

# CROSAL® - PLUS COATING

Your tools will be capable of withstanding even the most extreme temperatures

CROSAL-plus is voestalpine eifeler Coatings' next generation AlCrN based hard coating. This new coating is an advanced development of our well established CROSAL coating.

As a result of optimized process parameters and a tailor-made coating microstructure this versatile high-performance coating covers all key requirements:

- » High oxidation resistance
- » Outstanding hot hardness
- » Excellent coating adhesion

## YOUR PLUS IN METAL WORKING APPLICATIONS

The enhanced properties of CROSAL-plus make it ideally suited for challenging applications in the fields of dry machining, punching, forming and fine blanking.

## APPLICATIONS

CROSAL-plus is especially suited for the following applications:

### Cutting Applications

- » High Performance Cutting and Milling
- » Gear Cutting and Hobbing, Including Stick Blades
- » Dry Broaching of Tough Alloys

### Stamping/Forming Applications

- » Fine Blanking
- » Stamping and Forming
- » Hot Pressing
- » Aluminum Die Casting
- » Forging

## PROPERTIES

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Material: Aluminum Chromium Nitride Based, AlCrN

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Micro-hardness: 3200 ± 300 HV

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Maximum temperature of operation: 1100°C/2012°F

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Coefficient of friction against steel: 0.45

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Coating thickness: 2-5 µm

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Color: Slate-Grey

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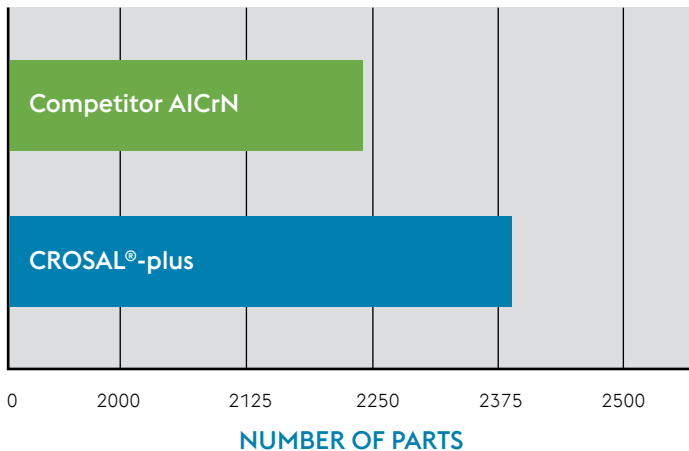
CROSAL-plus is especially suited for challenging cutting and stamping/forming applications.



voestalpine eifeler designs and manufactures our own Physical Vapor Deposition machines which enables eifeler to design customized high performance coating solutions.

# CROSAL®-PLUS COATING

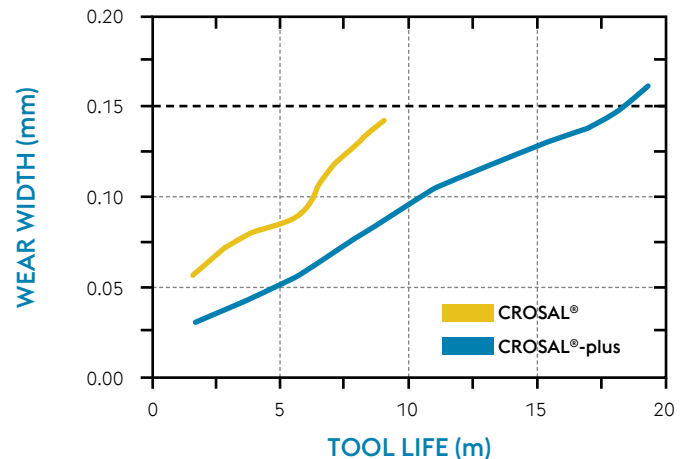
## CROSAL-PLUS PRODUCTIVITY



### Hobbing, 2-cutting technique,

PM-hob, dry, 5<sup>th</sup> speed, 16MnCr5 roughening: 180 m/min  
refining: 360 m/min

## CROSAL-PLUS TOOL LIFE



### Hard cutting in VANADIS10,

H=61HRC, CC-end mill Z=6,  $v_c=100$  m/min,  $f_z=0.07$  mm/tooth,  
 $v_f=1337$  mm/min,  $a_p=10$  mm,  $a_e=0.2$  mm

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ONE STEP AHEAD.