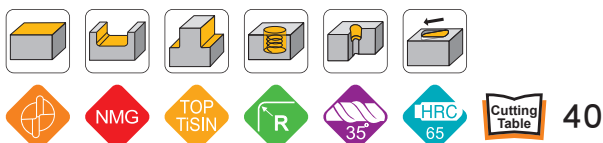


N620 NANO CARBIDE END MILLS- Square Type- Short Flute- Long Neck- With Corner Radii- 2F

Technical drawing of a turning tool. The tool consists of a cutting edge, a transition section, and a shank. Dimensions are labeled: $L1$ (length of cutting edge), $L2$ (length of transition section), L (total length), d (cutting edge diameter), $D(h6)$ (shank diameter), and R (radius of transition section).

超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	◎
粗銑 Roughing	◎



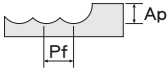
➡ 切削條件表 P.554
Cutting Condition

➡ 技術資料 P.622
Technical Data

Table 39

N620 奈米鎢鋼短刃型 / 短刃長柄型球刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

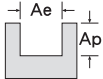
加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	230m/min		180m/min		140m/min		110m/min		230m/min	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.5R	32,000	2,000	32,000	2,000	32,000	1,700	32,000	1,360	32,000	2,000
1.0R	32,000	3,060	28,660	3,020	22,290	1,870	17,520	1,490	32,000	3,060
1.5R	24,420	3,400	19,110	2,720	14,860	1,700	11,680	1,360	24,420	3,400
2.0R	18,310	3,100	14,330	2,510	11,150	1,620	8,760	1,280	18,310	3,100
2.5R	14,650	2,980	11,470	2,250	8,920	1,450	7,010	1,150	14,650	2,980
3.0R	12,210	2,850	9,550	1,960	7,430	1,320	5,840	1,060	12,210	2,850
4.0R	9,160	2,420	7,170	1,740	5,570	1,150	4,380	890	9,160	2,420
5.0R	7,330	2,170	5,730	1,530	4,460	980	3,500	750	7,330	2,170
6.0R	6,100	2,040	4,780	1,400	3,720	820	2,920	680	6,100	2,040
切削量 Cutting Amount (mm)	Ap=0.02D Pf=0.05D 									

※ 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 40

N620 奈米鎢鋼短刃長頸型銑刀- 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			HRC 55~63			HRC<30		
切削速度 Vc	59m/min			59m/min			42m/min			25m/min			67m/min		
外徑 Diameter	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)
0.5mm- 2E	25,200	270	0.045	25,200	135	0.038	18,900	45	0.019	13,500	27	0.009	25,200	360	0.049
0.5mm- 4E	21,600	180	0.021	21,600	90	0.018	16,200	27	0.009	13,500	27	0.009	21,600	225	0.023
1.0mm- 6E	18,000	540	0.07	17,100	450	0.06	10,800	135	0.03	7,200	45	0.014	18,000	630	0.07
1.0mm- 8E	15,300	315	0.04	14,400	270	0.04	9,000	90	0.02	7,200	45	0.014	16,200	360	0.05
1.5mm- 8E	10,800	315	0.1	9,900	270	0.08	6,300	90	0.04	4,500	45	0.021	11,700	360	0.11
2.0mm- 8E	9,000	540	0.26	9,000	450	0.22	5,400	135	0.11	3,600	90	0.06	9,900	630	0.29
2.0mm- 10E	7,200	315	0.24	8,100	270	0.2	4,500	90	0.1	2,700	45	0.05	8,100	360	0.26
2.0mm- 12E	7,200	315	0.13	8,100	270	0.11	4,500	90	0.06	2,700	45	0.03	8,100	360	0.14
3.0mm- 08E	6,300	540	0.36	6,300	450	0.3	4,500	135	0.15	2,700	90	0.08	7,200	630	0.39
3.0mm- 12E	6,300	540	0.27	6,300	450	0.23	4,500	135	0.11	2,700	90	0.055	7,200	630	0.29
3.0mm- 16E	6,300	315	0.2	5,400	270	0.17	3,600	90	0.08	2,250	45	0.04	6,300	360	0.22
3.0mm- 20E	6,300	315	0.13	5,400	270	0.11	3,600	90	0.05	2,250	45	0.025	6,300	360	0.14
4.0mm- 16E	4,500	540	0.36	4,500	450	0.3	2,700	135	0.15	1,800	90	0.075	4,500	630	0.39
4.0mm- 20E	4,500	315	0.34	3,600	270	0.28	1,800	90	0.14	900	90	0.07	4,500	360	0.36
5.0mm- 20E	3,600	450	0.45	3,150	450	0.38	1,800	135	0.19	1,800	90	0.09	3,600	540	0.49
5.0mm- 30E	2,700	270	0.33	2,700	180	0.28	1,800	135	0.14	1,800	90	0.07	2,700	270	0.36
切削量 Cutting Amount (mm)															

- 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.