

# Anycut

Universal grade series

# PC5300 *New*

# NC5330 *New*

## 泛用型多用途切削材質

建德刀具專業代理

Milling

Turning

Drilling

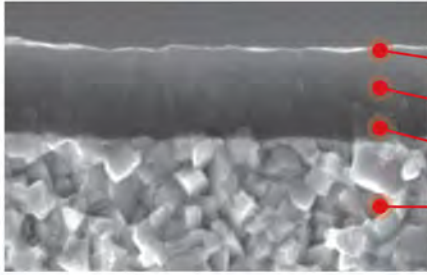


## Multi function



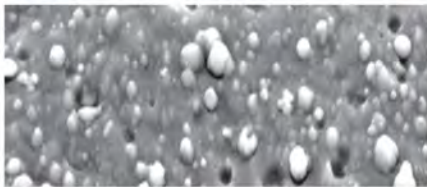
## 泛用型多用途切削材質

### PVD PC5300



1. 優良表面塗層
2. 塗層抗氧化
3. 塗層黏接强度高
4. 底層堅硬.顆粒細緻

→ 塗層表面更加光滑



〈一般塗層〉

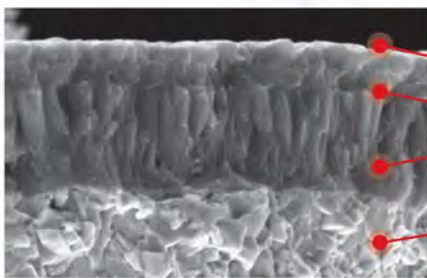


〈 PC5300 〉

→ 特色

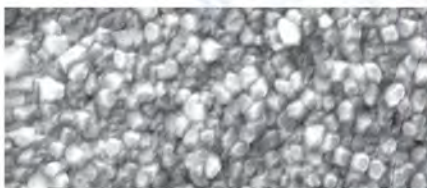
- 堅固底層和精細表面塗層，抵抗剝落，少缺角
- 通用材質等級，穩定的刀具壽命，最適合鋼，不鏽鋼，鑄鐵，耐熱超合金

### CVD NC5330



1. 鈦鍍層.良好的抗粘著性及表面粗糙度
2. 氧化鋁.抗氧化
3. 化學氣相鍍層[氮碳化鈦].細顆粒和柱狀結構和高硬度，高韌性
4. 獨家底層塗層

→ 塗層表面更加光滑



〈一般塗層〉



〈 NC5330 〉

→ 特色

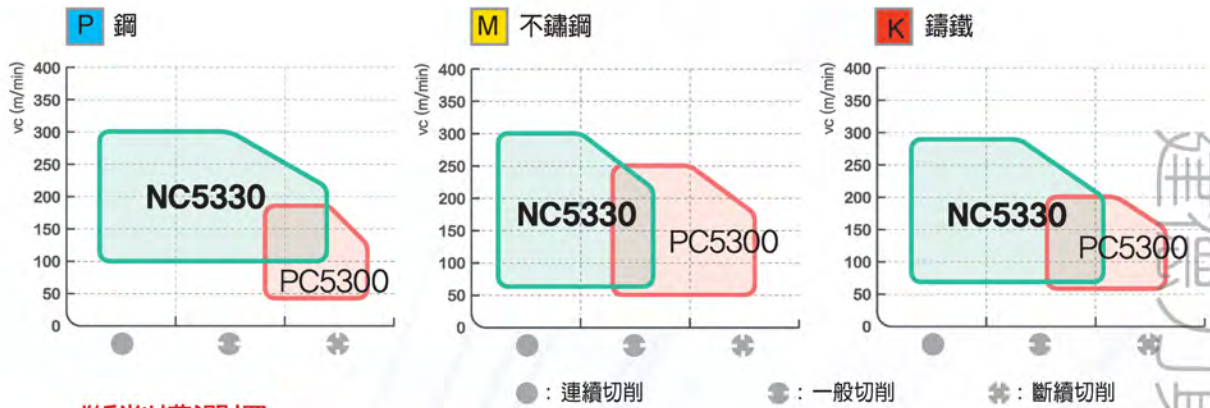
- 堅固底層和精細表面塗層，抵抗剝落，少缺角
- 通用材質等級，穩定的刀具壽命，最適合鋼，不鏽鋼，鑄鐵，耐熱超合金

## 泛用型刀片的最佳選擇(車削加工用)- NC5330

### 材質選擇

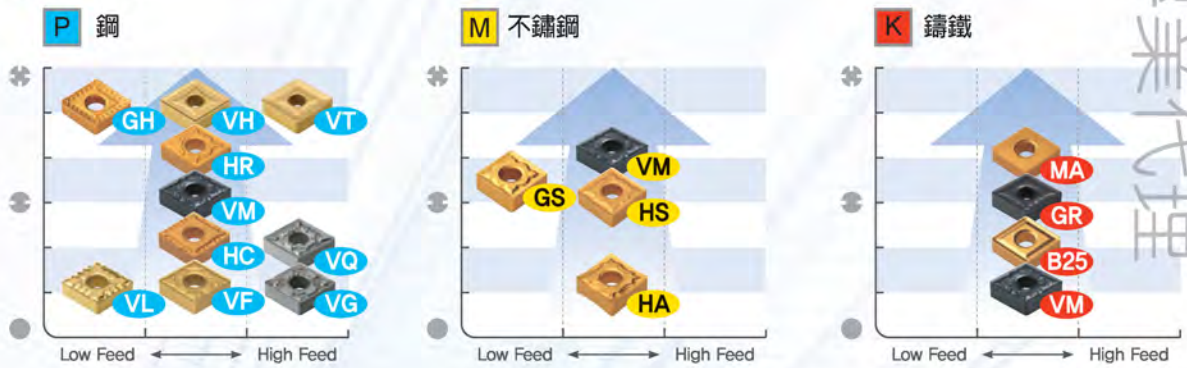
➔ 選擇技巧：連續切削 / 高速 → NC5330，斷續切削 / 低速 → PC5300

#### Application

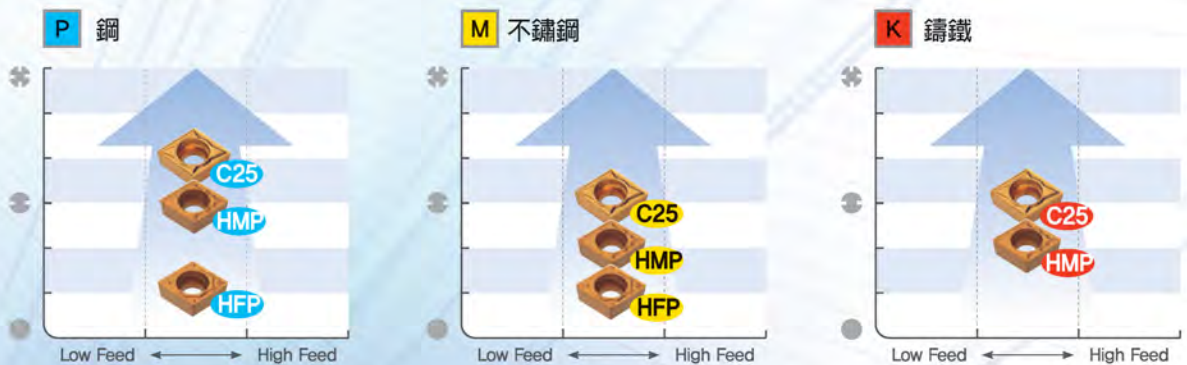


### 斷削槽選擇

#### 1 負角刀片



#### 2 正角刀片



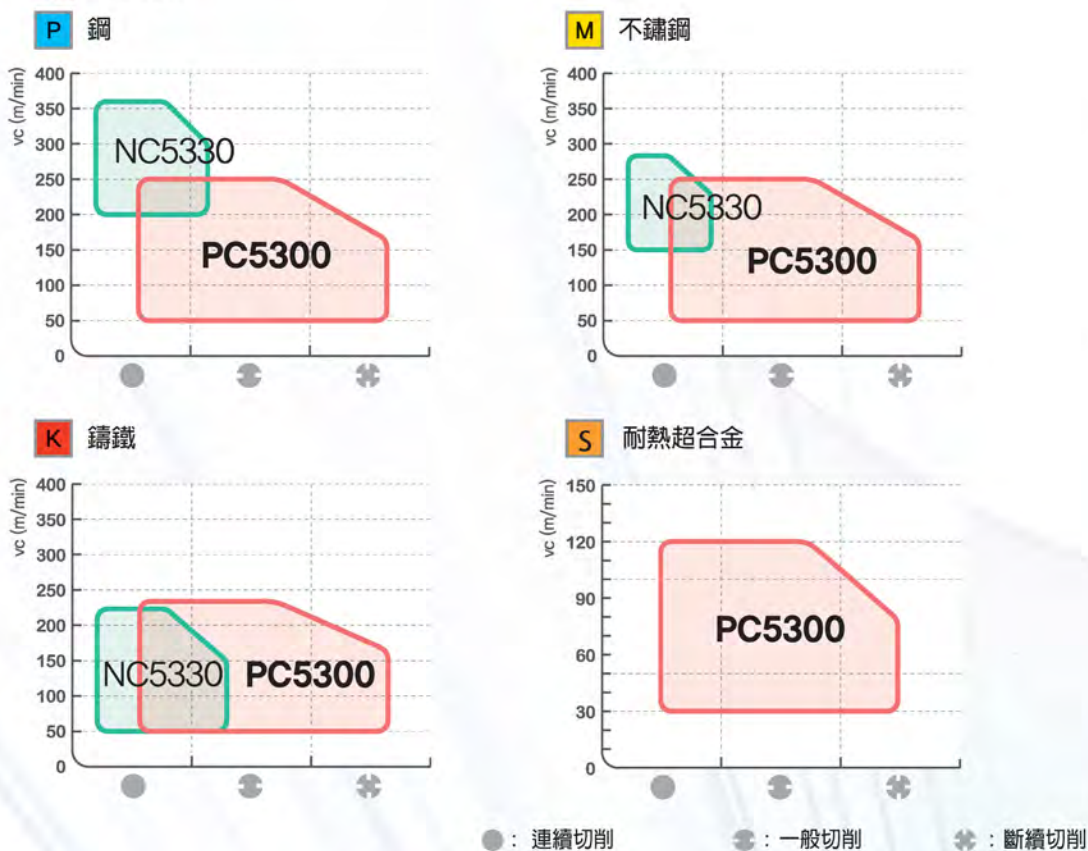
建議切削形態，更多資訊請詳見第5頁

## 泛用型刀片的最佳選擇(銑削加工用)- PC5300

### 材質選擇

➔ 選擇技巧: 連續切削 / 高速 → NC5330, 斷續切削 / 低速 → PC5300

#### Application



### 銑削刀片刃角之的選擇建議

加工方式	刃角型態	特色
精修加工	MF	• 低切削阻力的斷削槽刃角 • 適用於精修與難切材料的銑削加工
一般銑削	MM	• 適合一般廣泛的銑削加工
粗銑加工	MR	• 適用於粗銑與重切削之銑削加工

建議切削形態, 更多資訊請詳見第5頁

## 建議的切削材料及速度參考值

加工物					切削速度(m/min)			
ISO	材料		硬度 (HB)	硬度 (HRC)	車削		銑削	
					PC5300	NC5330	PC5300	NC5330
P 碳鋼	低碳鋼	C = 0.10-0.35%	80~180	10~	100~170	130~300	140~270	230~360
	高碳鋼	C = 0.35-0.8%	180~280	10~30	80~160	120~250	90~220	150~300
P 合金鋼	低合金鋼 (合金成分 低於5%)	Non-Hardened	140~260	27~	80~150	90~220	100~200	190~280
		Hardened	220~450	20~50	60~130	50~150	70~140	120~180
	高合金鋼 (合金成分 高於5%)	Annealed	200~400	43~	80~130	80~170	70~150	130~190
		Castings	220~450	20~48	50~100	50~140	40~110	60~140
M 不鏽鋼	沃斯田鐵	Non-Hardened Non-wedable	135~275	29~	120~220	100~200	100~230	130~270
	沃斯田鐵 /肥粒鐵	Hardened/ Weldable	150~250	25~	100~200	90~190	90~190	110~240
	肥粒鐵 /麻田散鐵	Non-Hardened Non-wedable	135~275	29~	120~280	80~230	110~240	130~270
S 超耐熱合金鋼	超耐熱合金	Fe base	200~280	29~	50~80	35~80	40~65	35~60
		Ni base	250~320	34~	20~55	15~50	35~60	35~55
		Co base	200~320	34~			10~25	10~25
	鈦合金	Ti Annealed aged	400 400~	43~ ~43	110~160 40~65	100~150 40~60	100~120 45~65	95~120 40~65
K 鑄鐵	灰口鑄鐵	Low tensile strength	180	18~	110~180	100~280	200~210	150~230
		High tensile strength	220	~23	95~140	130~230	150~230	120~180
	軟鐵	Ferritic	160	10~	95~135	150~230	110~180	100~145
		Pearlitic	250	~34	65~100	70~120	60~120	60~110
N 銅合金	鋁	Aluminum	30~150	-	40~400	-	250~400	-
	銅	Copper alloys	150~160	-	20~250	-	300~500	-



## 泛用型通用材質之應用範圍

### 車削系統

Workpiece	Machining type	ISO	Excusive grade line-up	Universal grade	
<b>P</b> 鋼	●	P01			
		P10	NC3010		
	✚	P20	NC3020	NC3120	
		P30	NC3030	NC500H	NC5330
		P40			PC5300
<b>M</b> 不鏽鋼	●	M10	PC8110		
		M20	NC9025	NC5330	
	✚	M30	PC9030		
		M40		PC5300	
<b>K</b> 鑄鐵	●	K05	NC6105		
		K10	NC6110	NC315K	
	✚	K20		NC5330	
		K30		PC5300	
<b>S</b> 超耐熱合金	●	S10	PC8110		
		S20	NC9025	NC5330	
	✚	S30		PC5300	

### 銑削系統

Workpiece	Machining type	ISO	Excusive grade line-up	Universal grade	
<b>P</b> 鋼	●	P01			
		P10	NCM325	NC5330	
	✚	P20	NCM335	PC3500	
		P30		PC3545	PC5300
		P40			
<b>M</b> 不鏽鋼	●	M10		NC5330	
		M20	PC9530	PC5300	
	✚	M30			
		M40		PC3545	
<b>K</b> 鑄鐵	●	K05			
		K10	PC6510	NC5330	
	✚	K20		PC5300	
		K30			
<b>S</b> 超耐熱合金	●	S10			
		S20			
	✚	S30	PC3545	PC5300	

## 加工材料適合的刀片材質選擇指南

選擇	加工方式	<b>P</b> 鋼	<b>M</b> 不鏽鋼	<b>K</b> 鑄鐵	<b>S</b> 超耐熱合金	<b>N</b> 非鐵金屬	<b>H</b> 超硬材料	
1st 第一選擇	車削	NC3020 (P20)	PC9030 (M30)	NC6110 (K10)	PC8110 (S10)	ND1000 (N10)	DBN250 (H20)	
	銑削	PC3500 (P30)	<b>PC5300 (M30)</b>	PC6510 (K10)	<b>PC5300 (S20)</b>	ND2000 (N10)	DBN500 (K05)	
	切槽切斷	<b>NC5330 (P35)</b>	<b>PC5300 (M30)</b>	<b>PC5300 (K20)</b>	<b>PC5300 (S20)</b>	H01 (N10)	<b>NC5330 (H30)</b>	
	攻牙螺紋	PC3030T (P25)	PC3030T (M25)	PC3030T (K15)	PC3030T (S20)		PC3030T (H25)	
	端銑刀	PC220 (P20)	PC210 (M10)	PC220 (K20)	PC210 (S10)	ND3000 (N10)	PC203F (H10)	
	鑽頭	全鎢鋼	PC205F (P20)	PC205F (M20)	PC205F (K10)	PC205F (S20)	FG2 (N10)	PC205F (H20)
		替換刀片	<b>PC3500 (P30)</b>	<b>PC5300 (M30)</b>	PC6510 (K10)	<b>PC5300 (S20)</b>	H01 (N10)	<b>PC5300 (H35)</b>
2st 第二選擇	車削	NC3010(P10) NC3120(P20) NC3030(P30) <b>NC5330(P35)</b>	PC8110(M10) <b>NC5330(M25)</b> <b>PC5300(M30)</b>	NC6010 (K10)	<b>NC5330(S15)</b> <b>PC5300(S20)</b>	PD1000 (N10)	DBN300 (H30)	
	銑削	NCM325(P25) <b>PC5300(P35)</b> NCM335(P35) PC3545(P40)	<b>NC5330(M25)</b> PC9530(M30) PC3545(M40)	PC8110(K10) <b>PC5300(K20)</b>	PC3545 (S25)	PD2000 (N10)	DBN600 (H40)	
	切槽切斷	NC3030 (P30)	NC9025 (M25)	NC6110 (K10)	PC9030 (S25)	G10E (N20)	NC3030 (H30)	
	攻牙螺紋	<b>PC5300 (P35)</b>	<b>PC5300 (M30)</b>	<b>PC5300 (K20)</b>	<b>PC5300 (S20)</b>		<b>PC5300 (H35)</b>	
	端銑刀	PC215F (P15)	PC215F (M15)	PC215F (K15)	PC215F (S15)	PD3000 (N10)	PC210F (H20)	
	鑽頭	全鎢鋼	PC225F (P25)	PC225F (M25)	PC225F (K20)	PC225F (S25)	FU25 (N20)	PC225F (H25)
		替換刀片	<b>PC5300 (P35)</b>	PC9530 (M30)	<b>PC5300 (K20)</b>	PC9530 (S20)	G10E (N20)	PC9530 (H40)

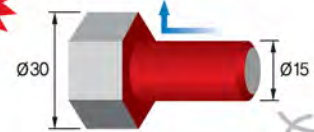
## PC5300 test examples

## Turning

## M Stainless steel (X5CrNi18-9)

- Cutting condition :  
vc=282m/min, fn=0.2mm/rev  
ap=3.0mm, wet
- Test Tool : Holder DCLNL2525-M12  
Insert CNMG120408-HS

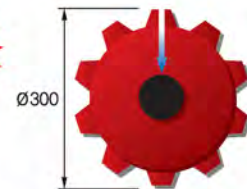
## • Result



## M Stainless steel (X5CrNiMo17-12-2)

- Cutting condition :  
vc=120m/min, fn=0.2mm/rev  
ap=0.5~1.5mm, wet
- Test Tool : Holder DSBNL2525-M12  
Insert SNMG120408-GS

## • Result

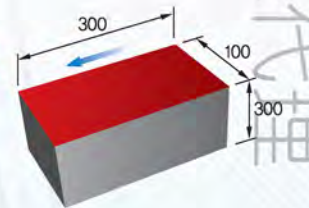


## Milling

## P Carbon steel (C45)

- Cutting condition :  
vc=250m/min, fz=0.3mm/t  
ap=2.0mm, dry
- Test Tool : Cutte EPN5160R  
Insert SPKN1504EDSR-SU

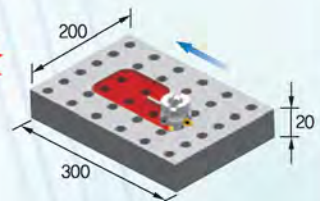
## • Result



## P Mold steel (X40CrMoV51)

- Cutting condition :  
vc=250m/min, fz=1.0mm/t  
ap=1.0mm, dry
- Test Tool : Cutte HRMDCM13050HR-3  
Insert WNMX130520ZNN-MM

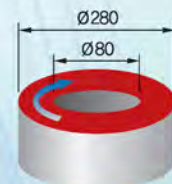
## • Result



## M Stainless steel (X5CrNiMo17-12-2)

- Cutting condition :  
vc=65m/min, fz=0.14mm/t  
ap=3.0mm, wet
- Test Tool : Cutte FMACM4100HR  
Insert SEET14M4AGSN-MM

## • Result





## NC5330 test examples

### Turning

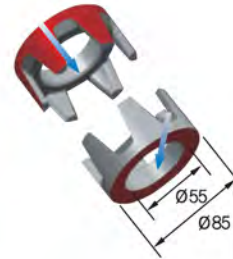
#### P Carbon steel (C45)

- Cutting condition :  
vc=250m/min, fn=0.25mm/rev  
ap=2.5mm, Face turning
- Test Tool : Holder PCLNL2525-M12  
Insert CNMG120412-VM

#### • Result



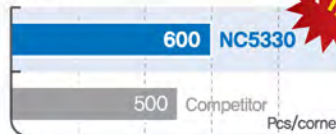
1.2



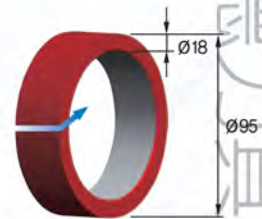
#### P Alloy steel (20Cr4H)

- Cutting condition :  
vc=210m/min, fn=0.18mm/rev  
ap=0.3mm, Face turning
- Test Tool : Holder MWLNL2525-M08  
Insert WNMG080404-VF

#### • Result



1.2



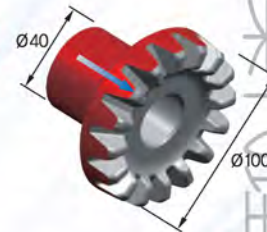
#### P Alloy steel (Chromium molybdenum steel)

- Cutting condition :  
vc=260m/min, fn=0.25mm/rev  
ap=2.5mm, External
- Test Tool : Holder PCLNL2525-M12  
Insert CNMG120408-VM

#### • Result



1.5



### Milling

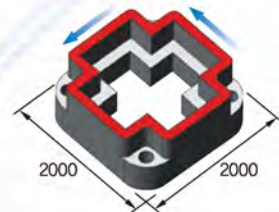
#### K Ductile cast iron (400-18)

- Cutting condition :  
vc=200m/min, fz=0.20mm/t  
ap=5.0mm, dry
- Test Tool : Cutte ADN5100R  
Insert SDKN1504AESN-SU

#### • Result



1.2



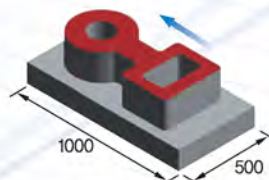
#### K Grey cast iron (700-2)

- Cutting condition :  
vc=355m/min, fz=0.16mm/t  
ap=5.0mm, dry
- Test Tool : Cutte ADN5100R  
Insert SPKN1504EDSR-SU

#### • Result
















1.5























建德刀具專業代理

## Stock management items

Geometry	Designation	Stock		Geometry	Designation	Stock	
		PC5300	NC5330			PC5300	NC5330
<b>Milling</b>							
	APKT 1604PDSR-MF	●			LNMX 100605PNR-MF	●	
	1604PDSR-MM	●			100605PNR-MM	●	●
	APMT 060202PDSR-MM	●	●		100608PNR-MF	○	
	060208PDSR-MM	●	●		100608PNR-MM	○	
	060212R-MM	●	●		151004PNR-MF	○	
	060216R-MM	●	●		151004PNR-MM	○	
	0602PDSR-MM	●	●		151008PNR-MF	●	
	090308PDSR-MM	●	●		151008PNR-MM	●	
	090312R-MM	●	●		151016PNR-MF	○	
	090316R-MM	●	●		ONHX 0606ANN-MF	●	
	090320R-MM	●	●		0606ANN-MM	●	●
	0903PDSR-MM	●	●		080608-MF	○	
	11T308PDSR-MM	●	●		080608-MM	○	
	11T312PDSR-MM	●	●		080608-W	●	
	11T316R-MM	●	●		0806ANN-MF	●	
	11T324R-MM	●	●		ONMX 0606ANN-MF	●	
	11T3PDSR-MF	●	●		0606ANN-MM	●	
	11T3PDSR-MM	●	●		080608-MF	○	
	160410PDSR-MM	●	●		080608-MM	○	
	160416PDSR-MM	●	●		0806ANN-MF	●	
	160424R-MM	●	●		0806ANN-MM	●	
	160432R-MM	●	●		RDHW 0501M0E	○	
	1604PDSR-MF	●	●		06T1M0E	○	
	1604PDSR-MM	●	●		0702M0E	○	
	180612PDSR-MM	●	●		0803M0E	○	
	180616PDSR-MM	●	●		RDKT 10T3M0-MF	●	
	180620PDSR-MM	●	●		10T3M0-MM	●	●
	180624PDSR-MM	●	●		1204M0-MF	●	
	1806PDSR-MF	●	●		1204M0-MM	●	●
	1806PDSR-ML	●	●		2006M0-MM	○	
	1806PDSR-MM	●	●		RDKW 06T1M0E	○	
	LNEX 100605PNR-MF	●			0702M0E	○	
	100605PNR-MM	●	●		0803M0E	○	
	100608PNR-MF	○			SDCN 1504AEEN-RH	●	
	100608PNR-MM	○					
	151004PNR-MF	○			SDKN 1203AESN-SU	○	
	151004PNR-MM	○			1504AESN-SU	○	
	151008PNR-MF	●			SDKR 1203AEN-MX		●
	151008PNR-MM	●	●		1504AEN-MX		●
	151016PNR-MF	○			SDXT 09M405R-MF	●	●
	151016PNR-MM	○			09M405R-MM	●	●
					130508R-MF	●	●
					130508R-MM	●	●

建德刀具專業代理

Geometry	Designation	Stock		Geometry	Designation	Stock	
		PC5300	NC5330			PC5300	NC5330
	SECN 1203AFEN-RH	●			TPKN 1603PDSR-SU	○	
	1203AFSN		●		2204PDSR		●
	1504AFSN		●		2204PDSR-SU	●	
	SEET 0903AGSN-MF	●	●		TPKR 2204PDSR-MX		●
	0903AGSN-MM	●	●				
	14M4AGSN-MF	●	●		WDKT 080316ZDSR-MH	●	
	14M4AGSN-MM	●	●		10T320ZDSR-MH	●	
	14M4AGTN-MF	●	●		130520ZDSR-MH	●	
	SEEW 0903AGEN	○			150625ZDSR-MH	●	
	14M4AGEN	○			WNMX 09T316ZNN-MM	●	
	14M4AGSN-W	○			09T316ZNN-MR	●	
	SEKN 1203AFSN-SU	○			130520ZNN-MM	●	
	1504AFSN-SU	○			130520ZNN-MR	●	
	SEKR 1203AFSN-MX		●	<b>Turning</b>			
	1504AFSN-MX		●		CCGT 060204-HFP	●	
	SEXT 0903AGSN-MF	●	●		09T304-HFP	●	
	0903AGSN-MM	●	●		09T308-HFP	●	
	14M4AGSN-MF	●	●		CCMT 060202-VF	●	
	14M4AGSN-MM	●	●		060204-C25		
	14M4AGSN-MR	●	●		060204-HMP	●	
	SNEX 1206ANN-MF	●			060204-VF	●	
	1206ANN-MM	●	●		060208-C25		
	1206ANN-W	○			060208-HMP		
	1206ENN-MF	●			09T302-HFP		
	1206ENN-MM	●	●		09T302-HMP		
	SNMX 1206ANN-MF	●			09T302-VF		
	1206ANN-MM	●	●		09T304-C25		
	1206ENN-MF	●			09T304-HFP		
	1206ENN-MM	●	●		09T304-HMP	●	●
	SPCN 1203EDER-RH	●			09T304-VF	●	●
	1203EDR		●		09T308-C25		
	1504EDER-RH	●			09T308-HMP	●	●
	1504EDR		●		09T308-VF	●	●
	SPKN 1203EDSR		●		120404-C25		
	1203EDSR-SU	●			120404-HMP	●	●
	1504EDSR-SU	●			120404-VF		
	SPKR 1203EDSR-MX		●		120408-C25		
	TEEN 43TR		●		CNMG 120404-B25	●	●
	TPCN 1603PDER-RH	●			120404-GS	●	●
	1603PDR		●		120404-HA	●	●
	2204PDER-RH	●			120404-HC		
	2204PDR		●		120404-HS	●	●
					120404-VF		●



※ For more information, please refer KORLOY 2010–2011 catalogue

● : Stock item ○ : Under preparing for stock













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## Stock management items

Geometry	Designation	Stock		Geometry	Designation	Stock		
		PC5300	NC5330			PC5300	NC5330	
	<b>CNMG</b> 090304-HS		●		<b>CNMM</b> 120408-GH		●	
	090304-VF		●		120412-GH		●	
	090304-VM		●		190608-GH		●	
	090308-HS		●		190612-GH		●	
	090308-VF		●		190612-VT		●	
	090308-VM		●		190616-GH		●	
	120404-VL		●		190624-GH		●	
	120404-VM		●		250724-VT		●	
	120404-VW		●		250924-GH		●	
	120408-B25	●	●		<b>CPMT</b> 090304-VF			
	120408-GM		●		090308-VF			
	120408-GR		●		<b>DCGT</b> 11T304-HFP	●		
	120408-GS	●	●		11T308-HFP	●		
	120408-HA	●	●		<b>DCMT</b> 070202-HFP			
	120408-HC		●		070202-VF			
	120408-HR		●		070204-C25			
	120408-HS	●	●		070204-HMP			
	120408-LW		●		070204-VF	●		
	120408-VB		●		070208-HMP			
	120408-VF		●		11T302-HFP			
	120408-VL		●		11T302-HMP			
	120408-VM	●	●		11T302-VF			
	120412-B25		●		11T304-C25			
	120412-GR		●		11T304-HMP	●		
	120412-GS	●	●		11T304-VF	●		
	120412-HA		●		11T308-C25			
	120412-HC		●		11T308-HMP	●		
	120412-HR		●		11T308-VF	●		
120412-HS	●	●	<b>DNMG</b> 110404-HS					
120412-VM		●	110404-VF					
120416-VM		●	110408-HS					
160608-B25		●	110408-VF					
160612-GR		●	110408-VM					
160612-HS		●	150404-B25					
190604-B25		●	150404-HA					
190608-B25		●	150404-HC					
190608-GR		●	150404-HS	●				
190612-B25		●	150404-VL					
190612-GR		●	150404-VM					
190612-GS		●	150408-GS	●				
190612-HS		●	150408-HA	●	●			
190616-B25		●	150408-HC		●			
190616-GR		●	150408-HS	●	●			
190616-HS		●	150408-VB		●			
250924-GR		●	150408-VL		●			

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Geometry	Designation	Stock		Geometry	Designation	Stock		
		PC5300	NC5330			PC5300	NC5330	
	<b>DNMG</b> 150408-VM		●		<b>MGMN</b> 300-G		●	
	150412-B25		●		300-M	●		
	150412-HS	●			300-T	●		
	150412-VM		●		400-02-L	●		
	150604-B25		●		400-02-R	●		
	150604-GS	●	●		400-G	●		
	150604-HA		●		400-M	●	●	
	150604-HC		●		400-T	●		
	150604-HS	●	●		500-04-L	●		
	150604-VF		●		500-04-R	●		
	150604-VL		●		500-M	●	●	
	150604-VM		●		500-T	●		
	150608-B25		●		600-M			
	150608-GR		●		800-M			
	150608-GS	●				<b>MRMN</b> 300-M	●	
	150608-HA		●			400-M		
	150608-HS	●	●			500-M	●	
	150608-VB		●			600-M		
	150608-VF		●			800-M		
	150608-VL		●				<b>QCMT</b> 050204-CM	●
150608-VM	●	●	060204-CM	●				
150612-B25		●	070304-CM	●				
150612-GS		●	080304-CM	●				
150612-HS		●	10T304-CM	●				
150612-VM		●		<b>RCMX</b> 1003M0				
150616-GR		●		1204M0				
		●		1606M0				
	<b>KNUX</b> 160405-L11		●		<b>RNMG</b> 120400-B25		●	
	160405-R11		●					
	160405-R12		●					
	160410-L11		●			<b>SCMT</b> 09T304-C25		●
	160410-L12		●			09T304-HMP	●	
	160410-R11		●			09T304-VF	●	
160410-R12		●	09T308-C25			●		
	<b>MFMN</b> 300		●	09T308-HMP	●	●		
				120404-C25		●		
	<b>MGML</b> 300-6D-PT		●		<b>SNMG</b> 090304-HS		●	
					090304-VF		●	
	<b>MGMN</b> 150-G	●			090308-B25		●	
	200-G		●		090308-VF		●	
	200-M	●	●		090308-VM		●	
	250-G	●			120404-B25		●	
	250-M	●			120404-GS		●	
	300-02-L	●			120404-HA		●	
	300-02-M		●		120404-HS	●	●	
	300-02-R	●			120404-VM		●	

※ For more information, please refer KORLOY 2010-2011 catalogue

● : Stock item ○ : Under preparing for stock

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## Stock management items

Geometry	Designation	Stock		Geometry	Designation	Stock		
		PC5300	NC5330			PC5300	NC5330	
	SNMG 120404-VF		●		TCMT 090204-C25		●	
			●				●	
	120408-B25	●	●		090208-C25		●	
	120408-GR		●		090208-HMP		●	
	120408-GS	●	●		110204-C25		●	
	120408-HA		●		110204-HFP		●	
	120408-HS	●	●		110204-HMP	●	●	
	120408-VF		●		110204-VF	●	●	
	120408-VM		●		110208-C25		●	
	120412-B25		●		110208-HMP	●	●	
	120412-GS		●		110208-VF	●	●	
	120412-HS	●	●		16T304-C25		●	
	120412-VM		●		16T304-HMP	●	●	
	120416-B25		●		16T304-VF		●	
	150608-B25		●		16T308-C25		●	
	150612-HS	●	●		16T308-HMP	●	●	
	190608-B25		●		TNMG 110304-VF		●	
	190612-B25		●			160404-B25		●
	190612-GR		●			160404-GS		●
	190612-GS		●			160404-HC		●
190612-HS		●	160404-HS			●		
190616-B25		●	160404-VF			●		
190616-GR		●	160404-VM			●		
190616-HS	●	●	160408-B25			●		
250716-B25		●	160408-GS			●		
250724-B25		●	160408-HA			●		
	SNMM 120408-GH		●	160408-HC			●	
		120412-GH		●		160408-HS	●	●
		150612-GH		●		160408-VF		●
		190612-GH		●	160408-VL		●	
		190612-VT		●	160408-VM	●	●	
		190616-GH		●	160412-B25		●	
		190624-GH		●	160412-GS		●	
		250724-GH		●	160412-HC	●	●	
250724-VT		●	160412-HS	●	●			
250924-GH		●	160412-VM		●			
	SP 200	●	●	220404-B25		●		
		●	●	220404-VF	●	●		
		●	●	220408-B25		●		
		●	●	220408-GR		●		
		●	●	220408-GS		●		
	TB 4300R-M	●		220408-HA		●		
		●		220408-HS		●		
		●		220408-VM		●		
	TCGT 16T304-HFP		●	220412-HS		●		
				220412-VM	●	●		

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\* For more information, please refer KORLOY 2010-2011 catalogue

● : Stock item ○ : Under preparing for stock

Geometry	Designation	Stock		Geometry	Designation	Stock	
		PC5300	NC5330			PC5300	NC5330
	TNMX 160404R		●		WNMG 080408-HC		●
	220404R		●		080408-HR		●
	TPGN 160308		●		080408-HS	●	●
					080408-LW		●
	TPMR 160304-F		●		080408-VF		●
					080408-VM	●	●
	TPMT 110304-VF		●		080412-GR		●
	110308-VF		●		080412-GS		●
	VBMT 160404-HMP		●		080412-HS		●
	160404-VF	●	●		080412-LW		●
	160408-HMP	●	●	080412-VM		●	
	160408-VF	●	●				
	VCGT 160404-HFP		●	<b>Drilling</b>			
	160408-HFP		●		LPMT 040203-DF	●	
	VCMT 080204-VF		●			NPMT 222408-DM	●
	160404-HFP		●	222408-DS		●	
	160404-HMP		●	252808-DM		●	
	160408-HMP		●	252808-DS		●	
	VNMG 160404-HS		●	293208-DM		●	
	160404-VF		●	293208-DS		●	
	160404-VM	●	●	334008-DM	●		
	160408-HS	●	●	334008-DS	●		
	160408-VF		●	415008-DM	●		
	160408-VL		●	415008-DS	●		
	WNMG 060404-GS		●		SPMT 050203-DF	●	
	060404-HA		●		050203-DM	●	
	060404-HS	●	●		050203-DS	●	
	060404-VF		●		060204-DF	●	
	060404-VM		●		060204-DM	●	
	060408-GS	●	●		060204-DS	●	
	060408-HA		●	070204-DF	●		
	060408-HS	●	●	070204-DM	●		
	060408-VF		●	070204-DS	●		
	060408-VM		●		WCMT 040208-C20	●	●
	060412-HS	●	●		050308-C20	●	●
	060412-LW		●		06T308-C20	●	●
	080404-GS	●	●		080408-C20	●	●
	080404-HA		●				
	080404-HS		●				
	080404-VF		●				
	080404-VM		●				
	080408-GR		●				
080408-GS	●	●					
080408-HA		●					

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● : Stock item ○ : Under preparing for stock

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## 各廠牌刀片斷削槽對照表

Application		KORLOY		SMITOMO	SANDVIK	KENNA-METAL	KYOCERA	MITSU-BISHI	ISCAR	TOSHIBA	SECO	WALTER	DIJET	TAEGUTEC	
		Main	Sub												
NEGA · TYPE	For ultra-finishing	HU	D02	FA FL	QF	FF	GP DP CF	FS FH FY	SF	TF			F1 FA	FA EA	
	Finishing	VF VB	GF VL	SU LU	PF	FN FP K	CQ HQ	SA SH SY	NF	TSF TS,SS CF,ZF	MF2	NF NF5	FT UA	FG SF	
	For medium to finishing	HC	VM	SX UU	SM	P	CQ HQ	SH	NF RF LF	ZM NM	MF1	NS4 NS8	GP UR PF	ML	
	Medium machining	VM	GM	GU UX UG	PM QM	MN MP	GS HS CS PS	MV MA MH	TF PP	CM TM SM	M3 MR3 MF5	NM,NM4 NM5 NM7	UB GG	MP MC MT	
	Roughing	HR	GR	MU MX	PR	RN	GT HT Non-name	GH	NR	TH CH	MR4 M5	NR5 NR7	UD	RT Simple Type	
	Heavy duty machining	GH VH VT VW	B40	HG MP HP	HR	RH	HX	HZ HV HH HX	TNM	TU 57 65	RR9		UC	RH HT	
	For better surface finish WIPER I/S	LW		GUW LUW	WF,WM WR,WL	MW FW RW	WQ WP	MW SW	WG WF	AFW ASW	M3,M5	NF,NM		WS WT	
	For general	B25	GR	UZ	23	MG	Simple Type	MT,MV	GN					GN	Non-name
	Stainless steel, soft steel	HA HS GS VL	HC VM GR	SU EX GU MU FL	MF MM,QM MR,QM LC	FF,FW FP,MP MW,RN	GU,HU XP,XQ XS MU,MS	FS,FJ SH,MJ MS,GJ GH,FY	PP TF	TF SS SA TU MS	MF1 MF3 M5	NS4 NM4 NR7	SF	FG,ML MP,MT RH,ET EA	
	For cast iron	VK	GR B25	UZ UX Simple Type	KF KM,QM KR,QR	FF,FW MP,MW RN,UN	GC Non-name ZS	Non-name MA GH	GN	Simple Type 33 Non-name CM	MF3 M5	NS4,NS8 Simple Type NM4		MT,RT Simple Type	
For aluminum	HA				F GP MS	AH		PP							
POSI · TYPE	For finishing	VF	HFP	LU FP	PF KF	MT-UF MT-LF GT-LF	GP DP HQ	FV SQ	Simple Type SM	01 PF	F1	PF5	FT	FA	
	For medium to finishing (medium machining)	HMP		SJ,SU SK	PM KM	MT-LF	XQ HQ GK	SV R/L R/L-F	14,SM 17,19	PS 23 PM	F1 F2	PS4 PS5		FG	
	Medium machining (Roughing)	C25	HMP	SF MU	PR KP	MT-MF	Non-name G	MV MQ Simple Type	19	24 Simple Type	F2	PM2 PM5 PR5		MT	
	For aluminum	AR AK MA		AG	AL	HP	A3		AS	PP			ALU ACB	FL	
	For stainless steel	HMP	AK	SU	MF,MM MR	LF	XQ	FV Simple Type	14,SM 17,19	SS		PS4 PM5		FA FG MT	
	Indexable drills	DM DSDA DF	C20 C21	S04 R06	51,53 56,58		Simple Type SU,SP		SW,GF GG,DT		C1,P1 85,86				



### 各廠牌刀片PVD材質對照表(車削刀片)

ISO	KORLOY	SMITOMO	KYOCERA	ISCAR	SANDVIK	SECO	KENNA-METAL	TOSHIBA	MITSU-BISHI	HITACHI	VALENITE	WALTER	TAEGUTEK	NTK	DIJET
P	PC230 PC3535 PC5300 PC3545		PR1005 PR915 PR1115 PR930 PR1025 PR630 PR660	IC507 IC808 IC830 IC908 IC3028 IC330	GC1025 GC4125	CP200 CP250 CP500	KU10T KU25T	AH710 GH730 AH330 AH740 AH120 GH330	VP15TF VP20MF	IP2000 IP3000	VC907 VC927 VC905	WTA43 WTA41	TT5030		JC5003 JC5015
	PC8110 PC5300 PC9030	AC510U EH510Z AC520U EH520Z AC530U	PR915 PR930 PR1125 PR630 PR660	IC808 IC907 IC3028 IC830 IC330	GC1005 GC1105 GC1020 GC1025 GC4125	CP200 CP250 CP500	KC5010 KC5510 KC5025 KC5525	AH330 GH330 AH120 GH730 AH140	VP05RT VP10RT VP15TF VP20MF	IP50S IP100S	VC929 VC927 VC902 VC901 VC905		TT5030	ZM3 QM3 VM1 TAS	JC5003 JC5015
	PC5300	EH510Z EH520Z		IC5100 IC810 IC220 IC908 IC228		CP200 CP250 CP500		AH110 GH110 AH120		CY110H	VC929 VC903 VC927 VC902 VC901 VC907		TT5030		
S	PC8110 PC5300	AC510U AC520U	PR915 PC660	IC808 IC907 IC3028	GC1105 GC1025	TS2000 CP500 TS2500	KC5010 KC5025	AH110 AH120	VP05RT VP10RT VP15TF				TT5030		

### 各廠牌刀片CVD材質對照表(車削刀片)

ISO	KORLOY	SMITOMO	KYOCERA	ISCAR	SANDVIK	SECO	KENNA-METAL	TOSHIBA	MITSU-BISHI	HITACHI	VALENITE	WALTER	TAEGUTEK	NTK	DIJET
P	NC3010 NC3020 NC3120 NC3030 NC5330 NC500H	AC700G	CA5505 CA5515	IC8150	GC4205 GC4215	TP1000 TP1500	KCP05 KCP10	T9005 T9015	UE6105 UE6110	HG8010	VP5515	WPP01 WPP05 WPP10	TT8115	CP5	JC110V JC215V
	NC9020 NC5330	AC820P AC830P	CA5525 CA5535	IC8250 IC8350	GC4225 GC4235	TP2500 TP3000	KU30T KCP25 KCP40	T9025 T9035	UE6020 UE6035	HG8025	VP5525 VP5535	WPP20 WPP30	TT3500 TT5100 TT7100		JC325V JC450
M	NC9020 NC5330	AC610M AC630M	CA6515 CA6525	IC9025	GC2015 GC2025	TM2000 TM4000	KCM15 KCM25 KCM35	T6030	US7020 US735	GM25 GX30	VP8515 VP8525	WAM20 WAM30	TT5100		JC5003 JC110V JC5015
K	NC6105 NC6110 NC5330 NC315K	AC410K AC300G AC700G	CA4110 CA4115 CA4120 CA4125 CR7015	IC5005 IC5010 IC428 IC9150	GC3205 GC3210 GC3215	TK1000 TK2000	KCK05 KCK15 KCK20	T5105 T5115 T5125	UC5105 UC5115	HG3305 HG3315 GM8015 GM8020	VP1505 VP1510 VP5515	WAK10 WAK20	TT7310 TT1300	CP2 CP5	JC105V JC110V JC215V



## 各廠牌刀片PVD材質對照表(銑削刀片)

ISO	KORLOY	SMITOMO	KYOCERA	ISCAR	SANDVIK	SECO	KENNA-METAL	TOSHIBA	MITSU-BISHI	HITACHI	VALENITE	WALTER	TAEGUTEK	NTK	DIJET
P	PC210F				GC1010				AP20M GP20M	ATH80D PCA08M ACS05E PCA12M PC20M JX1005 TB6005 JX1020 CY9020					
	PC3500 PC3525 PC3535	ACZ310 ACP200 ACZ330	PR730 PR830 PR630	IC903 IC908 IC950 IC1008	GC1025 GC1030	MP3000 F25M F30M	KC522M KUC20M KC525M KUC30M	GH330 AH120	VP15TF UP20M	TB6045 CY250 PTH30E	VC935		TT7070 TT7080 TT7030		JC5003 JC5015 JC5030 JC5040
	PC5300	ACP300 ACZ350													
	PC3545		PR660	IC928	GC1030	F40M T60M	KC935M KC7140 KC720		VP30RT	PTH40H			TT8020		
M	PC5300	ACP200	PR730	IC903			KC5510 KC7020			JX1020 CY9020 JX1015 TB6020 CY250					JC5003
	PC9530	ACP300 ACZ350	PR1025 PR630 PR660	IC900 IC250 IC928	GC1125 GC1025 GC2030 GC1030	F25M F30M F40M	KC522M KC725M KC735M KC7030	AH120 AH140		JX1045 TB6045 JX1060 TB6060	VC928 VC902 VC901	WQM35	TT9030 TT9080		JC5015 JC5030 JC5040
	PC3545			IC328			KC722					WSP45	TT8020		
K	PC8110 PC6510		PR510 PR905	DT7150 IC900 IC910 IC950 IC350			KC510M KC915M KC520M	AH120	VP10MF VP15TF VP20RT		VC903 VC928 VC902 VC901		TT6290 TT6030 TT6060		JC5003 JC5015
	PC5300														
S	PC5300	AC520U	PC660	IC328	GC1025	TS2500	KC510M		VP15TF	ACS05E			TT9030		

## 各廠牌刀片CVD材質對照表(銑削刀片)

ISO	KORLOY	SMITOMO	KYOCERA	ISCAR	SANDVIK	SECO	KENNA-METAL	TOSHIBA	MITSU-BISHI	HITACHI	VALENITE	WALTER	TAEGUTEK	NTK	DIJET
P	NC5330 NCM325	ACP100			GC4220	T20M T250M		T325				WQM15 WKP25 WQM25 WKP35 WQM35		QM3	
	NCM335			IC635	GC4240	T350M		T3030	F7030		SM245		TT7800		
M	NC5330 MCM325 NCM335				GC2040	MH1000 MP2500						WQM25 WTP35 WXP45			
K	NC5330	ACK100 ACK200		IC4050	GC3220	MK1500 MK3000	KC992M	T1015	F5010		V01 VN8	WAK15 WKP25 WKP35			

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## Types of tool failure and trouble shooting

Troubles	Causes	Solution																
		Cutting conditions				Selecting insert grade				Tool shape				Machine clamping				
		Cutting speed	Feed	Depth of cut	Coolant	Select harder grade	Select tougher grade	Select better heat-impact resistance grade	Select better adhesion resistance grade	Chip breaker valuation	Rake angle	Nose radius	Side cutting edge angle	Cutting edge strength Honing	Improving insert precision M class -- G class	Improving holder rigidity	Clamping workpiece	Holder overhang
<b>Poor precision</b> Unstable machining size	Insert precision is variable Workpiece, Separation of tool									○	↑	↓			○	○	○	○
<b>Cutting edge back thrust is big</b> It's necessary to adjust because machining precision changes during operation.	Flank wear increase Cutting condition is improper		↓	↑		○						↑						
<b>Poor surface roughness for finishing</b> Criterion of tool life.	Weakened cutting force by increasing wear of tool	↓			Wet cutting	○		○	○	↑	↑		↓	○				
	Cutting edge chipping		↓	↓			○		○		↑		↑			○	○	○
	Adhesion, built-up edge	↑	↑		Wet cutting			○	○	↑			↓	○				
	Improper cutting conditions	↑	↓	↓	Wet cutting													
<b>Cutting heat generation</b> Poor machining precision and short tool life by cutting heat	Vibration, chattering	↓	↓	↓	Wet cutting		○		○	↑	↓		↓		○	○	○	○
	Improper cutting conditions	↓	↓	↓		○			○	↑			↓					
<b>burr, chipping, nap</b> steel, aluminum (burr)	Improper cutting conditions	↓	↑		Wet cutting		○		○	↑	↓		↓					
<b>Cast iron</b> (Weak chipping)	Improper cutting conditions		↓	↓					○	↑	↑		↓		○	○	○	○
<b>Soft steel</b> (nap)	Improper cutting conditions	↑	↓		Wet cutting		○		○	↑			↓					

↑ : Increase   ↓ : Decrease   ○ : use   ● : Correct use

## Trouble shooting for milling

Trouble	Causes	Solution											
		Cutting conditions				Tool shape					Insert grade		
		Cutting speed	Depth of cut	Feed	Coolant	Rake angle	Relief angle	Approach angle	Chattering at cutting edge	Nose radius	Toughness	Hardness	
<b>Flank wear</b>	• Improper insert grade   • Chattering • Improper cutting conditions	↓		↑					↑	↓		↑	↑
<b>Crater wear</b>	• Improper cutting conditions • Improper insert grade	↓	↓	↓		↑						↓	↑
<b>Chipping</b>	• Lack of insert toughness   • Excessive feed • Excessive cutting load			↓		↓	↓	↓				↑	↑
<b>Built-up edge</b>	• Improper cutting conditions   • Improper insert grade • Improper cutting edge shape	↑	↓	↑		↑						↓	
<b>Chattering</b>	• Improper cutting conditions • Lack of number of cutting teeth • Improper cutting edge shape   • Bad chip flow • Unstable workpiece clamping		↓	↓		○	↑		↑	↓		↓	
<b>Poor surface finish</b>	• Built-up edge   • Chattering • Improper cutting conditions   • Bad chip flow	↑	↓	↓		○	↑			↓		↑	
<b>Thermal crack</b>	• Improper cutting conditions • Improper insert grade	↓	↓	↓		○	↑					↑	↑
<b>Fracture</b>	• Improper insert grade   • Bad chip flow • Excessive cutting load   • Chattering • Excessive overhang		↓	↓		○							↑

↑ : Increase   ↓ : Decrease   ○ : use   ● : Correct use

WE CREATE YOUR TOMORROW!

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