

M520 極細鎢鋼圓鼻銑刀- 標準型- 4刃

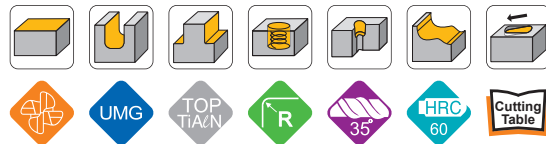
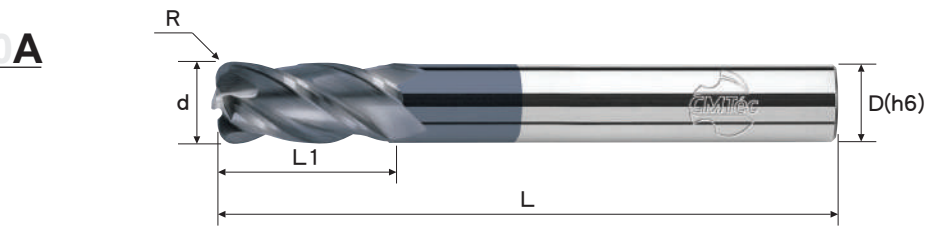
M520 ULTRA CARBIDE END MILLS- Corner Radius- 4F

MECR400000A

刃徑 d	公差 Tolerance
$\phi < 3$	0 ~ -0.02
$3 \leq \phi \leq 10$	-0.01 ~ -0.03
$10 < \phi$	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

超精銑 Bright Finishing	☐
精銑 Finishing	☒
中銑 Semi Finishing	☐
粗銑 Roughing	☐



NEW
SIZE

33

刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	4	MECRM4010002	MECRM4010002A
1.5	0.2R	3	50	4	4	MECRM4015002	MECRM4015002A
2.0	0.2R	4	50	4	4	MECRM4020002	MECRM4020002A
2.5	0.2R	5	50	4	4	MECRM4025002	MECRM4025002A
2.5	0.5R	5	50	4	4	MECRM4025005	MECRM4025005A
3.0	0.5R	6	50	4	4	MECRM4030005	MECRM4030005A
3.0	1.0R	6	50	4	4	MECRM4030010	MECRM4030010A
4.0	0.3R	8	50	4	4	MECRM4040003	MECRM4040003A
4.0	0.5R	8	50	4	4	MECRM4040005	MECRM4040005A
4.0	1.0R	8	50	4	4	MECRM4040010	MECRM4040010A
3.0	0.5R	6	50	6	4	MECR4030005	MECR4030005A
3.0	1.0R	6	50	6	4	MECR4030010	MECR4030010A
4.0	0.5R	8	50	6	4	MECR4040005	MECR4040005A
4.0	1.0R	8	50	6	4	MECR4040010	MECR4040010A
5.0	0.5R	10	50	6	4	MECR4050005	MECR4050005A
5.0	1.0R	10	50	6	4	MECR4050010	MECR4050010A
6.0	0.5R	12	50	6	4	MECR4060005	MECR4060005A
6.0	1.0R	12	50	6	4	MECR4060010	MECR4060010A
8.0	0.5R	16	60	8	4	MECR4080005	MECR4080005A
8.0	1.0R	16	60	8	4	MECR4080010	MECR4080010A
8.0	1.5R	16	60	8	4	MECR4080015	MECR4080015A
8.0	0.5R	16	75	8	4	MECR4080005075L	MECR4080005075LA
10.0	0.5R	20	75	10	4	MECR4100005	MECR4100005A
10.0	1.0R	20	75	10	4	MECR4100010	MECR4100010A
10.0	1.5R	20	75	10	4	MECR4100015	MECR4100015A
10.0	2.0R	20	75	10	4	MECR4100020	MECR4100020A
12.0	0.5R	24	75	12	4	MECR4120005	MECR4120005A
12.0	1.0R	24	75	12	4	MECR4120010	MECR4120010A
12.0	1.5R	24	75	12	4	MECR4120015	MECR4120015A
12.0	2.0R	24	75	12	4	MECR4120020	MECR4120020A
12.0	3.0R	24	75	12	4	MECR4120030	MECR4120030A

→ 切削條件表
Cutting Condition P.551

→ 技術資料
Technical Data P.622

M520

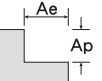
M520 Ultra Carbide End Mills

M520 極細鎢鋼銑刀系列

Table 33

M520 極細鎢鋼圓鼻銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

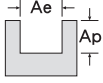
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	94m/min		75m/min		63m/min		37m/min		28m/min		75m/min		110m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	10,580	690	8,060	480	6,550	230	4,230	280	3,220	210	8,060	480	12,100	1,260
4mm	7,560	690	6,050	480	5,040	230	3,020	280	2,270	210	6,050	480	9,070	1,510
5mm	6,300	690	4,790	480	4,030	230	2,520	280	1,890	210	4,790	480	7,060	1,510
6mm	5,040	690	4,030	480	3,280	230	2,020	280	1,510	210	4,030	480	6,050	1,510
8mm	3,780	690	3,020	480	2,520	245	1,510	280	1,130	210	3,020	480	4,540	1,510
10mm	3,020	710	2,390	500	2,020	245	1,200	290	910	220	2,390	500	3,530	1,640
12mm	2,520	710	2,020	500	1,680	245	1,010	290	760	220	2,020	500	3,020	1,760
14mm	2,520	780	1,900	560	1,600	270	1,010	320	760	240	1,900	560	2,800	1,960
16mm	2,180	840	1,680	590	1,400	280	870	340	660	250	1,680	590	2,520	2,100
18mm	1,960	840	1,480	590	1,230	280	780	340	590	250	1,480	590	2,240	2,100
20mm	1,680	840	1,340	590	1,120	280	670	340	500	250	1,340	590	1,960	2,240
切削量 Cutting Amount (mm)	Ap=1.5D Ae≤0.1D 						Ap=1D Ae≤0.05D 						Ap=1.5D Ae≤0.1D 	

※ 切削公式 Cutting Formula : S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14) F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

Table 34

N620 奈米鎢鋼短刃型銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	118m/min		108m/min		68m/min		48m/min		118m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
1mm	28,310	510	25,245	405	18,910	270	12,570	120	29,900	540
2mm	15,345	520	13,365	405	9,800	270	6,630	120	15,740	550
3mm	10,490	570	8,415	405	6,290	280	4,750	140	10,490	600
4mm	8,670	560	7,080	400	5,100	270	3,720	135	8,670	560
6mm	6,290	530	5,250	530	3,660	250	2,630	130	6,290	530
8mm	4,750	530	3,960	380	2,770	250	1,980	130	4,750	530
10mm	3,760	530	3,170	380	2,230	250	1,580	130	3,760	530
12mm	3,170	530	2,620	380	1,840	250	1,340	130	3,170	530
切削量 Cutting Amount (mm)	D≤3, Ap=0.15D D>3, Ap=0.2D D≤6, Ap=0.1D D>6, Ap=0.15D 									

※ 切削公式 Cutting Formula : S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14) F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

- 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
- 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
- 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed rate(F) (10~40%).
- 以上數據為建議值，適當的條件仍需視機台狀況，夾治具品質，潤滑冷卻系統...等而改變。

These are recommended values which depend on the condition of the machine, fixture, lubricating & cooling systems... etc. They may have to be adapted.