

A 刀片 Insert



刀片識別系統 Turning Insert Identification System	A02 – A03
車削用材質 Recommend Material Grades For Turning	A04
各公司材質對照表 Grade Comparison Chart	A05
正、負角斷削槽選擇 Selection Of Chip Breaker	A06 – A09
材質推薦切削表 Recommended Cutting Condition	A10
車刀刀片 Insert For Turning	A11 – A45
NEW 切斷刀刀片 Grooving Off Insert	A46 – A47
槽刀刀片 Shallow Grooving Insert	A48 – A50
插槽刀片識別系統 Slotting Insert Identification System	A51
NEW 插槽刀片 Slotting Insert	A52
快鑽刀片 Insert For Drilling	A53 – A55
C B N 立方氮化硼刀片 Cubic Boron Nitride Insert	A56 – A57
P C D 聚晶金剛石刀片 Poly Crystalling Diamond Insert	A58 – A59
牙刀片識別系統 Threading Insert Identification System	A60
牙刀刀片 Threading Insert	A64 – A66

刀片識別系統

Turning Insert Identification System

C N M G
1 2 3 4**1** 刀片形狀 Insert Shape **2** 離隙角 Relief Angle **3** 精度記號 Tolerance **4** 孔溝記號 Insert Hole**1** 刀片形狀 Insert Shape

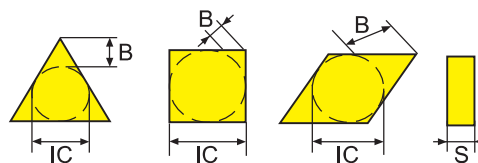
記號 Symbol	刀片形狀 Insert Shape	角度 Angle
R	 圓形	—
S	 正方形	90°
T	 正三角形	60°
L	 長方形	90°
A	 85°	85°
B	 82°	82°
K	 55°	55°
C	 80°	80°
D	 55°	55°
E	 75°	75°
M	 86°	86°
V	 35°	35°
H	 正六角形	120°
O	 正八角形	135°
P	 正五角形	108°
W	 桃形	80°

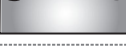
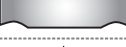
2 離隙角 Relief Angle

記號 Symbol	離隙角 Relief Angle	記號 Symbol	離隙角 Relief Angle
A	 3°	F	 25°
B	 5°	G	 30°
C	 7°	N	 0°
D	 15°	P	 11°
E	 20°		

3 精度記號 Tolerance

記號 Symbol	內接圓公差 "IC" Inscribed Circle Tolerance		刀尖高度公差 "B" Corner Height Tolerance		厚度公差 "S" Thickness Tolerance	
	in	mm	in	mm	in	mm
C	±0.010	±0.025	±0.0005	±0.013	±0.001	±0.025
H	±0.005	±0.013	±0.0005	±0.013	±0.001	±0.025
E	±0.010	±0.025	±0.0010	±0.025	±0.001	±0.025
G	±0.010	±0.025	±0.0010	±0.025	±0.005	±0.13
M	±0.005	±0.05-±0.15	±0.005	±0.08-±0.02	±0.005	±0.13
U	±0.005	±0.08-±0.25	±0.005	±0.13-±0.38	±0.005	±0.13

**4** 孔溝記號 Insert Hole

記號 Symbol	孔溝記號 Insert Hole	記號 Symbol	孔溝記號 Insert Hole	記號 Symbol	孔溝記號 Insert Hole	記號 Symbol	孔溝記號 Insert Hole
N		M		Q		C	
R		G		U		J	
F		W		B			
A		T		H			

12 04 08 - □ □ □

5 6 7 8 9 10

- 5 尺寸 Size 6 刀片厚度 Insert Thickness 7 刀尖半徑 Corner Radius 8 刀片方向 Feed Direction 9 切邊狀況及排屑槽 Cutting Edge Condition & Chip Control

5 尺寸 Size 切刃長和內接圓記號 Cutting Edge Length, Diameter Of IC

內接圓 IC		公制切削刃長度 Metric Cutting Edge Length							英制切削刃長度 Inch Cutting Edge Length
in	mm	(R)	S	T	C	D	V	W	
5/32	3.97	03	03	06	—	04	—	—	1.2 (5)
3/16	4.76	04	04	08	04	05	08	—	1.5 (6)
7/23	5.56	05	05	09	05	06	09	03	1.8 (7)
0.236	6.00	06	—	—	—	—	—	—	—
1/4	6.35	06	06	11	06	07	11	04	2
5/16	7.94	07	07	13	08	09	13	05	2.5
0.315	8.00	08	—	—	—	—	—	—	—
3/8	9.525	09	09	16	09	11	16	06	3
0.394	10.00	10	—	—	—	—	—	—	—
1/16	11.11	11	11	19	11	13	19	07	3.5
0.472	12.00	12	—	—	—	—	—	—	—
1/2	12.70	12	12	22	12	15	22	08	4
9/16	14.29	14	14	24	14	17	24	09	4.5
5/8	15.875	15	15	27	16	19	27	10	5
0.630	16.00	16	—	—	—	—	—	—	—
11/16	17.46	17	17	30	17	21	30	11	5.5
3/4	19.05	19	19	33	19	23	33	13	6
0.787	20.00	20	—	—	—	—	—	—	—
7/8	22.22	22	22	38	22	27	38	15	7
0.984	25.00	25	—	—	—	—	—	—	—
1	25.40	25	25	44	25	31	44	17	8
1-1/4	31.75	31	31	54	32	38	54	21	10
1.260	32.00	32	—	—	—	—	—	—	—

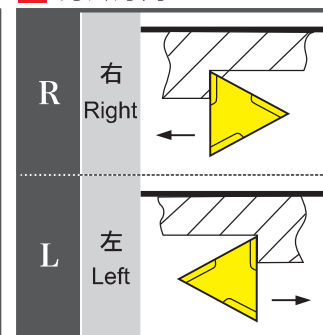
6 刀片厚度 Insert Thickness

記 號 Symbol	英制 in	記 號 Symbol	公制 mm
0.5 (1)	1/32	—	0.79
1 (2)	1/16	01	1.59
1.2	5/64	T1	1.98
1.5 (3)	3/32	02	2.38
2	1/8	03	3.18
2.5	5/32	T3	3.97
3	3/16	04	4.76
3.5	7/32	05	5.56
4	1/4	06	6.35
5	5/16	07	7.94
6	3/8	09	9.52
7	7/16	11	11.11
8	1/2	12	12.70

7 刀尖半徑 Corner Radius

記 號 Symbol	英制 in	記 號 Symbol	公制 mm
0	.004	01	0.1
0.5	.008	02	0.2
1	1/64	04	0.4
2	1/32	08	0.8
3	3/64	12	1.2
4	1/16	16	1.6
5	5/64	20	2.0
6	3/32	24	2.4
7	7/64	28	2.8
8	1/8	32	3.2
圓型刀片英制 round insert (in)			— 00
圓型刀片公制 round insert (mm)			— M0

8 刀片方向 Feed Direction



9 10

切邊狀況及排屑槽 Cutting Edge Condition & Chip Control

※ 英制尺寸: () 符號為小尺寸刀片 ※ Inch size: () Symbol for small size insert

車削用材質

Recommend Material Grades For Turning

JIS使用分類 JIS Classification										
切削狀態 Cutting Status	鎢鋼鍍鈦 Carbide With Altin Coating					金屬陶瓷 Cermet				
	高精度 High Precision	輕切削 Light Cutting		重切削 Roughing Cutting		高精度 High Precision	輕切削 Light Cutting		重切削 Roughing Cutting	
	01	10	20	30	40	01	10	20	30	40
P 鋼 Steel	ECP100、ECP2025 BEF606	ECP3015、BEF607	ECP200、ECP300 ECP3025、BEF707 BEF706、ECP2020 EC400	ECP3035、ECP510			BQJ606 BQJ606F BQW706 E1200		E1500	
M 不鏽鋼 Stainless Steel	ECM050、BEJ657	ECM100、ECM2010 BEJ757、ECM2520	ECM200、BEJ750 BE4875、BEJ758	ECM2525、ECM2530 BEP706、BEJ759						
K 鑄鐵 Cast Iron	ECK1005 ECK100	ECK1015、BEG607 BEG607F	ECK1025、ECK2020 ECK200	ECK300		BQJ606 BQJ606F E1200 E1500				
N 非鐵金屬 Non- Ferrous Metal	ECH01	BEJ757	ECH02、BG656							
H 高硬度鋼 High Hardness Steel			CBN100							

各公司材質對照表

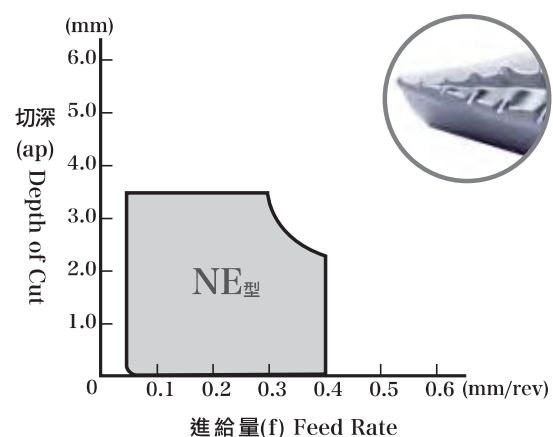
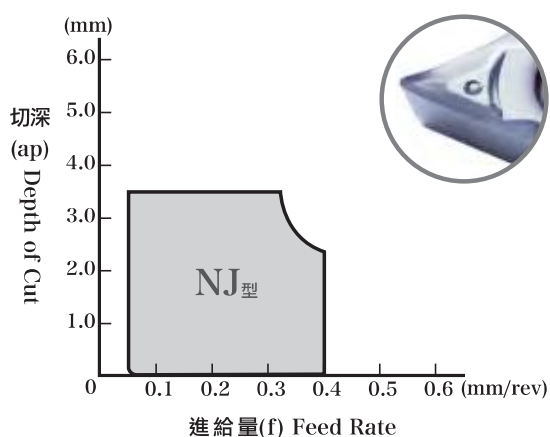
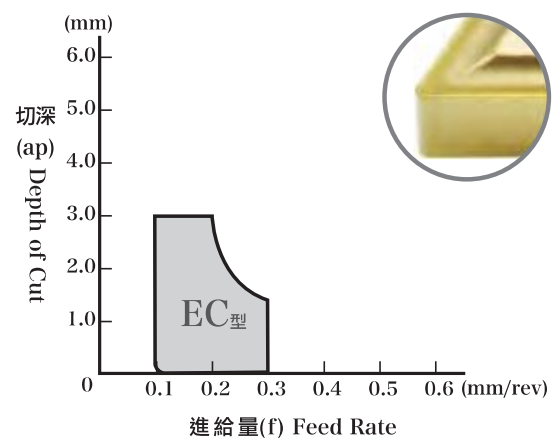
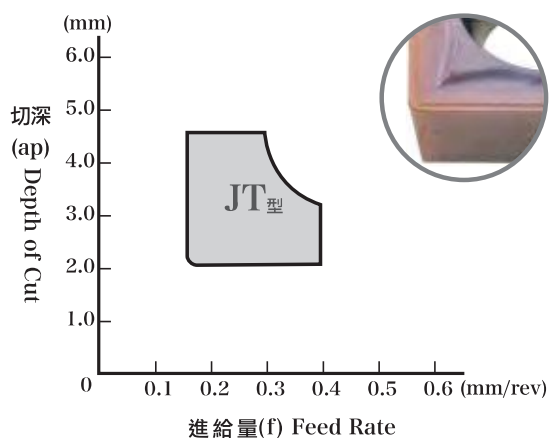
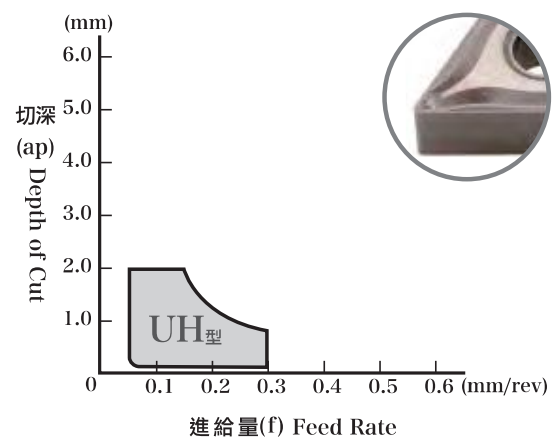
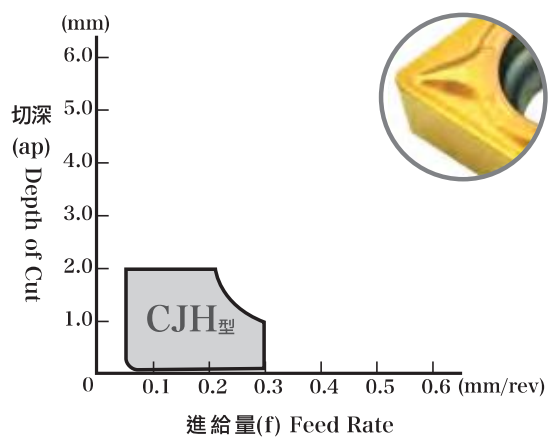
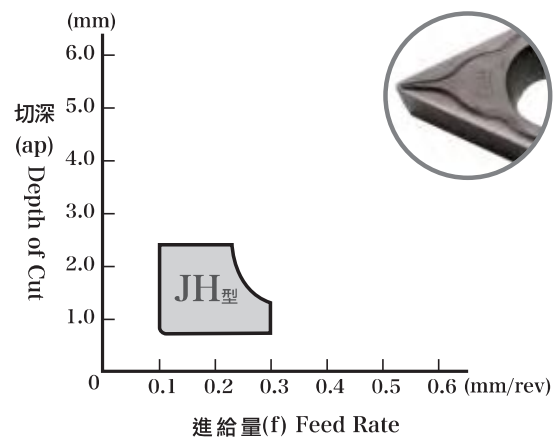
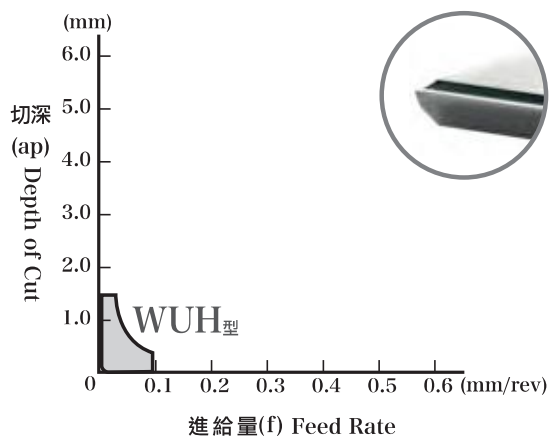
Grade Comparison Chart

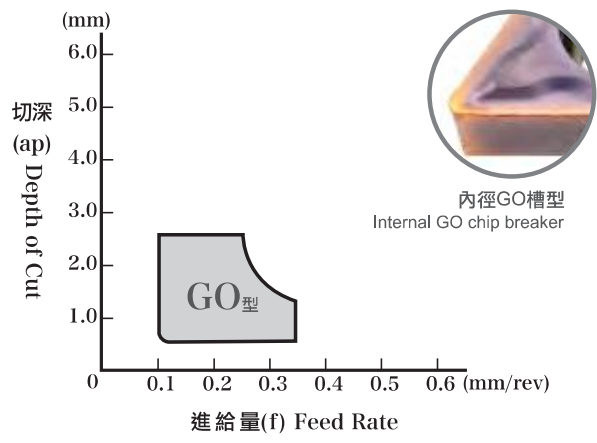
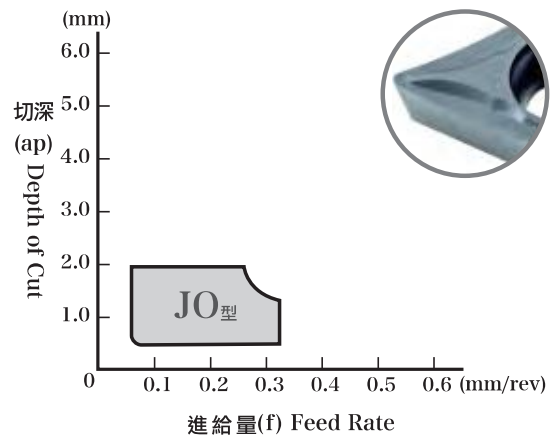
※ 用途 Application：車削 Turning

加工件 Work Material	級別 Grade	益 詮 Echain	住友電工 Sumitomo	三菱綜合材料 Mitsubishi	泰珂洛 Tungaloy	京 瓷 Kyocera
P 鋼 Steel	P05	ECP100、ECP2005、BEF606	AC8015P	UE6105	T9105	CA5505
	P10	ECP3015、BEF607	AC8015P	UE6110	T9115	CA5515
	P20	ECP3025、ECP200、ECP2020、BEF706	AC8025P AC820P	UE6020	T9125	CA5525
	P30	ECP300、BEF707、EC400	AC8035P AC830P	UE6035	T9135	CA5535
	P40	ECP510、ECP3035	AC8035P	UE6035	T9135	PR660
M 不鏽鋼 Stainless Steel	M10	ECM050、BEJ657、ECM2010	AC6020M	US7020	T9115 AH905	PR1305 PRP05
	M20	ECM100、ECM120、BEJ757、ECM2020、 BEJ759	AC6020M	VP15F	A725	PR1310 CA6525 PR9915
	M30	BEJ750、ECM200、ECM2530、ECM2525、 BE4875、BEJ758	AC6030M	US735	AH725	PR930 PR1125
	M40	BEP706、EM2625	AC6040M		SH730	PR660 PR1125
K 鑄鐵 Cast Iron	K05	ECK1005	AC4010K	MC5005	T5105 T5115	CA4505 CA4010
	K10	ECK1015、ECK150、ECK100、BEG607	AC4010K AC4015K	MC5015	T5115	CA4505 CA4015 CA4115
	K20	ECK1025、ECK300、ECK200、ECK2020	AC420K AC425K	MC5025	T5125 T9125	CA4515 CA4020 CA4115
N 非鐵金屬 Non-Ferrous Metal		BEJ757、ECH01、ECH205、BG656	H1	H1		
H 高硬度鋼 High Hardness Steel		CBN100				
金屬陶瓷 Cermet		BQJ606、BQJ606F、BQJ706、E1500、E1200	T1500A T2500Z	NX2525	NS9530	TN60

正角斷屑槽選擇

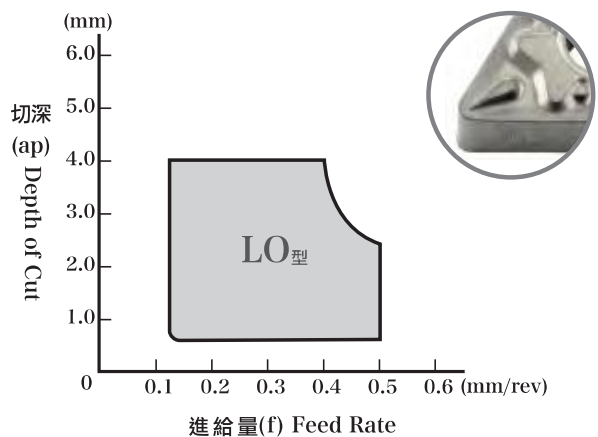
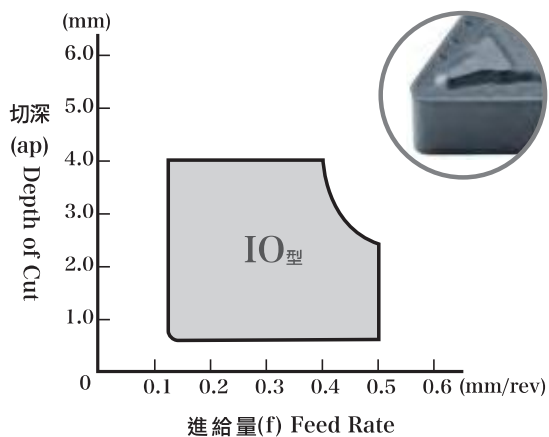
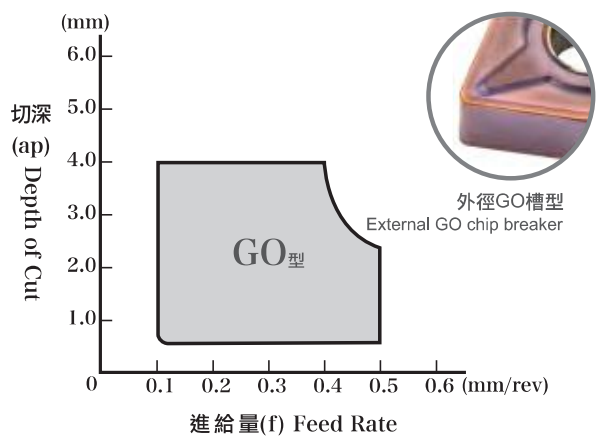
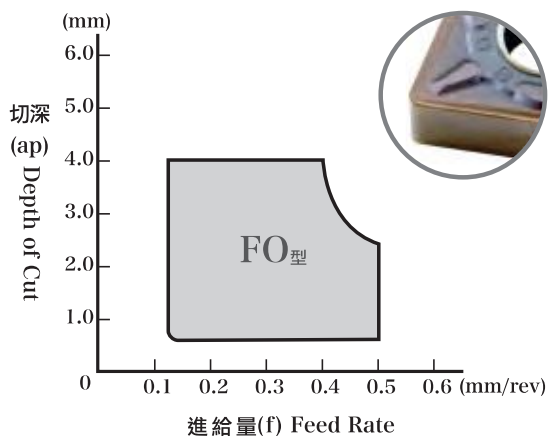
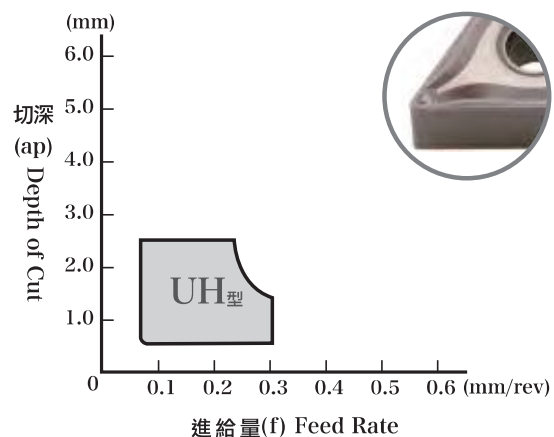
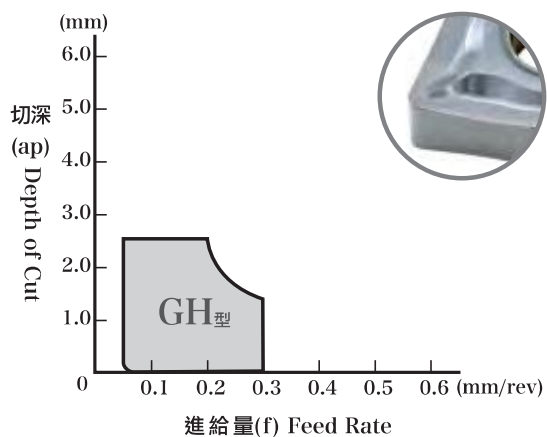
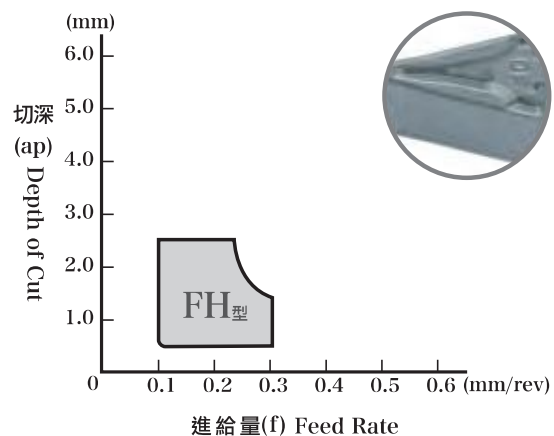
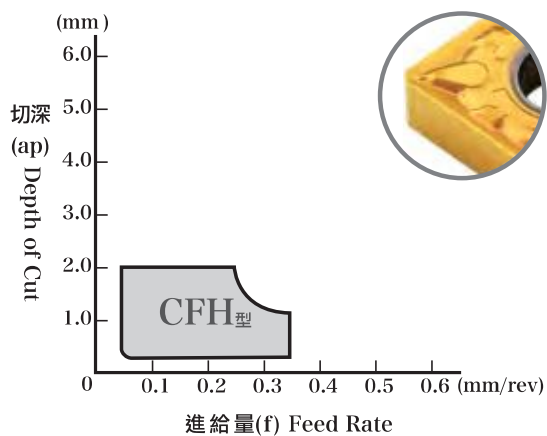
Selection Of Chip Breaker

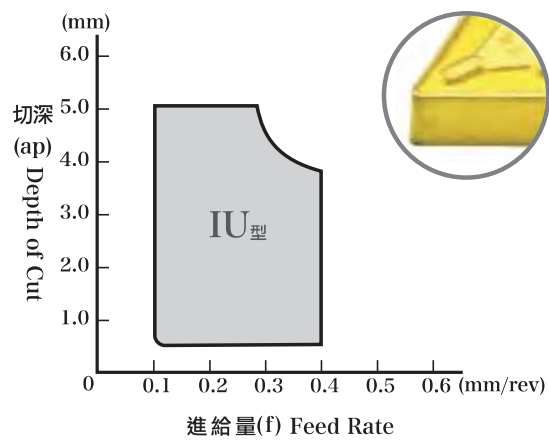
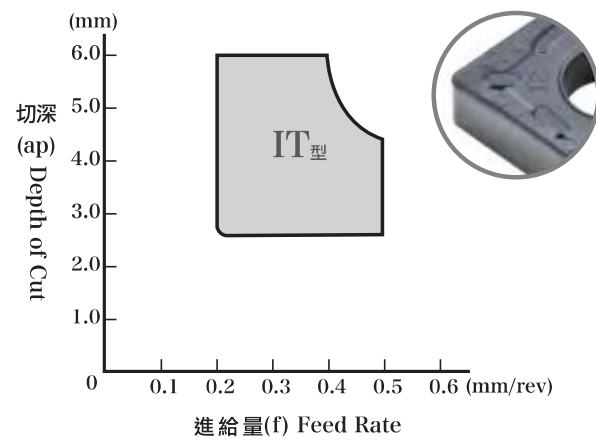
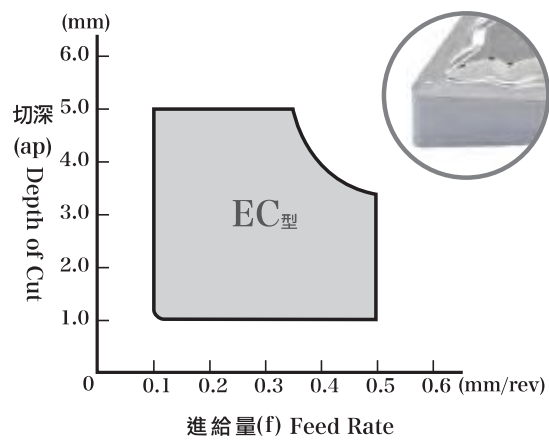
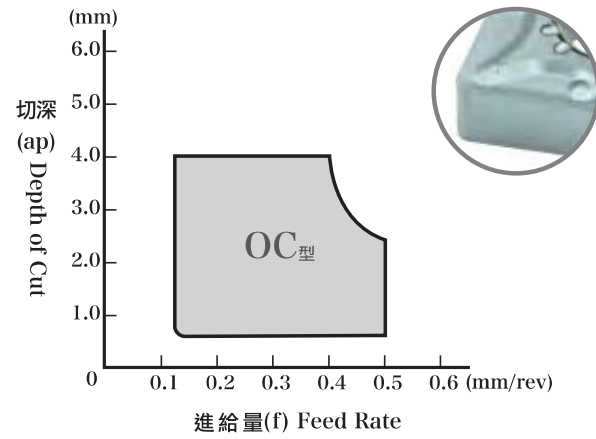
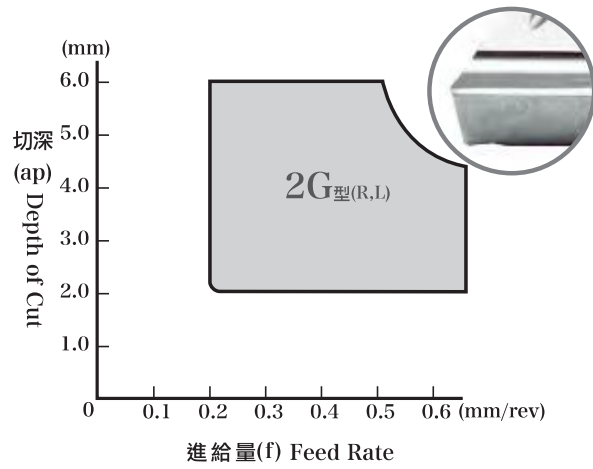




負角斷屑槽選擇

Selection Of Chip Breaker





材質推薦切削表

Recommended Cutting Condition

加工件 Work Material		進給 (f) Feed	切削速度 m/min(v) Cutting Speed	切深 (mm) Depth Of Cut
P 鋼 Steel	ECP2005、ECP100、BEF606	0.1~0.4	180~220	1.0m~3.0m
	ECP3015、BEF607			
	ECP3025、ECP300、BEF707			
	ECP510			
M 不鏽鋼 Stainless Steel	ECM050、BEJ657、ECM2010	0.1~0.4	100~120	1.0m~3.0m
	ECM100、ECM120、ECM2010、BECM2520 EJ757、BEJ759		110~130	
	ECM200、ECM2525、ECM2530、BE4875、 BEJ750、BEJ758		140~160	
	BEP706、EM2620、EM2625		140~160	
K 鑄鐵 Cast Iron	ECK100、ECK1005、ECK1015、ECK1025 ECK200、ECK2020、ECK300、BEG607、 BEG607F	0.1~0.4	120~160	1.0m~4.0m
N 非鐵金屬 Non-Ferrous Metal	BEJ757、ECH01、ECH02、BG656	0.1~0.4	200~350	1.0m~3.0m
	PCD100	0.02~0.2		
H 高硬度鋼 High Hardness Steel	CBN100	0.03~0.2	50~120	0.03~0.5
S 金屬陶瓷 Cermet	BQJ606、BQJ606F、BQW706、E1200、 E1500	0.05~0.3	180~250	0.05~1.0

● (V=m/min, F=/刀) (下限值—推薦值—上限值) (Min.—Optimum—Max.)

● 工具回轉速度(N)=[1000×切削速度(V)]÷[3.14×工具直徑(D)]

● 總進給(F)=[每刀進給(ft)×工具刀數(Z)×工具回轉速度(N)]