

Signature Coating TiXCo

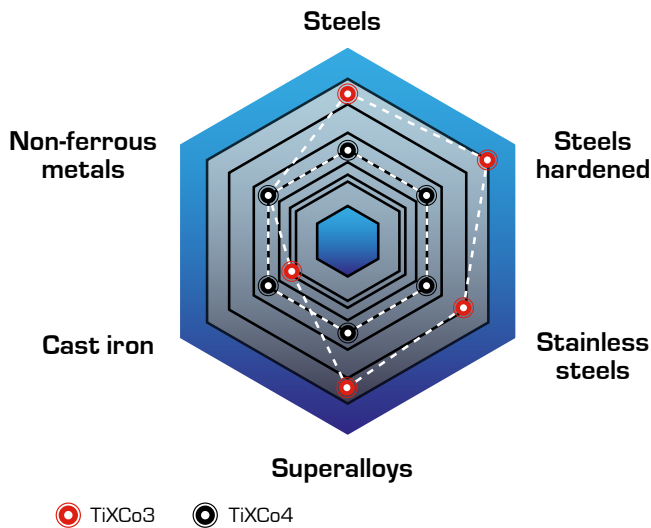
TiXCo3 and TiXCo4

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, drilling and reaming. 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:

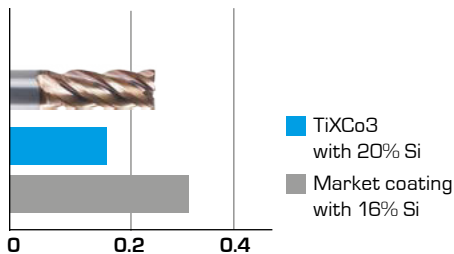


Specifications

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]	1,100
Coating temperature [°C]	450–500
111 PLUS G3	TiXCo3 (AlTi33, TiSi20)
411 PLUS ECO	TiXCo3 (Ti, Al, TiSi20)
411 PLUS TURBO	TiXCo3 (Ti, Al, TiSi20, AlTi33) TiXCo4 (Ti, Al, TiSi20, AlCr30)
1011 G4	TiXCo3 (TiSi20, AlTi40, TiSi25, AlTi40)

Milling in X210Cr13 with solid carbide end mill D6:

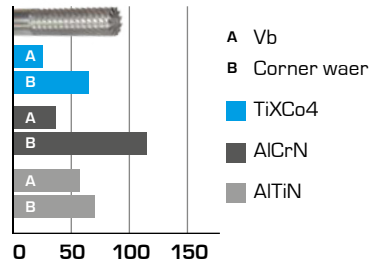
Wear Vb [μm]



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:

Wear Vb [μm] after 27 m cutting length



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