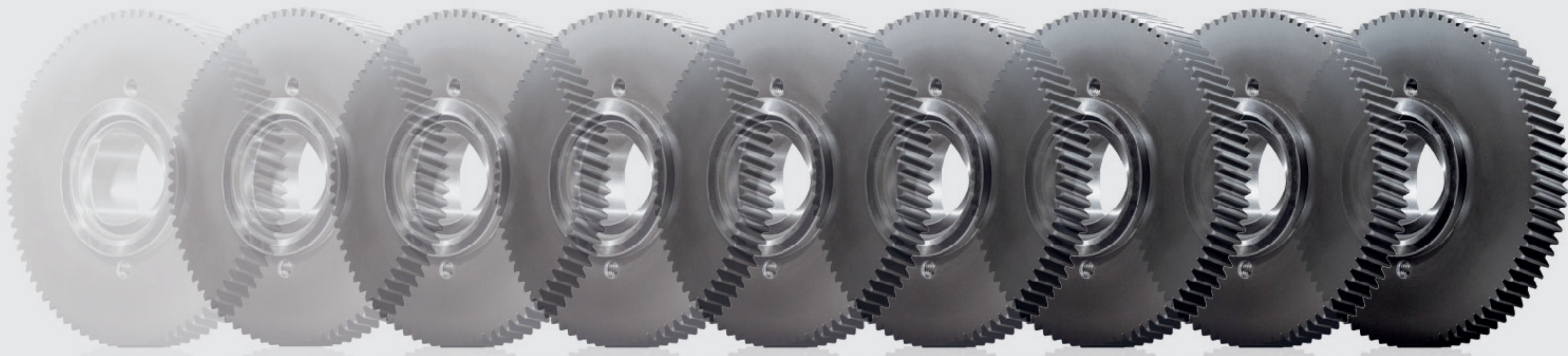
200 m/min
Cutting speed
切削速度

BALINIT® ALTENSA

300 m/min
Cutting speed
切削速度

288 €
savings with
BALINIT®
ALTENSA

通过使用
BALINIT® ALTENSA
节约了288€



Benefit from the BALINIT ALTENSA high-performance coating
Contact us now!

想尝试BALINIT ALTENSA高性能涂层立刻联系我们!

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BALINIT ALTENSA Speed pays off 快速回报

The high-speed solution for productive
gear cutting
齿轮加工的高速切削解决方案



Cutting Tools



BALINIT ALTENSA: because productivity, time and cost are the deciding factors

BALINIT ALTENSA: 因为生产力、加工时间和成本是决定性因素

Gear cutting applications such as hobbing, gear shaping and bevel gear cutting must meet continually rising requirements: Shorter and shorter machining times are required in order for productivity to be increased while reducing costs at the same time. You can attain this goal by using the innovative high-speed coating solution BALINIT® ALTENSA from

齿轮切削应用，例如：滚齿、插齿和螺旋伞齿加工，必须满足不断提高的需求：为了提升产量同时降低成本，需要不断缩短加工时间。为了满足您的需求，您可以选择欧瑞康巴尔查斯创新高速涂层解决方案BALINIT®ALTENSA。通过使用此款涂层，您的

Oerlikon Balzers. With it, you will benefit from unique coating properties that allow for extremely fast cutting speeds and high temperatures, leading to huge productivity gains as well as cost efficiency. Be ahead of the times: take advantage of the many benefits offered by Oerlikon Balzers, a worldwide technological leader in the field of hard coating solutions.

工具将可以适用于高速切削和高温加工环境，从而达到高产高效。引领时代：集合欧瑞康巴尔查斯涂层的众多优势，超硬涂层领域解决方案的全球技术领导者。

Benefit from these coating properties

涂层性能的优势

OPTIMIZED PERFORMANCE 优化性能

Improved hot hardness

改善红硬性



Reduced wear at high cutting speed

在高速切削环境下减少磨损

Increased abrasive wear resistance

增强耐磨性



Reduced flank wear at moderate and high cutting speed

在中高速切削中减少后刀面磨损

Significant improvement for highest cutting speed conditions for all substrate materials (PM-HSS, MC90, carbide)

对所有基材 (PM-HSS, MC90, 硬质合金), 在高速切削状态下, 都有显著改善

Lower thermal conductivity

低热导率



Reduced thermal impact on tool substrate (especially for PM-HSS)

减少对基材 (尤其PM-HSS) 的热冲击

Optimized oxidation resistance

优化抗氧化性



Longer tool life at dry cutting conditions and high cutting speed

在干式高速切削情况下, 延长工具使用寿命

BALINIT® ALTENSA

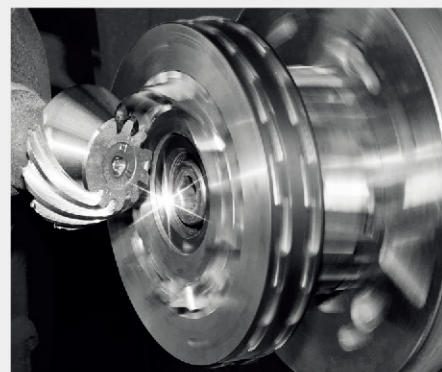
Productivity gains, cost efficiency and substantial time savings

提高产能、提升效率、节约大量时间

Application recommendations

推荐应用

Bevel gear cutting 螺旋伞齿加工



Hobbing 滚齿

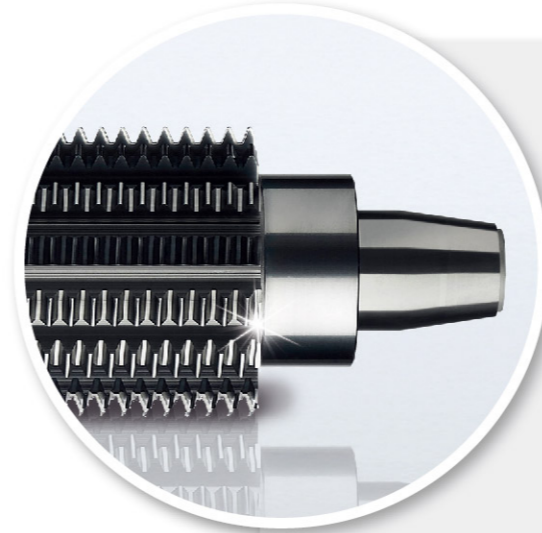


Gear shaping 插齿



BALINIT ALTENSA: maximum performance for hobs, stick blades and shaper cutters

BALINIT ALTENSA: 最大程度提高滚刀、刀条和插齿刀的性能

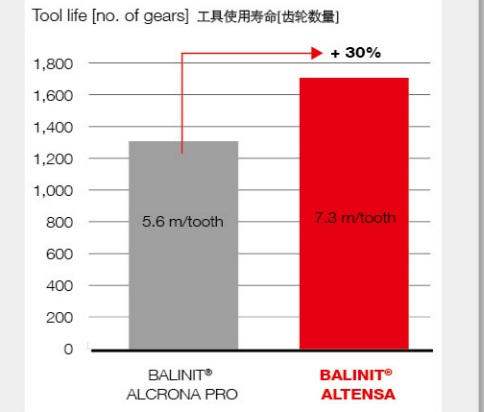
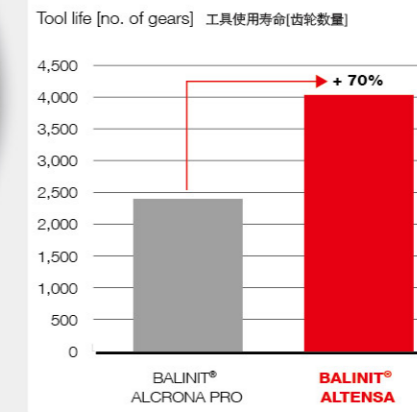


PM-HSS hob:
+ 70% tool life
at high cutting speed

PM-HSS滚刀
增加70%工具使用寿命
在高速切削环境下

Carbide hob:
+30% tool life
at high cutting speed

硬质合金滚刀
增加30%工具使用寿命
在高速切削环境下



Tool
工具

PM-HSS hob (S390)
D = 70 mm

PM-HSS滚刀 (S390)
D = 70 mm

Carbide hob
D = 90 mm

硬质合金滚刀
D = 90 mm

Workpiece
工件

Gearbox for passenger car
Steel 1.7131
(AISI 5115)

乘用车变速箱
钢 1.7131
(AISI 5115)

Gearbox for passenger car
Steel 1.7149
(~AISI 5120, ~JIS SMnC420(H))

乘用车变速箱
钢 1.7149
(~AISI 5120, ~JIS SMnC420(H))

Cutting data
切削参数

Cut 1: $v_c = 200$
Cut 2: $v_c = 320$
 $m_n = 1.52$
dry

Cut 1: $v_c = 200$
Cut 2: $v_c = 320$
 $m_n = 1.52$
干加工

$v_c = 480$ m/min
 $m_n = 2.6$
 $f_a = 2.6$ mm
dry

$v_c = 480$ m/min
 $m_n = 2.6$
 $f_a = 2.6$ mm
干加工

Source
来源

Automotive supplier France 法国汽车供应商

Automotive supplier Germany 德国汽车供应商

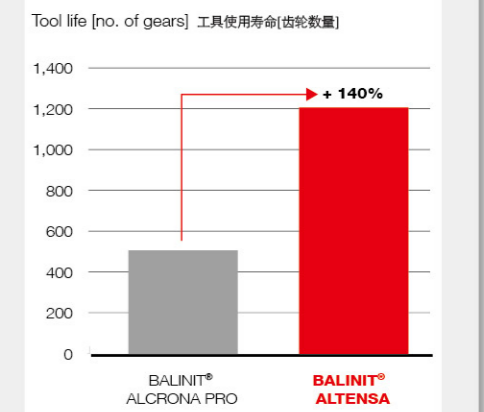
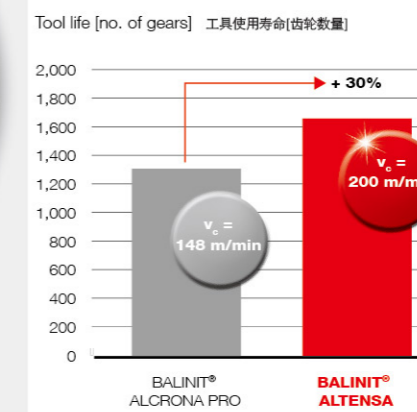


Stick blades:
longer tool life at 35%
increased cutting speed

刀条
增加35%工具使用寿命
提高切削速度

Shaper cutter:
+140% tool life at
moderate cutting conditions

插齿刀
增加140%工具使用寿命
中速切削环境下



Tool
工具

Carbide stick blades

硬质合金刀条

PM-HSS shaper cutter
D=130

PM-HSS插齿刀
D=130

Workpiece
工件

Steel 1.7131
(AISI 5115)

钢 1.7131
(AISI 5115)

Steel 1.7131
(AISI 5115)

钢 1.7131
(AISI 5115)

Cutting data
切削参数

$v_c = 148$ m/min $\rightarrow v_c = 200$ m/min
dry

$v_c = 148$ m/min $\rightarrow v_c = 200$ m/min
干加工

$m = 1.56$
wet

$m = 1.56$
湿加工

Source
来源

Automotive supplier Germany 德国汽车供应商

Automotive supplier France 法国汽车供应商