

# Signature Coating nACoX

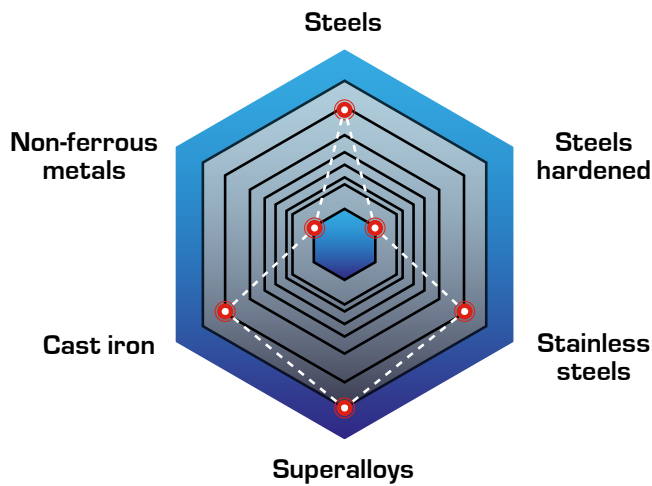
## Oxide nitride coating special for inserts

nACoX is the specialist for turning and milling with inserts under dry or MQL (Minimum Quantity Lubrication) conditions. Based on his four layers and thickness range, nACoX is comparable to CVD coatings while using lower coating temperature. By adding oxygen into the coating, nACoX has an improved oxidization resistance. It has a wide range of usage, beginning from milling cold work steel and ending with turning of Inconel 718.

### Highlights:

- Wear protection with chemical and thermal isolation, avoiding oxygen diffusion
- Decreasing friction at temperatures over 1,000 °C for reduction of build-up edges
- Sustainability by lower coating temperature than comparable CVD coatings

### Charakteristics in cutting:

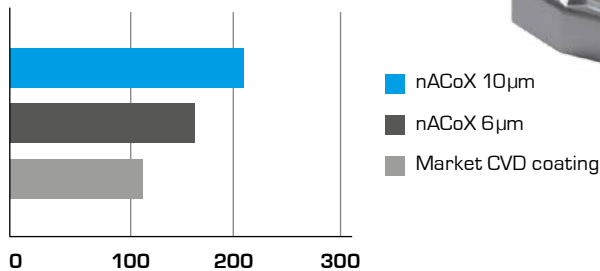


### Specifications

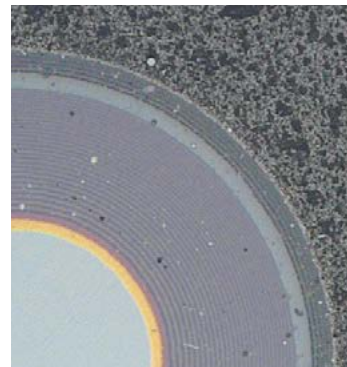
Color	dark grey
Nano-hardness [GPa]	30–32
Coefficient of friction [μ] PoD (at RT, 50% humidity)	0.5
Coating thickness [μm]	4–10
Max. service temperature [°C]	1,200
Coating temperature [°C]	550–600
411 PLUS TURBO & OXI	(Ti, AlSi18, AlCr45, AlTi33)

### Turning of ductile nickel alloyed steel:

#### Tool life [s]



Tool: Turning insert WNMG 080412  
 Workpiece material: Ni-steel  
 Coolant: MQL  
 vc = 110mm/min; f = 0.4mm; ap = 0.2 mm  
 Source: German automotive manufacturer



#### Calo 4 layers

TiN adhesion layer →  
 AlTiN core layer →  
 nACo core layer →  
 AlCrON top layer