

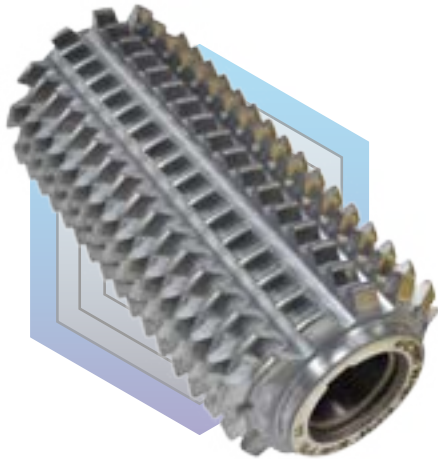
# Signature Coating BorAC

## Specialist for highly demanding machining

BorAC is PLATIT's selected hybrid LACS® coating with simultaneous ARC and SPUTTER processes. BorAC consists of a boron-doped AlCrN protective coating, which is especially suitable for crack inhibition and thus for high-speed applications such as transmission and gear cutting tools. BorAC delivers top performance under high loads, especially in gear hobbing and roughing (dry and wet).

### Highlights:

- Low coating residual stress
- Crack-resistant
- Minimizes crater wear

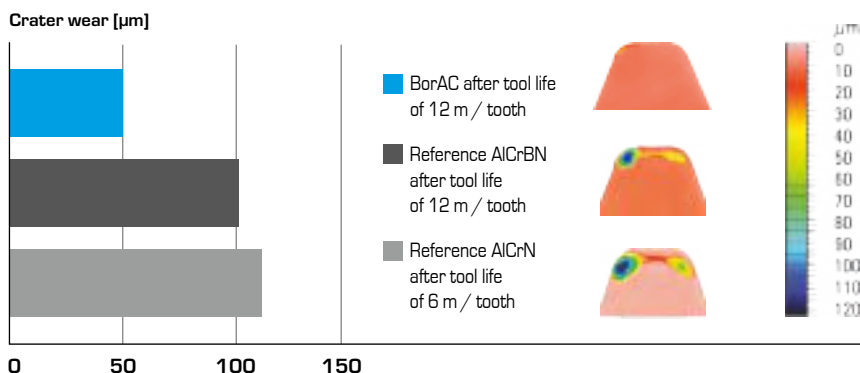


Example: HSS hobs

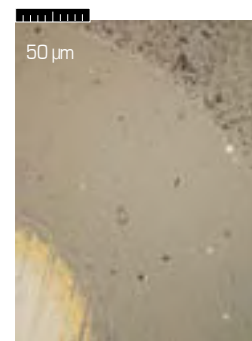
### Specifications

Color	grey
Nano-hardness [GPa]	38–40
Coefficient of friction [μ] PoD (at RT, 50% humidity)	0.5
Coating thickness [μm]	1–5
Max. service temperature [°C]	900
Coating temperature [°C]	400–500
411 PLUS ECO	(Al, AlCrB20-10, Cr)
411 PLUS LACS®	(-, Al, Cr, TiB2 SCIL)

### Effect of boron doping on crater wear in hobs:



Tool: HSS hob; D100  
 Workpiece material: 20 MnCr 5  
 Cooling air;  $m_n = 4 \text{ mm}$ ;  $v_c = 220 \text{ m / min}$ ;  $f_a = -6.4 \text{ mm / rot}$   
 Max. chip thickness  $h_{cu} = 0.24 \text{ mm}$   
 Source: IFG Magdeburg



Calo 3 layers

CrN adhesion layer → AlCrN → AlCrBN