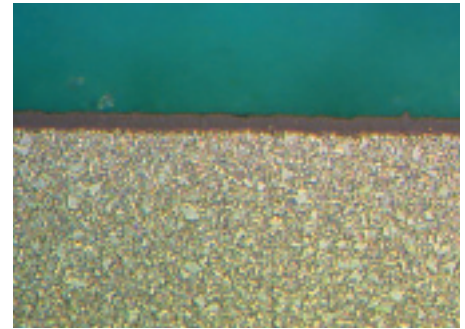


Special Features

- 1) PVD coating technique has inherent advantage such as superior chipping resistance of coated film itself and maintain the toughness of carbide substrate. Thus it is possible to increase the tool life approximately 2~4 times longer than carbide cutting tools.
- 2) PVD coating can make sharp cutting edge without blunting of sharp substrate.
- 3) Ti-base coating film can provide excellent surface finish and high accuracy machining due to the low affinity of Ti film and work piece.

SOWA PVD Trio


- PM30P** : Steel milling grade equipped with tough substrate and Nano-TiAlN coating film.
- MT30P** : Exclusive grade for turning of stainless steel consisting of tough substrate and TiAlN coating film.
- MM30P** : Exclusive grade for milling of stainless steel consisting ultra fine grain size substrate and TiAlN coating film.



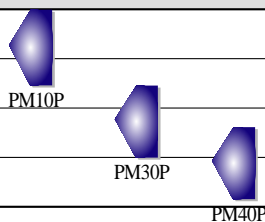

Cross-sectional view of PVD coating film

Guide of Grade Selection

Turning

Work-piece	Cutting condition	1 st choice	cutting speed (sfm)	ISO	Application Range
Steel	TiAlN		600(400 ~ 750)	P10	
				P20	
	TiCN		425(305 ~ 525)	P30	
				P40	
Cast Iron	TiAlN		650(500 ~ 825)	K01	
			550(400 ~ 700)	K10	
	TiAlN		500(325 ~ 650)	K20	
Stainless steel	TiAlN	MT30P	420(160 ~ 260)	M20	 MT30P
				M30	
				M40	

Milling

Work-piece	Cutting condition	1 st choice	cutting speed (sfm)	ISO	Application Range
Steel	TiAlN	PM10P	650(500 ~ 825)	P10	
		PM30P		P20	
	PM40P	400(325 ~ 500)	P30		
			P40		
Cast Iron	TiAlN		650(500 ~ 825)	K01	
			550(400 ~ 700)	K10	
	TiAlN		500(325 ~ 650)	K20	
Stainless steel	TiAlN	MM30P	420(160 ~ 260)	M20	 MM30P
				M30	
				M40	

Grades & Chipbreakers

PVD Coating Grades

Grade	ISO	Special Features	Use
PM10P	P05 - P15	<ul style="list-style-type: none"> For milling of steel Tough exclusive substrate with Nano-TiAlN coating provide excellent wear resistance and toughness at the same time. Nano-TiAlN coating 	Milling
PM30P	P10 - P25	<ul style="list-style-type: none"> For milling of steel Tough exclusive substrate with Nano-TiAlN coating provide excellent wear resistance and toughness at the same time. Nano-TiAlN coating 	Milling
PM35P	P25 - P40	<ul style="list-style-type: none"> For milling of steel Tough exclusive substrate with Nano-TiAlN coating provide excellent wear resistance and toughness at the same time. Nano-TiAlN coating 	Milling
PM40P	P25 - P40	<ul style="list-style-type: none"> For milling of steel Tough exclusive substrate with Nano-TiAlN coating provide excellent wear resistance and toughness at the same time. Nano-TiAlN coating 	Milling
MT30P	M20 - M35	<ul style="list-style-type: none"> For medium to roughing, intermittent turning of stainless steel Toughest sub-micron substrate with PVD TiAlN coating have superior property of prevent build-up-edge, thus extend and having consistent tool life. TiAlN coating 	Turning Threading
MM30P	M35 - M45	<ul style="list-style-type: none"> For medium to rough milling of Stainless Steel Toughest sub-micron substrate provide excellent cutting performance at fast feed machining. TiAlN coating 	Milling
KT15P	K10 - K20	<ul style="list-style-type: none"> Optimal grade for milling of cast iron at medium to low speed cutting Available for machining aluminum as well. TiAlN coating 	Milling
SM20P	S20	<ul style="list-style-type: none"> For milling high temp alloys (inconel, titanium, stellite, haynes hastelloy). Special substrate with increased toughness for better shock resistance Special coating for increased oxidation resistance and anti adhesion TiAl(ME)N coating 	Milling
ST10P	S10	<ul style="list-style-type: none"> For turning high temp alloys (inconel, titanium, stellite, haynes hastelloy). Unique substrate combining high wear resistance and toughness Special PVD coating provides good wear resistance and anti adhesion TiAl(ME)N coating 	Turning