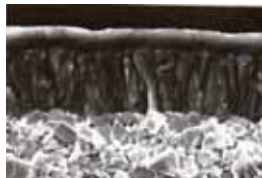


KORLOY CVD Coating Grades

Special Features

- 1) Due to the special crystalline structure of the film, superior wear resistance and toughness are achieved.
- 2) Multi-layer coating, with its strong bonding strength, has been applied by new coating technology.

Al₂O₃ (Enhance wear Resistance, Prevent Built-up-edge Intermediate layer for better adhesion)
TiC (Enhance wear Resistance)
TiCN (Enhancing wear-resistance and Toughness by adopting New-Coating Tech.)



Cross-sectional view of CVD coating film



Milling

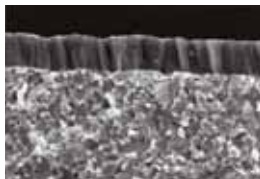
Workpiece	1* Recommend Grade	Recommended cutting speed(m/min)	ISO	Application Range
Steel	NCM325	250(150 ~ 300)	P20 M20	
			P30 M30	
	NCM335	200(150 ~ 250)	P40 M40	
Cast Iron	NCM310K	250(150 ~ 300)	K10	
			K20	
	NCM320K	200(150 ~ 250)	K30	

CVD Coated Grades	ISO	Special Features
NCM325	P20 ~ P30 M20 ~ M30	<ul style="list-style-type: none"> - For high speed milling of steel and stainless steel - Optimised grade for steel & stainless steel milling by employing proper substrate (optimal hardness & toughness combination) and hard coating. - MT-TiCN + Al₂O₃ + TiN
NCM335	P30 ~ P40 M30 ~ M40	<ul style="list-style-type: none"> - For intermittent and rough milling of steel and stainless steel - Toughest substrate with hard coating provides stable cutting even at severe intermittent cutting. - MT-TiCN + Al₂O₃ + TiN
NCM310K	K05 ~ K15	<ul style="list-style-type: none"> - For high speed milling of cast iron - Hard substrate and fine grain size Al₂O₃ coating provide excellent wear resistance at high speed cutting. - MT-TiCN + Al₂O₃
NCM320K	K15 ~ K25	<ul style="list-style-type: none"> - For general milling of cast iron - Tough substrate and fine grain size Al₂O₃ coating provides a wide coverage for the milling of cast iron for both dry and wet cutting. - MT-TiCN + Al₂O₃

KORLOY PVD Coating Grades

Special Features

- 1) The PVD coating technique has inherent advantages, like superior chipping resistance of the coated film itself and the toughness of carbide substrate. Thus it is possible to increase the tool life approximately 2-4times longer than carbide cutting tools.
- 2) The PVD coating can make sharp cutting edges without blunting of sharp substrate.
- 3) Ti-base coating film can provide excellent surface finish and high accuracy machining of the workpiece, due to the low affinity of Ti film..



Cross-sectional view of PVD coating film

Special Features of Korloy PVD Series

- 1) Uses TiAlN film which is optimal for high speed, dry cutting cases.
- 2) The toughness of TiAlN has been enhanced, more than conventional brittle TiAlN.
- 3) Due to the TiN at the outer most layer, friction has been reduced and surface has been improved.
- 4) Easy recognition of wear amount on cutting edge.

Milling

Workpiece	Cutting condition	1 st Recomm Grade	Recommended cutting speed(m/min)	ISO	Application Range	
Steel	TiAlN/ TiN	PC3535	200(150 ~ 250)	P10		
		PC3545	120(100 ~ 150)	P20 P30 P40		
	Cast Iron	TiAlN/TiN	PC6510	200(150 ~ 250)		K01
		TiAlN/ TiN	PC215K	170(120 ~ 210)		K10 K20
Stainless steel	TiAlN	PC9530	130(50 ~ 200)	M20		
				M30		
				M40		
Hard to cut material	TiAlN/TiN	PC8520	50(30 ~ 60)	S20		

PVD Coated Grades	ISO	Special Features
PC3535	P20 ~ P35	<ul style="list-style-type: none"> - For milling & turning of steel - Comprehensive grade can cover wide application range due to special substrate, equipped with optimal wear resistance and toughness and PVD TiAlN coating film. - K-Gold coating
PC3545	P30 ~ P50	<ul style="list-style-type: none"> - For medium & roughing of steel - Tough exclusive substrate with Nano-TiAlN coating provides excellent wear resistance and toughness at the same time. - K-Gold coating
PC8520	S20 ~ S30 (Exotics)	<ul style="list-style-type: none"> - For medium & roughing of hard to cut material and stainless steel. - Tough substrate with hard coating provides stable tool life at intermittent cutting. - K-Gold coating
PC6510	K01 ~ K15	<ul style="list-style-type: none"> - High speed cast iron milling grade has superior wear resistance. Available for machining of aluminum as well. - K-Gold coating
PC9530	M20 ~ M35	<ul style="list-style-type: none"> - For medium to rough milling of stainless steel - Toughest sub-micron substrate provides excellent cutting performance at high feed machining. - TiAlN coating