

車削刀片系列

Turning Inserts Series

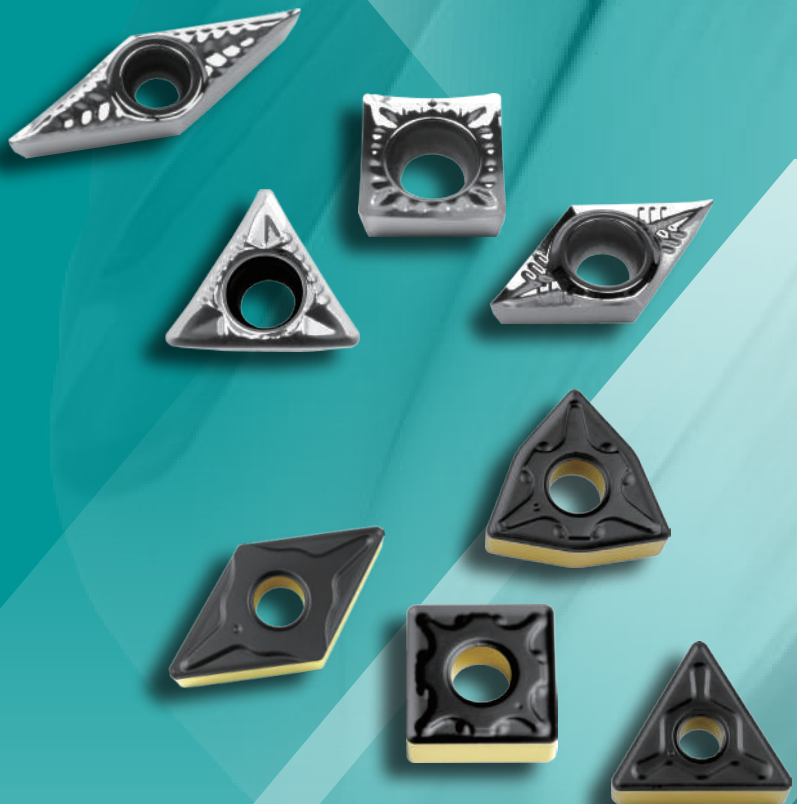
泛用鋼材 $\leq 50\text{HRC}$

不銹鋼

鋁合金 / 銅合金

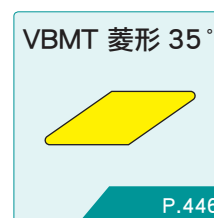
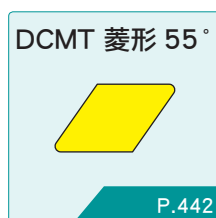
鑄鐵

For general steel ($\leq 50\text{HRC}$), stainless steel, cast iron and aluminum/copper alloy machining.



產品選擇表 Product Selection Table

正角型 - 鎢鋼車刀片 Positive- Carbide Turning Inserts



負角型 - 鎢鋼車刀片 Negative- Carbide Turning Inserts



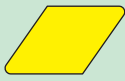
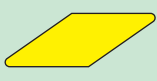
精密研磨級 - 鎢鋼車刀片 Precision Grinding- Carbide Turning Inserts



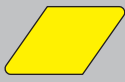
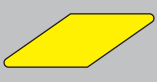
產品選擇表

Product Selection Table

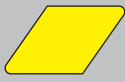
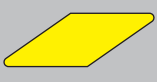
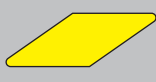
鋁合金專用 - 鎢鋼車刀片 Carbide Turning Inserts For Aluminum Alloy

CCGT 平行四邊形  P.440	DCGT 菱形 55°  P.442	SCGT 正方形  P.444	TCGT 正三角形  P.445	VC GT 菱形 35°  P.447
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PCD 聚晶鑽石車刀片 PCD Turning Inserts

CCGW 平行四邊形  P.440	DCGW 菱形 55°  P.443	VCGW 菱形 35°  P.448	TNGA 正三角型  P.451	TPGW 正三角型  P.452
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PCBN 聚晶立方氮化硼車刀片 PCBN Turning Inserts

CCGW 平行四邊形  P.441	DCGW 菱形 55°  P.443	VCGW 菱形 35°  P.448	VNGA 菱形 35°  P.453	TNGA 正三角型  P.452
TCGW 正三角型  P.445	TPGW 正三角型  P.452			

車刀片 ISO
編碼規範
ISO Designation For
Turning Inserts
P.436~439

車刀片斷屑槽
Turning Chip
Breaker Design
P.437

車刀片材質碼
Turning Insert
Grades
P.438~439

車刀片斷屑槽
幾何對照表
Turning Insert Chip
Breaker Comparison
Table
P.456~459

車刀片材質碼
對照表
Turning Insert
Grade Comparison
Table
P.460~463

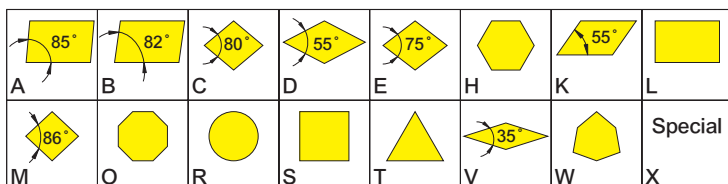
車刀片 ISO 編碼規範

ISO Designation For Turning Inserts

T	N	M	G	16	04	08	(N)	—	RG	—
1	2	3	4	5	6	7	8		9	

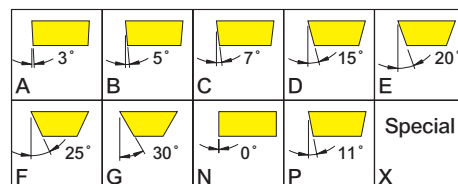
1

刀片形狀
Insert Shape



2

刀片離隙角
Clearance Angle



3

刀片公差
Tolerances Class

Range of Tolerance			
代號	m±	d±	S±
A	0.005	0.025	0.025
F	0.005	0.013	0.025
C	0.013	0.025	0.025
H	0.013	0.013	0.025
E	0.025	0.025	0.025
G	0.025	0.025	0.130
J	0.005	0.05~0.15	0.025
K	0.013	0.05~0.15	0.025
L	0.025	0.05~0.15	0.025
M	0.08~0.18	0.05~0.15	0.130
N	0.08~0.18	0.05~0.15	0.025
U	0.13~0.38	0.08~0.25	0.130

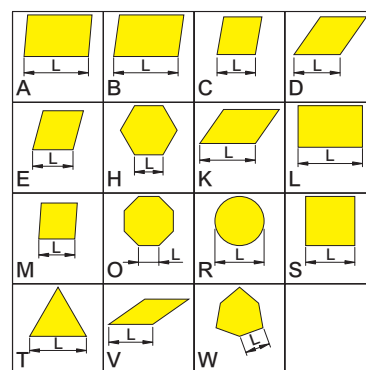
4

刀片溝孔
Chipbreaker and Hole

代號 Code	孔 Hole	斷屑槽 Chip Breaker Design	溝孔形狀 Hole Type
N	無孔	無	
R		單面	
F		雙面	
A	有孔	無	
M		單面	
G		雙面	
W	有孔單面 40~60°	無	
T		單面	
Q	有孔雙面 40~60°	無	
U		雙面	
B	有孔單面 70~90°	無	
H		單面	
C	有孔雙面 70~90°	無	
J		雙面	
X	特殊溝孔 Special Shape		

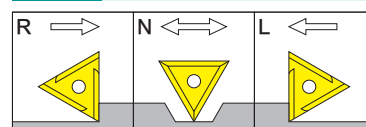
5

刀片邊長
Insert Length



8

切削方向
Cutting Direction



6

刀片厚度
Insert Thickness

	代號 Code	01	T1	02	T2	03	T3	04	05	06	07	08
	S (mm)	1.59	1.98	2.38	2.78	3.18	3.97	4.76	5.56	6.35	7.94	9.52

7

刀尖 R 角
Corner Radius

	代號 Code	00	01	015	018	02	035	04	08	10	12	16	24	MO
	R (mm)	尖刃	0.1	0.15	0.18	0.2	0.35	0.4	0.8	1.0	1.2	1.6	2.4	圓形 Round

車刀片 ISO 編碼規範

ISO Designation For Turning Inserts

CM6025

10

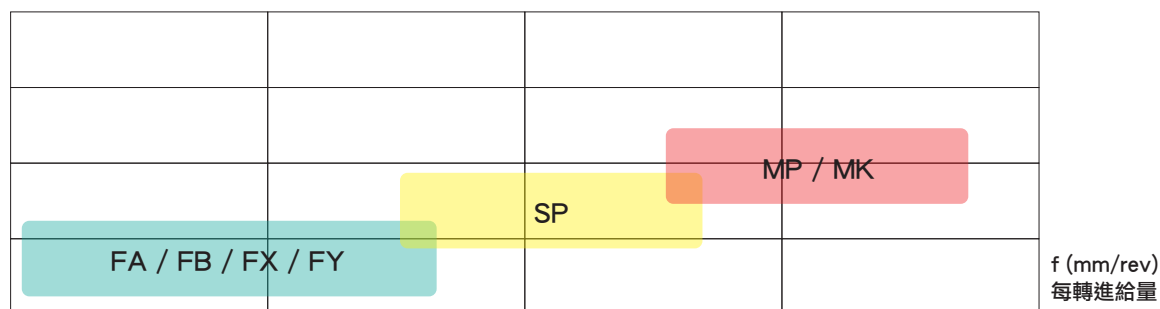
9

車刀片斷屑槽

Chip Breaker Design

正角型斷屑槽 Positive

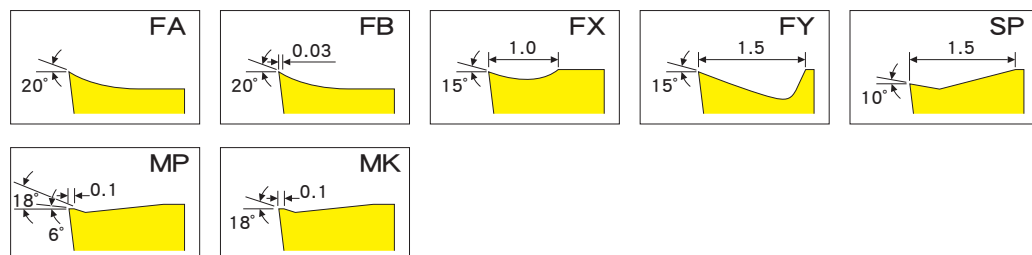
加工深度
Ap (mm)



精加工 Finishing

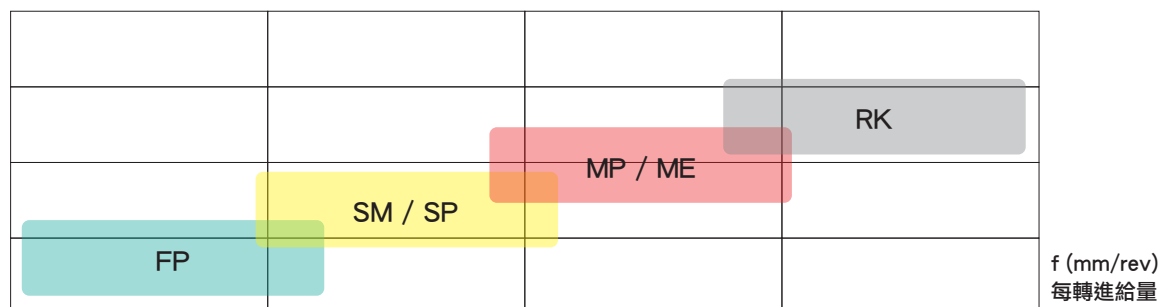
半精加工 Semi Finishing

中加工 Medium



負角型斷屑槽 Negative

加工深度
Ap (mm)

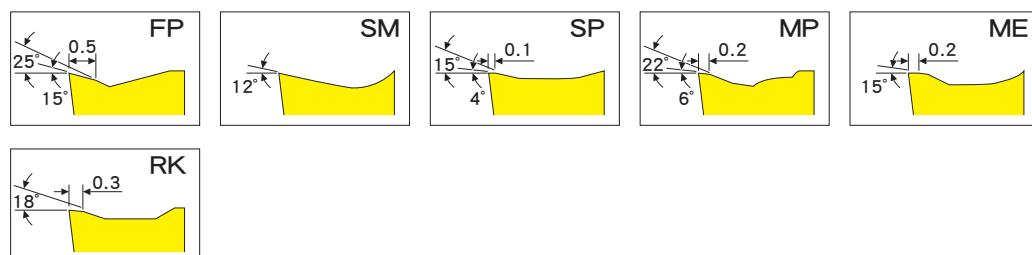


精加工 Finishing

半精加工 Semi Finishing

中加工 Medium

粗加工 Roughing



車刀片 ISO 編碼規範

ISO Designation For Turning Inserts

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ⊕ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ⊗ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

10

車刀片材質碼 Turning Insert Grades

材質碼 Grade Type	塗層種類 Coating Type	加工特性 Application	加工材質 Work Material						產業應用範圍 Industry Area
			P	M	K	N	S	H	
CM10 (銀白色)	無塗層 Uncoated	- 適合精加工，中加工。 Finishing and medium cutting. - 適合鋁合金加工。 For aluminum alloy.	—	—	—	●	—	—	- 自行車零件。 Bike parts. - 汽車零件。 Auto parts. - 電子零件。 Electronic parts.
CM1010 (彩色)	CVD (化學)	- 適合精加工，中加工。 Finishing and medium cutting. - 適合含矽鋁合金加工。 For aluminum alloy with silicon.	—	—	—	●	—	—	- 自行車零件。 Bike parts. - 汽車零件。 Auto parts. - 電子零件。 Electronic parts.
CM4525 (白金色)	PVD (物理)	- 適合淺斷續加工，中加工。 Light interrupted cutting or medium. - 適合不銹鋼，高溫合金加工。 For stainless steel and high temperature alloy.	⊗	✱	—	—	✱	⊗	- 汽車零件。 Auto parts. - 機械零件。 Machinery parts. - 航太零件。 Aircraft parts.
CM1560 (金色)	PVD (物理)	- 適合連續加工。 Continuous cutting. - 適合精加工。 Finishing cutting. - 適合大部分金屬材質精加工。 For finishing application.	●	●	●	—	●	—	- 汽車零件。 Auto parts. - 機械零件。 Machinery parts. - 航太零件。 Aircraft parts.
CM2560 (金色)	PVD (物理)	- 適合淺斷續加工。 Light interrupted cutting. - 適合加工半精加工，中加工。 Semi finishing and medium cutting. - 適合碳素鋼，合金鋼加工。 For carbon steel and alloy steel.	●	●	●	—	●	—	- 汽車零件。 Auto parts. - 機械零件。 Machinery parts. - 航太零件。 Aircraft parts.
CM1570 (黑金色)	CVD (化學)	- 適合連續加工。 Continuous Cutting. - 適合精加工，半精加工。 Finishing and semi finishing cutting. - 加工鑄鐵第一推薦耐磨材質。 For cast iron is 1st recommended.	○	○	●	—	—	○	- 汽車零件。 Auto parts. - 機械零件。 Machinery parts.
CM2570 (黑金色)	CVD (化學)	- 適合淺斷續加工。 Light interrupted cutting. - 適合加工半精加工，中加工。 Semi finishing and medium cutting. - 加工合金鋼第一推薦泛用材質。 For alloy steel is 1st recommended.	●	●	●	—	—	—	- 汽車零件。 Auto parts. - 機械零件。 Machinery parts.
CM3570 (黑金色)	CVD (化學)	- 適合斷續加工。 Interrupted cutting. - 適合中加工，粗加工。 Medium and roughing cutting. - 加工不銹鋼第一推薦泛用材質。 For stainless steel is 1st recommended.	✱	✱	⊗	—	—	—	- 能源產業。 Energy. - 石化產業。 Oil & Gas. - 醫療產業。 Medical.

車刀片 ISO 編碼規範

ISO Designation For Turning Inserts

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ⊕ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ⊗ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

10

車刀片材質碼 Turning Insert Grades

材質碼 Grade Type	塗層種類 Coating Type	加工特性 Application	加工材質 Work Material						產業應用範圍 Industry Area
			P	M	K	N	S	H	
PC	無塗層 Uncoated	- PCD 聚晶鑽石。 Polycrystalline Compound Diamond. - 適合精加工，中加工。 Finishing and medium cutting. - 適合鋁合金加工。 For aluminum alloy.	—	—	—	●	—	—	- 自行車零件。 Bike parts. - 汽車零件。 Auto parts. - 電子零件。 Electronic parts.
BC9020 BC9030 BC9040	無塗層 Uncoated	- PCBN 聚晶立方氮化硼。 Polycrystalline Cubic Boron Nitride. - 適合精加工。 Finishing cutting. - 適合調質鋼 45~65HRC 加工。 For hardened steel(HRC45~65°).	—	—	—	—	—	●	- 汽車零件。 Auto parts. - 機械零件。 Machinery parts.

鎢鋼車刀片

CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ○ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

編號 No.	A	B	S	d1
CC..0602..	6.4	6.35	2.38	2.8
CC..09T3..	9.7	9.53	3.97	4.4
CC..1204..	12.9	12.7	4.76	5.5

加工材質	P	鋼材 Alloy Steels	—	●	✱	●	●	✱	—
	M	不銹鋼 Stainless Steels	—	●	✱	●	●	✱	—
	K	鑄鐵 Cast Iron	—	●	✱	●	●	—	—
	N	鋁合金 Aluminum Alloys	●	—	—	—	—	—	●
	S	高溫合金 High-Temp Alloys	—	—	—	●	●	✱	—
	H	調質鋼 Hardened Steels	—	—	—	—	—	✱	—

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC		
	CCGT060202-FA	0.2	●									外徑 刀桿 469 470
	CCGT060204-FA	0.4	●									
	CCGT09T304-FA	0.4	●									
	CCGT09T308-FA	0.8	●									
	CCGT120404-FA	0.4	●									
F S M R												
	CCGT060202-FB	0.2					●					
	CCGT060204-FB	0.4					●					
	CCGT09T304-FB	0.4					●					
	CCGT09T308-FB	0.8					●					
	CCGT120404-FB	0.4					●					
F S M R												
	CCMT060204-MP	0.4			●	●		●				內徑 刀桿 484
	CCMT09T304-MP	0.4			●	●		●				
	CCMT09T308-MP	0.8			●	●		●				
F S M R												
	CCMT060204-MK	0.4			●	●		●	●			
	CCMT09T304-MK	0.4			●	●		●	●			
	CCMT09T308-MK	0.8			●	●		●	●			
	CCMT120408-MK	0.8			●	●		●	●			
F S M R												
	CCGW060202	0.2								●		
	CCGW060204	0.4								●		
	CCGW09T302	0.2								●		
	CCGW09T304	0.4								●		
	CCGW09T308	0.8								●		
	CCGW120402	0.2								●		
	CCGW120404	0.4								●		
F S M R												
	CCGW060202P07	0.2								●		
	CCGW060204P07	0.4								●		
	CCGW09T302P07	0.2								●		
	CCGW09T304P07	0.4								●		
	CCGW09T308P07	0.8								●		
	CCGW120402P07	0.2								●		
	CCGW120404P07	0.4								●		
	CCGW120408P07	0.8								●		
F S M R												

※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

※ 刀尖正前角 7°：適合小外徑和薄壁工件車削加工。

Positive Rake Angle +7°：For turning small diameter and thin-walled parts.

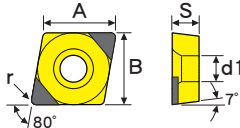
→ 切削條件表
Cutting Condition P.611

鎢鋼車刀片

CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

編號 No.	A	B	S	d1
CC..0602..	6.4	6.35	2.38	2.8
CC..09T3..	9.7	9.53	3.97	4.4
CC..1204..	12.9	12.7	4.76	5.5

加工材質	P	鋼材 Alloy Steels									—	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing			
	M	不銹鋼 Stainless Steels									—				
	K	鑄鐵 Cast Iron									—				
	N	鋁合金 Aluminum Alloys									—				
	S	高溫合金 High-Temp Alloys									—				
	H	調質鋼 Hardened Steels									●				
刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page		
				CVD				PVD			PC			BC9020	
				CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525					
 		CCGW060202	0.2									●		外徑 刀桿 469 470 內徑 刀桿 484	
		CCGW060204	0.4												●
		CCGW09T302	0.2												●
		CCGW09T304	0.4												●
		CCGW09T308	0.8												●
		CCGW120402	0.2												●
		CCGW120404	0.4												●
F	S	M	R	CCGW120408	0.8								●		

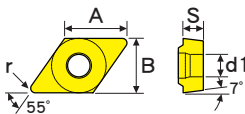
※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

➡ 切削條件表 Cutting Condition P.611

CARBIDE TURNING INSERTS

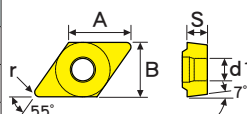
- | 編號 No. | A | B | S | d1 |
|------------|------|------|------|-----|
| DC..0702.. | 7.75 | 6.35 | 2.38 | 2.8 |
| DC..11T3.. | 11.6 | 9.53 | 3.97 | 4.4 |

加工材質	P	鋼材 Alloy Steels	—	○	●	✱	●	●	⊗			F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	M	不銹鋼 Stainless Steels	—	○	●	✱	●	●	✱			
	K	鑄鐵 Cast Iron	—	●	●	⊗	●	●	—			
	N	鋁合金 Aluminum Alloys	●	—	—	—	—	—	—			
	S	高溫合金 High-Temp Alloys	—	—	—	—	●	●	✱			
	H	調質鋼 Hardened Steels	—	○	—	—	—	—	⊗			

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page	
			CVD				PVD			PC			BC9020
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525				
	DCGT070202-FA	0.2	●										外徑 刀桿 471 472 內徑 刀桿 485
	DCGT070204-FA	0.4	●										
	DCGT11T302-FA	0.2	●										
	DCGT11T304-FA	0.4	●										
F S M R	DCGT11T308-FA	0.8	●										
	DCGT070202-FB	0.2						●					
	DCGT070204-FB	0.4						●					
	DCGT11T302-FB	0.2						●					
	DCGT11T304-FB	0.4						●					
F S M R	DCGT11T308-FB	0.8						●					
	DCET11T301R-FX	0.1						●					
	DCET11T302R-FX	0.2						●					
	DCET11T304R-FX	0.4						●					
F S M R													
	DCET11T301L-FX	0.1						●					
	DCET11T302L-FX	0.2						●					
	DCET11T304L-FX	0.4						●					
F S M R													
	DCET11T301R-FY	0.1						●					
	DCET11T302R-FY	0.2						●					
	DCET11T304R-FY	0.4						●					
F S M R													
	DCET11T301L-FY	0.1						●					
	DCET11T302L-FY	0.2						●					
	DCET11T304L-FY	0.4						●					
F S M R													
	DCEW11T301	0.1						●					
	DCEW11T302	0.2						●					
	DCEW11T304	0.4						●					
F S M R													
	DCMT11T304-MP	0.4			●	●		●					
	DCMT11T308-MP	0.8			●	●		●					
F S M R													
	DCMT070204-MK	0.4			●	●		●	●				
	DCMT11T304-MK	0.4		●	●	●		●	●				
	DCMT11T308-MK	0.8		●	●	●		●	●				
F S M R													

外徑
刀桿
471
472

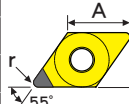
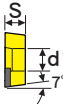
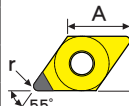
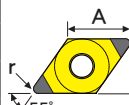
内徑
刀桿
485



➡ 切削條件表 P.611
Cutting Condition

CARBIDE TURNING INSERTS

- | 編號 No. | A | B | S | d1 |
|------------|------|------|------|-----|
| DC..0702.. | 7.94 | 6.35 | 2.38 | 2.8 |
| DC..11T3.. | 11.6 | 9.52 | 3.97 | 4.4 |

加工材質	P	鋼材 Alloy Steels								—	—	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing			
	M	不銹鋼 Stainless Steels								—	—				
	K	鑄鐵 Cast Iron								—	—				
	N	鋁合金 Aluminum Alloys								●	—				
	S	高溫合金 High-Temp Alloys								—	—				
	H	調質鋼 Hardened Steels								—	●				
刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page		
				CVD				PVD			PC			BC9020	
				CM10	CM1570	CM2570	CM3570	CM11560	CM2560	CM4525					
		DCGW070202	0.2								●		 	外徑 刀桿 471 472 內徑 刀桿 485	
		DCGW070204	0.4								●				
		DCGW11T302	0.2								●				
F	S	M	R	DCGW11T304	0.4						●				
 刀尖正前角 7°		DCGW070202P07	0.2								●		 		
		DCGW070204P07	0.4									●			
		DCGW11T302P07	0.2									●			
		DCGW11T304P07	0.4									●			
F	S	M	R												
 NEW		DCGW070202	0.2									●	 		
		DCGW070204	0.4											●	
		DCGW11T302	0.2											●	
		DCGW11T304	0.4											●	
F	S	M	R												

➡ 切削條件表 P.611
Cutting Condition

Positive Rake Angle $+7^\circ$: For turning small diameter and thin-walled parts.

CARBIDE TURNING INSERTS

➡ 切削條件表 P.611
Cutting Condition

外徑
刀桿
473

TURNING

Turning Inserts

車削刀片

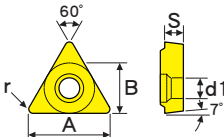
鎢鋼車刀片

CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

編號 No.	A	B	S	d1
TC..0902..	9.6	5.56	2.38	2.5
TC..1102..	11.0	6.35	2.38	2.8
TC..16T3..	16.5	9.53	3.97	4.4

加工材質	P	鋼材 Alloy Steels	—		●	✱	●	●	✱		—	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	M	不銹鋼 Stainless Steels	—		●	✱	●	●	✱		—	
	K	鑄鐵 Cast Iron	—		●	✱	●	●	—		—	
	N	鋁合金 Aluminum Alloys	●		—	—	—	—	—		—	
	S	高溫合金 High-Temp Alloys	—		—	—	●	●	✱		—	
	H	調質鋼 Hardened Steels	—		—	—	—	—	✱		●	

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page	
			CVD				PVD			PC			BC9030
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525				
	TCGT090204-FA	0.4	●										外徑 刀桿 474
	TCGT110204-FA	0.4	●										
	TCGT16T304-FA	0.4	●										
F S M R	TCGT16T308-FA	0.8	●										
	TCGT090204-FB	0.4						●					
	TCGT110204-FB	0.4						●					
	TCGT16T304-FB	0.4						●					
F S M R	TCGT16T308-FB	0.8						●					
	TCMT110204-SP	0.4			●	●		●					
	TCMT16T308-SP	0.8			●	●		●					
F S M R													
	TCMT110204-MP	0.4			●	●		●					
F S M R													
	TCMT110204-MK	0.4			●	●		●	●				
	TCMT16T304-MK	0.4			●	●		●	●				
	TCMT16T308-MK	0.8			●	●		●	●				
F S M R													
	TCGW110202	0.2									●		
	TCGW110204	0.4									●		
	TCGW110208	0.8									●		
F S M R													

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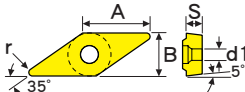
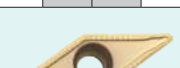
F	S	M	R
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※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

➔ 切削條件表
Cutting Condition P.611

CARBIDE TURNING INSERTS

編號 No.	A	B	S	d1
VB..1103..	11.1	6.35	3.18	2.8
VB..1604..	16.6	9.53	4.76	4.4

加工材質	P	鋼材 Alloy Steels			●	✱	●	●				F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing		
	M	不銹鋼 Stainless Steels			●	✱	○	●						
	K	鑄鐵 Cast Iron			●	✱	●	●						
	N	鋁合金 Aluminum Alloys			—	—	—	—						
	S	高溫合金 High-Temp Alloys			—	—	●	●						
	H	調質鋼 Hardened Steels			—	—	—	—						
刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page	
				CVD				PVD			PC			BC9020
				CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525				
		VBET110301R-FX	0.1						●				 外徑 刀桿 476 內徑 刀桿 491 492	
		VBET110302R-FX	0.2						●					
		VBET110304R-FX	0.4						●					
F	S	M	R											
		VBET110301L-FX	0.1						●					
		VBET110302L-FX	0.2						●					
		VBET110304L-FX	0.4						●					
F	S	M	R											
		VBET110301R-FY	0.1						●					
		VBET110302R-FY	0.2						●					
		VBET110304R-FY	0.4						●					
F	S	M	R											
		VBET110301L-FY	0.1						●					
		VBET110302L-FY	0.2						●					
		VBET110304L-FY	0.4						●					
F	S	M	R											
		VBEW110301	0.1						●					
		VBEW110302	0.2						●					
		VBEW110304	0.4						●					
F	S	M	R											
		VBMT160404-MK	0.4			●	●		●					
		VBMT160408-MK	0.8			●	●		●					
F	S	M	R											

➡ 切削條件表 P.611
Cutting Condition

CARBIDE TURNING INSERTS

- | 編號 No. | A | B | S | d1 |
|------------|------|------|------|-----|
| VC..1103.. | 11.1 | 6.35 | 3.18 | 2.8 |
| VC..1604.. | 16.6 | 9.52 | 4.76 | 4.4 |

內徑
刀桿
493
494

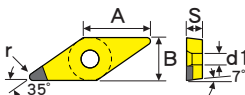
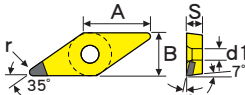
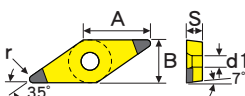
→ 切削條件表 P.611
Cutting Condition

CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
● 第一推薦 / ○ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
— 不推薦 NO Recommend

編號 No.	A	B	S	d1
VC..1103..	11.1	6.35	3.18	2.8
VC..1604..	16.6	9.52	4.76	4.4

加工材質	P	鋼材 Alloy Steels								—	—	F : 精加工 Finishing S : 半精加工 Semi Finishing M : 中加工 Medium R : 粗加工 Roughing
	M	不銹鋼 Stainless Steels								—	—	
	K	鑄鐵 Cast Iron								—	—	
	N	鋁合金 Aluminum Alloys								●	—	
	S	高溫合金 High-Temp Alloys								—	—	
	H	調質鋼 Hardened Steels								—	●	

刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page		
				CVD				PVD						PC	BC9020
				CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525					
	VCGW110302	0.2								●			外徑 刀桿 477		
	VCGW110304	0.4								●					
	VCGW160402	0.2								●					
F	S	M	R	VCGW160404	0.4						●				
 刀尖正前角 7°	VCGW110302P07	0.2								●			內徑 刀桿 493 494		
	VCGW110304P07	0.4								●					
	VCGW160402P07	0.2								●					
	VCGW160404P07	0.4								●					
F	S	M	R												
 NEW	VCGW110302	0.2									●				
	VCGW110304	0.4									●				
	VCGW160402	0.2									●				
F	S	M	R	VCGW160404	0.4							●			

※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

※ 刀尖正前角 7° ：適合小外徑和薄壁工件車削加工。

Positive Rake Angle +7° : For turning small diameter and thin-walled parts.

➡ 切削條件表 P.611
Cutting Condition

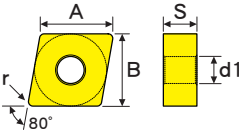
鎢鋼車刀片

CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ○ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

編號 No.	A	B	S	d1
CN..1204..	12.9	12.7	4.76	5.16

加工材質	鋼材 Alloy Steels		○	●	✱	●	✱				
	不銹鋼 Stainless Steels		○	●	✱	●	✱				
加工材質	鑄鐵 Cast Iron		●	●	✱	●	—				
	鋁合金 Aluminum Alloys		—	—	—	—	—				
加工材質	高溫合金 High-Temp Alloys		—	—	—	●	✱				
	調質鋼 Hardened Steels		○	—	—	—	✱				

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC		
	CNMG120404-FP	0.4		●	●			●	●			外徑 刀桿 468 469 內徑 刀桿 483
	CNMG120408-FP	0.8		●	●			●	●			
F	S	M	R									
	CNMG120404-SM	0.4		●	●			●	●			
	CNMG120408-SM	0.8		●	●			●	●			
F	S	M	R									
	CNMG120404-SP	0.4		●	●			●				
	CNMG120408-SP	0.8		●	●			●				
F	S	M	R									
	CNMA120404	0.4		●								
	CNMA120408	0.8		●								
F	S	M	R									
	CNMG120404-MP	0.4		●	●	●		●	●			
	CNMG120408-MP	0.8		●	●	●		●	●			
	CNMG120412-MP	1.2		●	●	●			●			
F	S	M	R									
	CNMG120408-RK	0.8			●	●						
	CNMG120412-RK	1.2			●	●						
F	S	M	R									
	CNMG120404-HG	0.4						●				
	CNMG120408-HG	0.8						●				
F	S	M	R									

→ 切削條件表
Cutting Condition P.612

TURNING

Turning Inserts

車削刀片

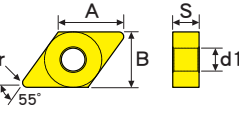
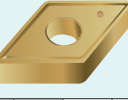
鎢鋼車刀片

CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
● 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
— 不推薦 NO Recommend

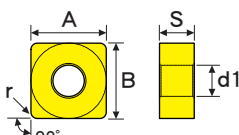
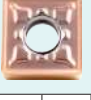
編號 No.	A	B	S	d1
DN..1104..	11.6	9.52	4.76	4.50
DN..1504..	15.5	12.7	4.76	5.16

加工材質	鋼材 Alloy Steels		○	●		●						F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	不銹鋼 Stainless Steels		○	●		●						
加工材質	鑄鐵 Cast Iron		●	●		●						
	鋁合金 Aluminum Alloys		—	—		—						
加工材質	高溫合金 High-Temp Alloys		—	—		●						
	調質鋼 Hardened Steels		○	—		—						

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020	
	DNGX110401-FP	0.1						●				—
	DNGX110402-FP	0.2						●				
F S M R												 外徑刀桿 470 471
	DNMG110404-FP	0.4		●	●			●				
	DNMG110408-FP	0.8		●	●			●				
	DNMG150404-FP	0.4		●	●			●				
F S M R	DNMG150408-FP	0.8		●	●			●				
	DNMG150404-SP	0.4		●	●			●				
	DNMG150408-SP	0.8		●	●			●				
F S M R												
	DNMG150404-MP	0.4		●	●							
	DNMG150408-MP	0.8		●	●							
F S M R												

→ 切削條件表 P.612
Cutting Condition

加工材質	鋼材 Alloy Steels		○	●	✱							F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	不銹鋼 Stainless Steels		○	●	✱							
加工材質	鑄鐵 Cast Iron		●	●	✱							
	鋁合金 Aluminum Alloys		—	—	—							
加工材質	高溫合金 High-Temp Alloys		—	—	—							
	調質鋼 Hardened Steels		○	—	—							

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BA6540	
	SNMG120408-MP	0.8		●	●	●						外徑刀桿 472
	SNMG120412-MP	1.2		●	●	●						
F S M R												 內徑刀桿 486
	SNMG120408-RK	0.8			●	●						
	SNMG120412-RK	1.2			●	●						
F S M R												

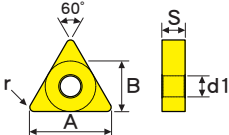
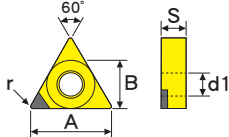
→ 切削條件表 P.612
Cutting Condition

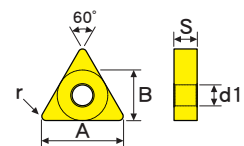
鎢鋼車刀片

CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
● 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
— 不推薦 NO Recommend

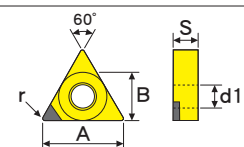
編號 No.	A	B	S	d1
TN..1604..	16.5	9.53	4.76	3.81
TN..2204..	22.0	12.7	4.76	5.16

加工材質	P	鋼材 Alloy Steels			○	●	✱		●	✱	—		F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing			
	M	不銹鋼 Stainless Steels			○	●	✱		●	✱	—					
	K	鑄鐵 Cast Iron			●	●	✱		●	—	—					
	N	鋁合金 Aluminum Alloys			—	—	—		—	—	●					
	S	高溫合金 High-Temp Alloys			—	—	—		●	✱	—					
	H	調質鋼 Hardened Steels			○	—	—		—	✱	—					
刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page			
				CVD				PVD			PC			BC9030		
				CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525						
	TNMG160404-FP	0.4		●	●				●					外徑 刀桿 473 474		
	TNMG160408-FP	0.8		●	●				●	●					內徑 刀桿 486 487	
F	S	M	R													
	TNMG160404-SP	0.4		●	●				●							
	TNMG160408-SP	0.8		●	●				●							
F	S	M	R													
	TNMA160404	0.4		●												
	TNMA160408	0.8		●												
F	S	M	R													
	TNMG160404R-ME	0.4		●	●	●			●							
	TNMG160408R-ME	0.8		●	●	●			●							
F	S	M	R													
	TNMG160404L-ME	0.4		●	●	●			●							
	TNMG160408L-ME	0.8		●	●	●			●							
F	S	M	R													
	TNMG160404-MP	0.4		●	●	●			●	●						
	TNMG160408-MP	0.8		●	●	●			●	●						
	TNMG160412-MP	1.2		●	●	●										
F	S	M	R													
	TNMG160408-RK	0.8			●	●										
	TNMG160412-RK	1.2			●	●										
F	S	M	R													
	TNMG220408-RK	0.8			●	●										
F	S	M	R													
	TNGA160402	0.2								●				473 474 486 487		
	TNGA160404	0.4								●						
	TNGA160408	0.8								●						
F	S	M	R													



外徑刀桿
473
474

內徑刀桿
486
487



473
474
486
487

※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

→ 切削條件表
Cutting Condition P.612

鎢鋼車刀片

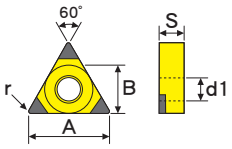
CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

編號 No.	A	B	S	d1
TN..1604..	16.5	9.52	4.76	3.81

加工材質	P	鋼材 Alloy Steels									—
	M	不銹鋼 Stainless Steels									—
	K	鑄鐵 Cast Iron									—
	N	鋁合金 Aluminum Alloys									—
	S	高溫合金 High-Temp Alloys									—
	H	調質鋼 Hardened Steels									●

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert				訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page	
						CVD				PVD			PC			BC9030
						CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525				
				TNGA160402	0.2								●		473	
				TNGA160404	0.4								●		474	
				TNGA160408	0.8								●		486	
F	S	M	R	TNGA160416	1.6								●		487	

※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

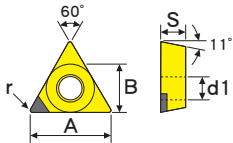
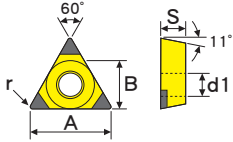
→ 切削條件表 Cutting Condition P.612

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

編號 No.	A	B	S	d1
TP..0802..	8.2	4.76	2.38	2.4
TP..1103..	11.0	6.35	3.18	3.4

加工材質	P	鋼材 Alloy Steels								—	—
	M	不銹鋼 Stainless Steels								—	—
	K	鑄鐵 Cast Iron								—	—
	N	鋁合金 Aluminum Alloys								●	—
	S	高溫合金 High-Temp Alloys								—	—
	H	調質鋼 Hardened Steels								—	●

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page	
				CVD				PVD			PC			BC9030
				CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525				
	TPGW080202	0.2								●				
	TPGW080204	0.4								●				
	TPGW080208	0.8								●				
	TPGW110302	0.2								●				
	TPGW110304	0.4								●				
	TPGW110308	0.8								●				
F	S	M	R											
 	TPGW080202	0.2								●				
	TPGW080204	0.4								●				
	TPGW080208	0.8								●				
	TPGW110302	0.2								●				
	TPGW110304	0.4								●				
	TPGW110308	0.8								●				
F	S	M	R											

內徑
刀桿
488
489

※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

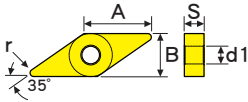
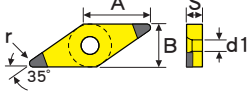
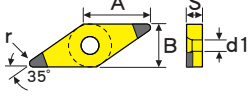
→ 切削條件表 Cutting Condition P.611

鎢鋼車刀片

CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

編號 No.	A	B	S	d1
VN..1604..	16.5	9.53	4.76	3.81

加工材質	P	鋼材 Alloy Steels		○	●			●	⊗		—	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing	
	M	不銹鋼 Stainless Steels		○	●			●	⊗		—		
	K	鑄鐵 Cast Iron		●	●			●	—		—		
	N	鋁合金 Aluminum Alloys		—	—			—	—		—		
	S	高溫合金 High-Temp Alloys		—	—			●	⊗		—		
	H	調質鋼 Hardened Steels		○	—			—	⊗		●		
刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page
				CVD				PVD		PC	BC9020		
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525				
		VNMG160404-FP	0.4		●	●			●				外徑 刀桿 475
		VNMG160408-FP	0.8		●	●			●				
F	S	M	R										內徑 刀桿 491
		VNMG160404-MP	0.4		●	●			●				
		VNMG160408-MP	0.8		●	●							
F	S	M	R										
		VNGA160402	0.2								●		
		VNGA160404	0.4								●		
		VNGA160408	0.8								●		
F	S	M	R										

※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

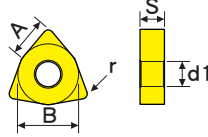
→ 切削條件表 Cutting Condition P.612

鎢鋼車刀片

CARBIDE TURNING INSERTS

- 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
- 第一推薦 / ◎ 第二推薦：一般加工 General Cutting
- ✱ 第一推薦 / ✱ 第二推薦：斷續加工 Interrupted Cutting
- 不推薦 NO Recommend

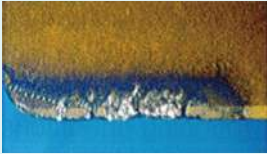
編號 No.	A	B	S	d1
WN..0804..	8.7	12.7	4.76	5.16

加工材質	P	鋼材 Alloy Steels		○	●	✱		●	✱			F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing		
	M	不銹鋼 Stainless Steels		○	●	✱		●	✱					
	K	鑄鐵 Cast Iron		●	●	✱		●	—					
	N	鋁合金 Aluminum Alloys		—	—	—		—	—					
	S	高溫合金 High-Temp Alloys		—	—	—		●	✱					
	H	調質鋼 Hardened Steels		○	—	—		—	✱					
刀 片 Insert		訂購編號 Order No.	r 角	材質碼 Grade								刀片 2D 圖 Drawing	刀桿 頁數 Tool Page	
					CVD				PVD					
				CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9030		
		WNMG080404-FP	0.4		●	●			●					外徑 刀桿 478 內徑 刀桿 495
		WNMG080408-FP	0.8		●	●			●					
F	S	M	R											
		WNMG080404-SP	0.4		●	●			●	●				
		WNMG080408-SP	0.8		●	●			●					
F	S	M	R											
		WNMA080408	0.8		●									
		WNMA080412	1.2		●									
F	S	M	R											
		WNMG080404-MP	0.4		●	●	●		●	●				
		WNMG080408-MP	0.8		●	●	●		●	●				
		WNMG080412-MP	1.2		●	●	●			●				
F	S	M	R											
		WNMG080408-RK	0.8			●	●							
		WNMG080412-RK	1.2			●	●							
F	S	M	R											

➡ 切削條件表 Cutting Condition P.612

刀片損壞分析與解決方法

Failure Analysis And Solution

刀片損壞狀況 Failure Status	原因 Reason	解決方法 Solution
 熱裂 Thermal Cracking	切削速度 (Vc) 過高，而產生高熱。 Intermittent heating of the cutting edge. High speed, high volume metal removal.	- 選擇耐熱更高的材質碼。 Use heat resistant grades. - 使用正角型刀片。 Use positive rake insert. - 使用較大 R 角的刀片。 Increase nose radius. - 降低切削速度 (Vc)、每轉進給量 (f) 或切深 (Ap)。 Reduce speed, feed or depth of cut.
 崩刃 (欠損) Tipping	刀片材質太脆。 Cutting tool excessively brittle.	- 選擇韌性更高的材質碼。 Use tougher grades. - 使用負角型刀片。 Use negative rake insert. - 使用較大 R 角的刀片。 Increase nose radius. - 使用刀口強度較佳的刀片。 Use increased edge land. - 降低切削速度 (Vc) 和每轉進給量 (f)。 Reduce cutting speed and feed.
 磨耗 Flank Wear	- 刀片材質太軟。 Cutting tool too soft. - 切削速度 (Vc) 過高。 Machine speed too fast.	- 選擇硬度更高或更耐磨的材質碼。 Use harder and more wear resistant grades. - 降低切削速度 (Vc)。 Reduce cutting speed. - 增加每轉進給量 (f)。 Increase feed. - 使用冷卻液。 Use coolant.
 凹陷 Notching	被加工材質產生硬化，而造成嚴重磨損。 Cutting material working harden cause serious wear of insert.	- 降低切削速度 (Vc) 和每轉進給量 (f)。 Reduce cutting speed and feed. - 降低切深 (Ap)。 Reduce depth of cut.
 黏屑 (溶著) Built-Up-Edge (BUE)	切削速度 (Vc) 過低。 Cutting speed too slow for material being machined.	- 提高切削速度 (Vc)。 Increase cutting speed. - 選擇摩擦係數較低的材質碼。 Use friction reducing grades. - 使用潤滑性較高的冷卻液。 Use high lubricity coolant.
 塑性變形 Deformation	切削速度 (Vc) 或每轉進給量 (f) 過高。 Heavy feeds or higher cutting speed.	- 選擇硬度更高的材質碼。 Use a harder grades. - 選擇熱傳導係數高的材質碼。 Use more heat resistant grades. - 降低切削速度 (Vc) 或每轉進給量 (f)。 Reduce cutting speed or feed.
 月牙窪磨損 Crater Wear	加工材質和刀片之間發生化學反應，並被切削速度 (Vc) 放大。 It is due to a chemical reaction between the workpiece material and insert and is amplified by cutting speed.	- 選擇硬度更高的材質碼。 Use a harder grades. - 降低切削速度 (Vc) 和每轉進給量 (f)。 Reduce cutting speed and feed.

車刀片斷屑槽幾何對照表

Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	特固克 TaeguTec
P 鋼 Alloy Steels	超精加工 Bright Finishing		FA, FL, FB	GP, XP, XF, VF, VC, SK	TF, NS, ZF	FH, FP, FS, FY	FE	FA
	精加工 Finishing	FP	LU, FE, SU	PP, XQ, CQ, HQ	MM, TS, TSF	SA, SY, SH	BE, CE, B, BH	FG, FC
	半精加工 Semi Finishing	SP, SM	SE, SX	CJ, XS	AS, ZM	LP	AB, CT	
	中加工 Medium	MP, ME	GU, GE, UX	HS, PS, PQ, GS, PT, PG	TM, TQ, DM, AM	MA, MV, MH, MP	AH, AE, AY	ML, MP, MC, PC, MT
	粗加工 Roughing	RK	MU, ME, MX, MP	HT, GT, PH	TH, S, CH	RP, GH, HAS, MT	RE, AR	RT
	重加工 Heavy Cutting		HG, HP, HU, HW, HF	PX, Standard	THS, TRS, 65, TUS	HZ, HX, HL, HH, HXD, HR, HV, HCS	TE, UE, H, HX, HE	RX, RH, HT, HD, HY, HZ
M 不銹鋼 Stainless Steels	精加工 Finishing	FP	SU, EF	MQ, GU	SS	LM, SH	SE, MP, AB	EA, SF
	半精加工 Semi Finishing	SP, SM	EX, EG	MS, MU	SF, SA	GM, MS	PV	EM
	中加工 Medium	MP, ME	GU		SM	MM	DE	ET
	粗加工 Roughing	RK	HM, EM, MU	TK	S, SH	ES, 1M, 2M, HL, RM, GH, HM	AE	VF, SU
K 鑄鐵 Cast Iron	半精加工 Semi Finishing	SP, SM	UZ	Standard, C, KQ	CM, CF	LK, MA, MK	V, VA	MT
	中加工 Medium	MP, ME	GZ, ME	ZS, GC, KG, KH	Standard, CH33	GK, RK, GH	Y, RE	RT
N 鋁合金 Aluminium Alloys	精加工 Finishing	FP	AX	AH	P		AH	
S 高溫合金 High-Temp Alloys	精加工 Finishing	SP, SM	EF		HRF	LS, FJ		
	中加工 Medium	MP, ME	EG, EX	SQ	HMM, SA, HRM	MS, MJ	VI	
	粗加工 Roughing	RK	MU, EM	SG, SX		RS, GJ		
H 調質鋼 Hardened Steels	精加工 Finishing		GH, FV		HP			
	半精加工 Semi Finishing		LV	HH, HL	HF	BF		
	硬化層加工 Carburised Layer Removal		SV	HD	HM	BM		

車刀片斷屑槽幾何對照表

Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	超精加工 Bright Finishing		QF	FF1, FF2	FP5	SF	FF
	精加工 Finishing	FP	LC, XF, MF	MF2	NF3		FN, CT
	半精加工 Semi Finishing	SP, SM	PF, KF		MP3, NS6	F3P, TF	LF, 33
	中加工 Medium	MP, ME	XM, QM, PMC, PM, SM, KM ,HM	M3	MU5, MP5, NM4, NM6	GN, RF, LF	P, MG, MN, MP1
	粗加工 Roughing	RK	PR, XMR, KR	M5, MR7, R4, R5, M6	RP5, NM9, RP7	M3P, NR	RP, RN
	重加工 Heavy Cutting		HR, SR, MR	R7, MR7, RR9	NR6, NRF, NR8, NRR	NM, TNM, R3P	RM, MR, RH
M 不銹鋼 Stainless Steels	精加工 Finishing	FP	MF	MF2	NF4, FM5	F3M	FP, FS, LF
	半精加工 Semi Finishing	SP, SM	23	MF1, M1	MM5	TF, VL	MS
	中加工 Medium	MP, ME	MM, MMC, SMR	MF3, M3	NM4, MS3, MU5	M3M, PP	MP
	粗加工 Roughing	RK	MR, MRR	MF4, MF5, M5, MR3, MR4	NR4, RM5, HU5	MR, R3M, M4MW	UP
K 鑄鐵 Cast Iron	半精加工 Semi Finishing	SP, SM	KF	M4	NM5	GN	UN
	中加工 Medium	MP, ME	KM, KR, KRR	MR7	RK5, RK7		
N 鋁合金 Aluminium Alloys	精加工 Finishing	FP					MS
S 高溫合金 High-Temp Alloys	精加工 Finishing	SP, SM	SF, SGF		NFT	F3S	
	中加工 Medium	MP, ME	SM, SMC	M1	NMT, NMS	VL	
	粗加工 Roughing	RK	SMR	MR3, MR4	NRT, HU5, NRS		
H 調質鋼 Hardened Steels	精加工 Finishing						
	半精加工 Semi Finishing						
	硬化層加工 Carburised Layer Removal						

車刀片斷屑槽幾何對照表

Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	特固克 TaeguTec
P 鋼 Alloy Steels	精加工 Finishing	FB, FX, FY	FC, FB, LU, FP, FK	CF, GF, VF, P, PF, GP, XP, PP, MQ, DP	01, JRP, JTS, PSF, PF, 23, SS, JSS	FJ, AM, FP, FM, FV, SQ	JQ, MP	FA, FX
	半精加工 Semi Finishing	SP	SI, LB	CK, SKS, XQ	JS, CM, PSS	SMG, LP, LM		SA
	半中加工 Semi Medium		SC, SU, GU, SK, SF	GQ, SK, Standard, HQ, XQ, GK	PS, TSF, TM	SV, MQ	JE	FG, PC
	中加工 Medium	MP, MK	MU		PM	MP, MM, MK, MV		MT, PMR
M 不銹鋼 Stainless Steels	精加工 Finishing	FB, FX, FY	FC		PSF, PF, SS, JSS	FM, FV		FA, FX
	半精加工 Semi Finishing	SP, SM	SI, LB	MQ		SMG, LM		FG
	半中加工 Semi Medium		SU, GU	HG		SV		PC
	中加工 Medium	MP, MK	MU		PM	MM, MV, Blank		MT, PMR
K 鑄鐵 Cast Iron	精加工 Finishing	FB	FC		CF			
	中加工 Medium	MP, MK	MU			MK		MT
N 鋁合金 Aluminium Alloys	精加工 Finishing	FA	AG, AW, AY	AH, AP	AL, PP	AZ		FL
	半精加工 Semi Finishing	FB	LD, GD					SA
S 高溫合金 High-Temp Alloys	精加工 Finishing	FB, FX, FY	FC, SI	PP, MQ	PSS	FS		
	中加工 Medium		SU, GU	HQ, GK	PS, PM	LS, MS		
H 調質鋼 Hardened Steels	精加工 Finishing		FV		HP			
	輕切削 Light Cutting		LV			BF		

車刀片斷屑槽幾何對照表

Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	精加工 Finishing	FB, FX, FY	UM, PF, UF, MF, XF	GT-F1, FF1	FM4, FP4	PF	11, UF, MF, KF, XF
	半精加工 Semi Finishing	SP					LF
	半中加工 Semi Medium		PM, UM, XM	MF2, F1	MP4, MM4, FP6, PM5	SM, 14	MP
	中加工 Medium	MP, MK	PR, UR, MMC, MPC, XR	F2, M3, M5	RP4, RM4	19	MF
M 不銹鋼 Stainless Steels	精加工 Finishing	FB, FX, FY	MF, XF	FF1	FM4	PF	11, UF
	半精加工 Semi Finishing	SP, SM	UF	F1			LF, FP
	半中加工 Semi Medium		MM	MF2	MM4, PS5	SM	MP
	中加工 Medium	MP, MK	UM, MR, XR, UR	F2, M3, M5	PM5, RM4		MF
K 鑄鐵 Cast Iron	精加工 Finishing	FB	KF, XF		FK6		11, UF
	中加工 Medium	MP, MK	KM, UM, XR	M5	MK4, RK4		FP, LF, MF, MP
N 鋁合金 Aluminium Alloys	精加工 Finishing	FA	AL	AL	PM2	AS, AF	HP
	半精加工 Semi Finishing	FB					
S 高溫合金 High-Temp Alloys	精加工 Finishing	FB, FX, FY	WF, MF				
	中加工 Medium		UM, PM	MF2, R2, R3	FV4, MV4		
H 調質鋼 Hardened Steels	精加工 Finishing						
	輕切削 Light Cutting						

車刀片材質碼對照表

Turning Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	克勞伊 Korloy	特固克 TaeguTec
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1570	AC8020P AC8015P AC810P	CA510 CA515 CA5505 CA5515	T9005 T9105 T9015 T9115 T9215	MC6015 UE6105 UE6110 UE6005 UE6010 UE6020	GM10 GM20 GM8015 HG8010	NC3215	TT8105B
		P20	CM2570	AC8020P AC8025P AC820P	CA025P CA525 CA5515 CA5525 CR9025	T9015 T9115 T9025 T9125 T9225	MC6025 UC6010 UE6110 UE6020	GM20 GM8020 HG8025	NC3225	TT5100 TT8115B TT8125B
	↓ 軟 Soft	P30	CM3570	AC8035P AC830P AC6030M AC630M	CA025P CA525 CA5525 CA530 CA5535 CR9025	T9125 T9035 T9135 T3130	MC6025 UE6020 MC6035 UE6035 UH6400	GM25 GM8035 HG8025	NC3120 NC3030 NC5330	TT5100 TT7100 TT8125B
		P40	CM3570	AC8035P AC830P AC6030M AC630M	CA530 CA5535	T9035 T3130	MC6035 UE6035 UH6400	GX30		TT5100 TT7100 TT8135B
S 高溫合金 High-Temp Alloys	↑ 硬 Hard	M10 S10	CM1570	AC6020M AC610M	CA6515	T9015 T9115	MC7015 US7020	GM10 HS9105	NC9115	TT9215
		M20 S20	CM2570 CM3570	AC6020M AC6030M AC610M AC630M	CA6525	T6020 T6120 T9115 T9125	US7020 MC7025	GM8020 HG8025 HS9115	NC9115 NC9125	TT5100 TT9215
	↓ 軟 Soft	M30	CM3570	AC6030M AC630M AC8035P AC830P		T6030 T6130 T9125	MC7025 US735	GM25 GM8035	NC9125 NC9135	TT5100 TT9235
		M40	CM3570	AC6030M AC630M			US735	GX30	NC9135	TT5100 TT9235
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01	CM1570	AC405K AC410K AC300G AC4010K	CA310 CA4505 CA5505	T5105 T5010	MC5005 UC5105 UC5015	HG3305 HG3315 HX3505 HX3515		TT7005
		K10	CM1570	AC4010K AC4015K AC405K AC415K	CA310 CA315 CA4505 CA4515 CA5505	T515 T5105 T5115 T5010	UC5015 UC5105 UC5115 UE6010 MC5015	GM8015 HX3515 HG8010 HG3315	NC6310	TT7005 TT7015
	↓ 軟 Soft	K20	CM1570	AC4015K AC415K AC420K AC425K AC8025P	CA315 CA320 CA4515	T515 T5115 T5125 T5020	MC5015 MY5015 UE6010 UC5115 UE6110	GM8020 HG8025	NC6315	TT7015 TT7025
		K30			CA320	T5125 T9125	UE6110	GM25	NC5330	TT7025

車刀片材質碼對照表

Turning Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1570	GC4205 GC4015 GC3115 GC4215 GC4315	TP1501 TP1000 TP1500 TP100	WPP01 WPP05	IC8150 IC9150 IC9250	KCK05 KCP10B KCP10 KC9010 KC9110
		P20	CM2570	GC4025 GC4215 GC4220 GC4225 GC4325	TP2501 TP2000 TP2500 TP200	WPP10S WPP20S	IC8250 IC9125 IC9250 IC9350	KCP25B KCP25 KC9125 KC9225 KC9325
	↓ 軟 Soft	P30	CM3570	GC4225 GC4230 GC4235 GC2135 GC4335	TP2501 TP3501 TP2500 TP2000 TP3500 TP200	WPP30S	IC635 IC8350 IC9350	KCP30B KCP30 KC9040 KC9140
		P40	CM3570	GC4035 GC4235 GC4240 GC4335	TP40		IC635	KCP40B KCP40 KC9140 KC9240
S 高溫合金 High-Temp Alloys	↑ 硬 Hard	M10 S10	CM1570	GC2015 GC2220	TP1500 TP100	WAM20	IC8250 IC9250 IC9350 IC6015	KCM15B KCM15 KC9010 KC9110 KC9210
		M20 S20	CM2570 CM3570	GC1515 GC2015 GC2025 GC2220	TM2000 TP200		IC8350 IC9250 IC9350 IC6025	KCM25B KCM25 KC9025 KC9125 KC9225
	↓ 軟 Soft	M30	CM3570	GC2040 GC235	TM4000 TP3501 TP300		IC8350 IC9350 IC4050	KCM35B KCM35 KC9240
		M40	CM3570		TP40		IC635	KC9045 KC9245
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01	CM1570	GC3205 GC3210	TK0501 TK1000 TK1001	WAK10	IC5005 IC428 IC9007 IC9150	KCPK05 KC9315 KCK05B KCK05
		K10	CM1570	GC3205 GC3210 GC3215 GC3115	TK1000 TK2000 TK2001 MK1500	WAK20	IC5010 IC418 IC428 IC9015 IC9007	KC9110 KC9120 KC9315 KCK15B KCK15
	↓ 軟 Soft	K20	CM1570	GC4225 GC3215 GC3220 GC3225	TK2000 TX150 TP200	WAK30	IC418 IC9015	KC9125 KC9320 KC9325 KCK20B KCK20
		K30		GC3040 GC4335	TP2500 TP200			KCP25B KC9320

車刀片材質碼對照表

Turning Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	克勞伊 Korloy	特固克 TaeguTec
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1560	AC1030U ACZ150 AC5005S AC5015S AC5025S AC520U	PR1705 PR930 PR1025 PR1115 PR1215 PR1225 PR1725	AH710	MS6015 VP10MF	CY15 CY150 IP2000		TT4410
		P20	CM1560 CM2560	AC1030U AC5025S AC520U AC530U	PR930 PR1025 PR1115 PR1215 PR1225 PR1625 PR1725	AH7025 AH710 AH725 AH730 SH725 SH730	MS6015 VP10RT VP15TF VP20MF UP20M VP20RT	CY150 IP2000		TT4410 TT4430 TT9020 TT9080
	↓ 軟 Soft	P30	CM2560	AC1030U AC530U	PR1025 PR1225 PR1535	GH330 AH120 AH740 AH9030	VP10RT VP15TF VP20MF UP20M	CY250 CY9020 HC844 IP3000	PC5300	TT4410 TT4430 TT8020 TT8080 TT9020 TT9080
		P40	CM2560	AC1030U	PR1535	AH140 AH740 J740		CY250 HC844	PC5300 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
M 不銹鋼 Stainless Steels	↑ 硬 Hard	M10	CM1560	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR1025 PR1215 PR1225	AH710	VP10MF VP10RT	IP050S JP9105	PC8110	TT4410 TT5080
		M20	CM2560	AC5015S AC5025S AC1030U AC520U	PR930 PR1025 PR1125 PR1215 PR1725 PR1225 PR1515	AH630 AH725 AH730 GH330 GH730 SH75 SH730	VP10RT VP15TF VP20MF UP20M VP20RT	IP100S GX30 JP9115	PC8115	TT4410 TT4430 TT5080 TT8020 TT9020 TT9080
	↓ 軟 Soft	M30	CM2560	AC5025S AC6040M AC1030U AC520U AC530U	PR1125 PR1535	AH6030 AH120 AH725	VP15TF VP20MF UP20M MP7035	CY250 CY9020	PC5300	TT4410 TT4430 TT5080 TT8020 TT8080 TT9020 TT9080
		M40	CM2560	AC6040M AC1030U AC530U	PR1535	J740 AH140 AH645	MP7035		PC9030 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01				AH110				
		K10	CM1560	AC1030U AC510U ACZ150 AC5015S	PR905 PR1215	GH110 AH110	VP05RT	CY100H CY10H	PC8110	
	↓ 軟 Soft	K20	CM2560	AC1030U AC510U ACZ150 AC5015S AC5025S	PR905 PR1215	AH120 AH725	VP10RT VP15TF VP20RT	IP2000 CY9020	PC8110	
		K30	CM2560	AC1030U AC530U			VP15TF VP20RT		PC5300 PC5400	
S 高溫合金 High-Temp Alloys	↑ 硬 Hard	S01			PR005S	AH8005 AH905	MP9005 VP05RT		PC8105	
		S10	CM1560 CM2560	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR005S PR015S	AH8015 AH905 SH730 AH110	MP9005 MP9015 VP10RT	JP9105	PC8110	TT3010 TT3020 TT4410 TT5080
	↓ 軟 Soft	S20	CM2560	AC5015S AC5025S AC1030U AC520U	PR015S PR1535	AH8015 AH120 AH725	MP9015 MT9015 VP20RT MP9025	JP9115	PC8115	TT3010 TT3020 TT4410 TT4430 TT5080
		S30	CM2560	AC5025S AC6040M AC1030U AC520U AC530U	PR1535	AH725	MP9025		PC5300 PC5400	TT8020 TT8080 TT3010 TT3020 TT4410 TT4430 TT5080

車刀片材質碼對照表

Turning Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1560	GC1025	CP200		IC507 IC807 IC907	KC5010 KC5510 KU10T
		P20	CM1560 CM2560	GC1020 GC1025 GC4125 GC1125	CP250		IC507 IC907 IC908	KC5025 KC5525 KC7215 KC7315 KU25T
	↓ 軟 Soft	P30	CM2560	GC1125 GC1145 GC1115 GC1105	CP500		IC328 IC928 IC3028	KC7015 KC7020 KC7235 KU25T
		P40	CM2560	GC1145 GC2145	CP600		IC328 IC3028	KC7030 KC7040 KC7140
M 不銹鋼 Stainless Steels	↑ 硬 Hard	M10	CM1560	GC1005 GC1025 GC1105 GC15	TS2000 CP200 CP250	WSM20	IC507 IC520 IC807 IC907	KC5010 KC5510 KC6005 KCU10
		M20	CM2560	H5D6 GC1025 GC1115 GC4125 GC1125 GC30	TTP2050 TS2500 CP200 CP250 CP500	WSM30	IC308 IC507 IC907 IC908 IC3028	KC5025 KC5525 KC7020 KC7025 KCU25
	↓ 軟 Soft	M30	CM2560	GC1020 GC2035 GC2030	CP500		IC908 IC1008 IC1028 IC3028	KC7030 KC7225
		M40	CM2560	GC2145 GC1145	CP600		IC228 IC928 IC328	
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01					IC910	KC5515
		K10	CM1560	GC1010	TS2000 CP200		IC807 IC910 IC507 IC908	KC5010 KC7210
	↓ 軟 Soft	K20	CM2560	GC1020 GC1120	TS2500 CP200 CP250		IC508 IC908	KC5025 KC5525 KC7015 KC7215 KC7315
		K30	CM2560	GC1030	CP500		IC508 IC908	KC7225
S 高溫合金 High-Temp Alloys	↑ 硬 Hard	S01				WSM10	IC804 IC806	
		S10	CM1560 CM2560	GC1105 GC1005 GC1025	CP200 TS2000	WSM20	IC807 IC808 IC907 IC908	KC5010 KC5510 KCU10 KCS10
	↓ 軟 Soft	S20	CM2560	GC1025 GC1125	CP250 TS2500	WSM30	IC806 IC808 IC908	KC5025 KC5525 KCU25
		S30	CM2560	GC1125			IC3028	



Turning Inserts

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