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balzers

BALINIT ALTENSA

Speed pays off

The high-speed solution for productive gear cutting



Cutting Tools



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

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

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.

Benefit from these coating properties

OPTIMIZED PERFORMANCE

Improved hot hardness



Reduced wear at high cutting speed

Increased abrasive wear resistance



Reduced flank wear at moderate and high cutting speed

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

Lower thermal conductivity



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

Optimized oxidation resistance



Longer tool life at dry cutting conditions and high cutting speed

BALINIT® ALTENSA
Productivity gains, cost efficiency and substantial time savings

Application recommendations

Bevel gear cutting



Hobbing



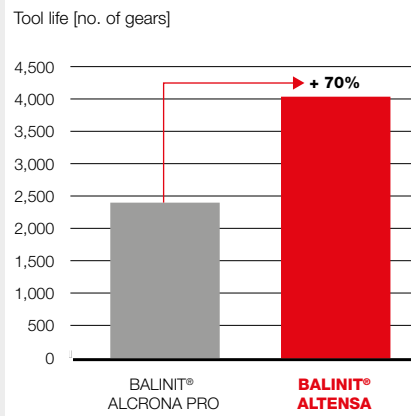
Gear shaping



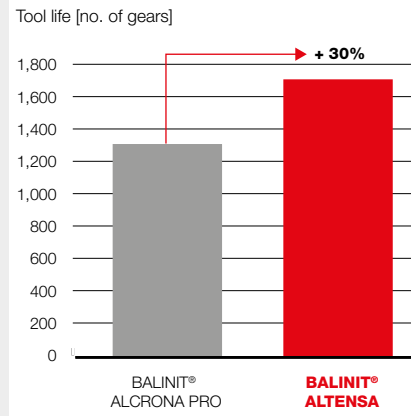
BALINIT ALTENSA: maximum performance for hobs, stick blades and shaper cutters



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



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

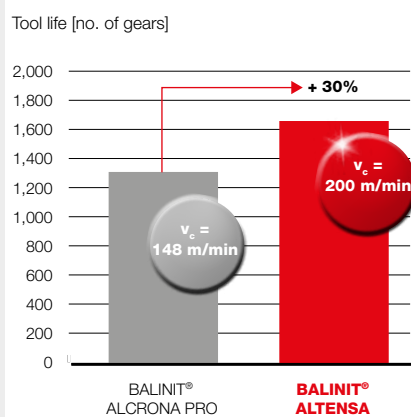


Tool	PM-HSS hob (S390) D = 70 mm
Workpiece	Gearbox for passenger car Steel 1.7131 (AISI 5115)
Cutting data	Cut 1: $v_c = 200$ Cut 2: $v_c = 320$ $m_n = 1.52$ dry
Source	Automotive supplier France

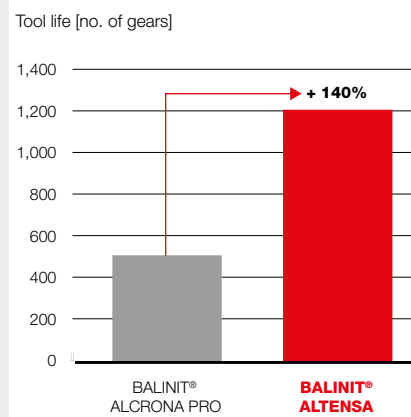
Tool	Carbide hob D = 90 mm
Workpiece	Gearbox for passenger car Steel 1.7149 (~AISI 5120, ~JIS SMnC420(H))
Cutting data	$v_c = 480$ m/min $m_n = 2.6$ $f_a = 2.6$ mm dry
Source	Automotive supplier Germany



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



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



Tool	Carbide stick blades
Workpiece	Steel 1.7131 (AISI 5115)
Cutting data	$v_c = 148$ m/min \rightarrow $v_c = 200$ m/min dry
Source	Automotive supplier Germany

Tool	PM-HSS shaper cutter D = 130
Workpiece	Steel 1.7131 (AISI 5115)
Cutting data	$m = 1.56$ wet
Source	Automotive supplier France

Save up to 20% of your production costs by increasing your cutting speed

Cutting costs for 1,800 gears [€]

BALINIT® ALCRONA PRO



200 m/min
Cutting speed

BALINIT® ALTENSA



300 m/min
Cutting speed

288 €

savings with
**BALINIT®
ALTENSA**



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

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