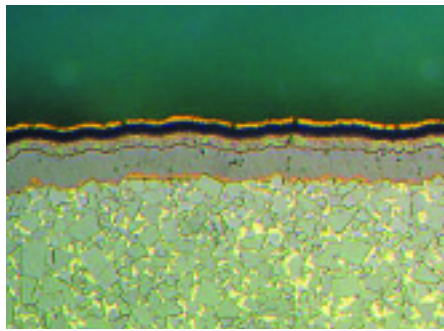


## Special Features

- 1) Having superior wear resistance and toughness at the same time due to special crystalline structure of film.
- 2) High bonding strength between film and substrate by adopting new-coating technology.



- TiN** Reduce Friction-force
- Al<sub>2</sub>O<sub>3</sub>** Wear Resistance, Prevent Build-up-edge
- TiC** Wear Resistance
- TiCN** Enhancing Wear-resistance and toughness by adopting New-Coating Tech.

Cross-sectional view of CVD coating film

## Guide of Grade Selection

### ■ Turning

Work-piece	Cutting condition	1 <sup>st</sup> choice	cutting speed (sfm)	ISO	Application Range
Steel	Continuous cutting	PT10C	925(725 ~ 1150)	P01	
		PT20C	725(600 ~ 975)	P10	
	Intermittent cutting	PT20C	600(500 ~ 650)	P20	
		PT30C	500(400 ~ 650)S	P30	
Cast Iron	Continuous cutting	KT05C	825(500 ~ 975)	P40	
		KT10C	725(500 ~ 875)	K01	
	Intermittent cutting	KT10C	600(500 ~ 825)	K10	
		KT10C	600(500 ~ 825)	K20	
Stainless Steel	Continuous cutting	MT20C	550(400 ~ 725)	K30	
		PT30C	325(250 ~ 400)	M01	
	Intermittent cutting	PT30C	325(250 ~ 400)	M10	
		PT30C	325(250 ~ 400)	M20	
				M30	

### ■ Milling

Work-piece	1 <sup>st</sup> choice	cutting speed (sfm)	ISO	Application Range
Steel	PM25C	825(500 ~ 975)	P20	
			M20	
	PM30C	650(500 ~ 825)	P30	
Cast Iron	KM20C	650(500 ~ 825)	M30	
			P40	
			M40	
			K10	
			K20	
			K30	

## CVD Coating Grades

Grade	ISO	Special Features	Use
PT10C	P05 - P15	<ul style="list-style-type: none"> <li>• For high speed machining of steel</li> <li>• Optimal for high speed machining of steel due to the combination of high hardness substrate and CVD Al<sub>2</sub>O<sub>3</sub> film</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
PT15C	P10 - P20	<ul style="list-style-type: none"> <li>• For medium to high speed machining of steel</li> <li>• Excellent combination of toughness and wear resistance</li> <li>• Stable consistent cutting performance</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
PT20C	P15 - P30	<ul style="list-style-type: none"> <li>• For medium cutting of steel</li> <li>• Excellent combination of tough substrate and coating having superior chipping resistance provide stable and consistent cutting performance.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
PT30C	P25 - P35 M15 - M25	<ul style="list-style-type: none"> <li>• For medium to roughing and intermittent cutting of steel and stainless steel.</li> <li>• Toughest substrate provide wide available application range.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
PT40C	P25 - P40 M15 - M25	<ul style="list-style-type: none"> <li>• For medium to roughing and intermittent cutting of steel and stainless steel.</li> <li>• Toughest substrate provide wide available application range.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
KT05C	K05 - K15	<ul style="list-style-type: none"> <li>• For high speed cutting of cast iron.</li> <li>• High hardness substrate and thick CVD Al<sub>2</sub>O<sub>3</sub> coating provide excellent wear resistance.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
KT10C	K10 - K25	<ul style="list-style-type: none"> <li>• For general, high efficient cutting of cast iron.</li> <li>• Special substrate suitable for fast feed and deep depth of cut and thick CVD Al<sub>2</sub>O<sub>3</sub> coating provide stable and consistent cutting performance.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
MT20C	M10 - M20	<ul style="list-style-type: none"> <li>• For high speed cutting of stainless steel.</li> <li>• Special substrate having excellent thermal properties and CVD coating having superior chipping resistance provide longer tool life.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Turning
PM10C	P05 - P15	<ul style="list-style-type: none"> <li>• For high speed machining of steel</li> <li>• Optimal for high speed machining of steel due to the combination of high hardness substrate and CVD Al<sub>2</sub>O<sub>3</sub> film</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Milling
PM25C	P20 - P30 M20 - M30	<ul style="list-style-type: none"> <li>• For high speed milling of steel and stainless steel</li> <li>• Optimal substrate and coating having optimal wear resistance and toughness provide consistent tool life.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Milling
PM30C	P30 - P40 M30 - M40	<ul style="list-style-type: none"> <li>• For intermittent and rough milling of steel and stainless steel</li> <li>• Tough substrate provide stable cutting even at severe intermittent cutting.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub> + TiN</li> </ul>	Milling
KM20C	K15 - K25	<ul style="list-style-type: none"> <li>• For general milling of cast iron</li> <li>• Tough substrate and fine grain size Al<sub>2</sub>O<sub>3</sub> coating provide wide available cutting range for both dry and wet cutting.</li> <li>• MT-TiCN + Al<sub>2</sub>O<sub>3</sub></li> </ul>	Milling