

# Signature Coating TiXCo

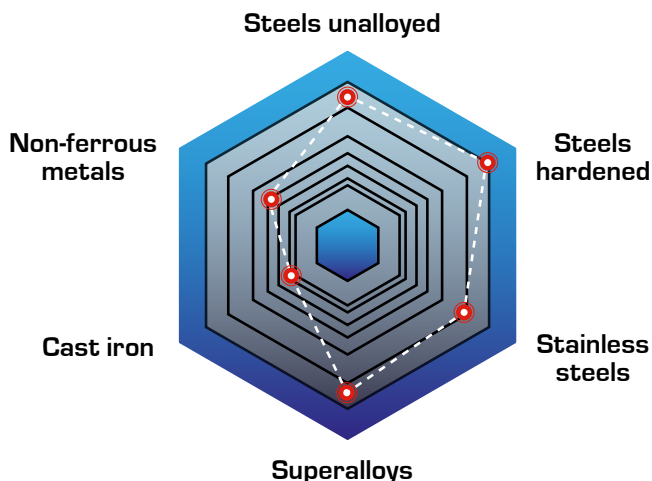
## TiXCo3 and TiXCo4

As our hardest nanocomposite, TiXCo3 is especially suitable for hard machining. It can be used at very high temperatures and is therefore suitable for finishing processes in milling and drilling. TiXCo3 also provides excellent performance for finishing turbine parts. TiXCo4 is used for broadband applications.

### Highlights:

- TiXCo3:
  - High surface quality
  - Extremely hard and very wear-resistant
  - For super-hard machining
- TiXCo4:
  - Wide range of application and use

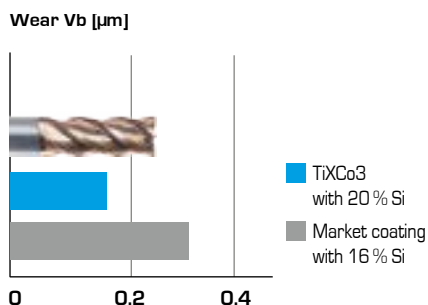
### Characteristics in cutting:



### Specifications

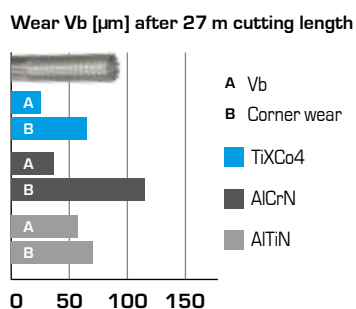
Color	copper with TiXCo3 grey with TiXCo4
Nano-hardness [GPa]	42–44
Coefficient of friction [μ] PoD (at RT, 50% humidity)	0.4
Coating thickness [μm]	1–4
Max. service temperature [°C]	900
Coating temperature [°C]	450–500
111 PLUS G3	TiXCo3 (Al, TiSi20)
411 PLUS ECO	TiXCo3 (Ti, Al, TiSi20)
411 PLUS TURBO	TiXCo3 (Ti, Al, TiSi20, AlTi33) TiXCo4 (Ti, Al, TiSi20, AlCr30)
1011 G4	TiXCo3 (Ti, AlTi40, TiSi20, AlTi40)
1511	TiXCo3 (Ti, Al, TiSi20, AlTi33, AlTi33)

### Milling in X210Cr13 with solid carbide end mill D6:

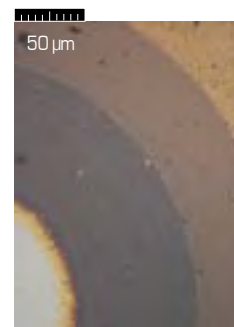


Tool: solid carbide end mill; D6  
Workpiece material: X210Cr13; 1.2080; 64 HRC  
Cooling: dry air; 5 bar; ap = 0.09 mm; ae = 0.06 mm;  
n = 16 820 rpm; f = 0.1 mm / rot  
Source: South Korean tool manufacturer

### Milling in SKD61 with solid carbide end mill D8:



Tool: solid carbide end mill; D8; cutting length = 27 m  
Workpiece material: SKD61; 54 HRC  
Cooling with emulsion; ap = 4 mm;  
ae = 0.03 mm; vc = 100 m / min  
Source: Chinese tool manufacturer



**Calo 3 layers**  
TiXCo3: TiN → AlTi(Si)N → TiSiN  
TiXCo4: TiN → AlCrTi(Si)N → TiSiN