TiXCo coatings

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.

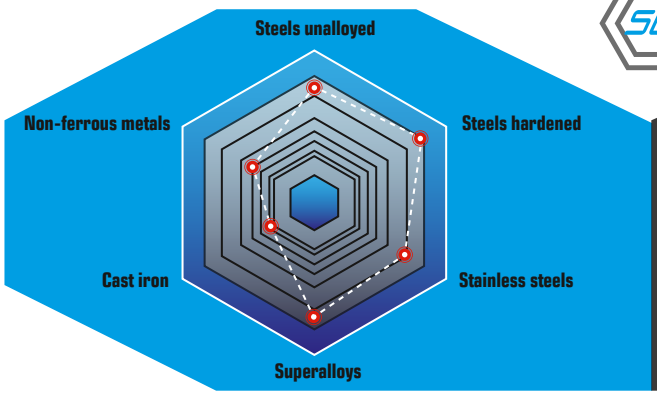
TiXCo4 is used for broadband applications.

Highlights:

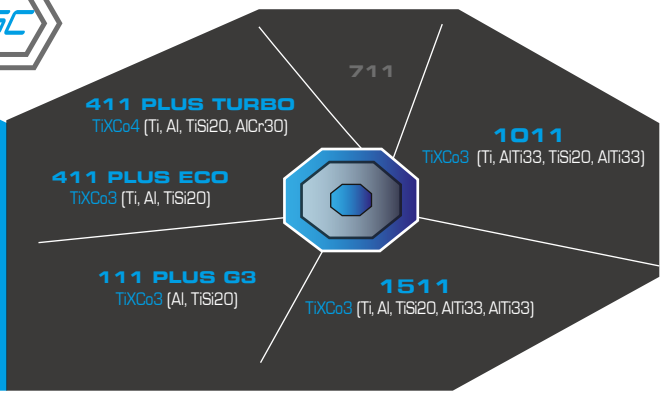
- TiXCo3:
  - High surface quality
  - Extremely hard and very wear-resistant
  - For super-hard machining
- TiXCo4:
  - Wide range of application and use

Signature Coatings

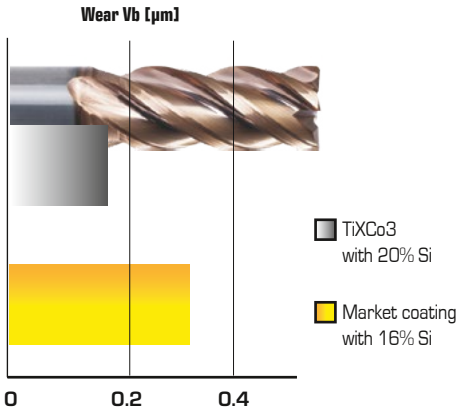
Characteristics in cutting



Coating units and cathode configurations

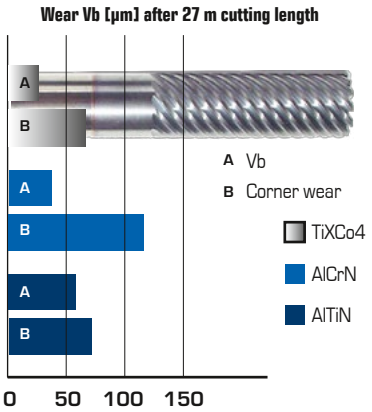


Milling in X210Cr13 with solid carbide end mill D6:

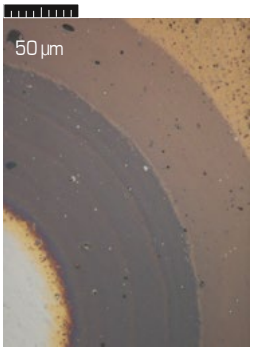


Tool: solid carbide end mill; D6
Workpiece material: X210Cr13; 1.2080; 64 HRC
Cooling: dry air, 5 bar; ap = 0.09 mm; ae = 0.06 mm;
n = 16 820 rpm; f = 0.1 mm/rot
Source: South Korean tool manufacturer

Milling in SKD61 with solid carbide end mill D8:



Tool: solid carbide end mill; D8
cutting length = 27 m
Workpiece material: SKD61; 54 HRC
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

Specifications

Color	copper with TiXCo3 grey with TiXCo4	**Coating thickness [µm]**	1 - 4
Nano-hardness [GPa]	42 - 44	**Max. service temperature [°C]**	900
Coefficient of friction [µ] PoD (at RT, 50 % humidity)	0.4	**Coating temperature [°C]**	450 - 500