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SUMIE

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SLE/MLE

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● JSE,SUMIE,SUPE,MIE,SLE/MLE 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Copper 銅			Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼·合金鋼(~30HRC)			(30~45HRC) Alloy Steels, Tool Steels 調質鋼, SKD61, NAK等 Prehardened steels, AISI H13 合金鋼·工具鋼			Austenitic stainless steels SUS304,SUS316等 AISI 304,AISI 316 沃斯田鐵系列不銹鋼			Hardened steels SKD61,SKD11, NAK,STAVAX等 AISI H13 熱處理鋼(45~50HRC)		
	80~150m/min			50~100m/min			50~70m/min			30~60m/min			20~40m/min		
	Diameter 直徑(mm)	Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度
Side Milling 側面			Slotting 溝	Side Milling 側面		Slotting 溝	Side Milling 側面		Slotting 溝	Side Milling 側面		Slotting 溝	Side Milling 側面		Slotting 溝
0.2	40,000	90	30	40,000	-	120	40,000	-	100	28,000	-	60	32,000	-	25
0.3	40,000	130	40	40,000	-	160	40,000	-	120	28,000	-	70	32,000	-	35
0.4	40,000	170	55	40,000	-	200	40,000	-	160	28,000	-	90	24,000	-	35
0.5	40,000	210	70	40,000	320	250	40,000	240	190	25,000	200	120	19,000	75	60
0.6	40,000	245	85	38,000	380	300	33,000	270	210	21,000	220	130	16,000	75	60
0.7	40,000	285	95	36,000	420	330	28,000	300	240	18,000	240	140	14,000	75	60
0.8	40,000	330	110	34,000	480	380	25,000	340	270	16,000	260	150	12,000	75	60
0.9	40,000	375	125	32,000	540	430	22,000	370	290	14,000	280	160	10,600	75	60
1	40,000	420	140	30,000	600	480	20,000	400	320	12,600	300	180	9,600	75	60
1.5	32,000	800	270	20,000	600	480	14,000	400	320	8,400	300	180	6,400	75	60
2	24,000	1,000	330	15,000	600	480	10,000	400	400	6,300	300	180	4,800	75	60
2.5	19,000	1,000	330	12,000	600	480	8,200	400	320	5,100	300	180	3,800	75	60
3	16,000	1,000	330	10,000	600	480	7,000	400	320	4,200	300	180	3,200	75	60
4	12,000	1,000	330	7,500	600	480	5,200	400	320	3,100	300	180	2,400	75	60
5	9,600	1,000	330	6,000	600	480	4,200	400	320	2,500	300	180	1,900	75	60
6	8,000	1,000	330	5,000	600	480	3,500	400	320	2,100	300	180	1,600	75	60
8	6,000	1,000	330	4,000	520	410	2,800	350	280	1,600	260	150	1,200	65	50
10	4,800	1,000	330	3,200	450	360	2,200	300	240	1,300	230	130	1,000	65	50
12	4,000	1,000	330	2,700	410	320	1,900	270	210	1,100	210	120	800	65	50
16	3,000	1,000	330	2,000	240	190	1,400	210	160	840	160	100	600	60	45
20	2,400	1,000	330	1,600	200	160	1,100	170	130	680	140	80	480	50	40
25	1,900	1,000	330	1,300	160	130	900	140	110	540	120	70	380	45	35

Depth of cut (D:直徑Dia) 切削量基準	$\leq 0.1D (D \leq \phi 3)$ $\leq 0.2D (D > \phi 3)$		$\leq 1.5D$	$\leq 0.1D (D < \phi 2)$ $\leq 0.2D (D \geq \phi 2)$		$\leq 0.02D$	$\leq 0.02D (D < \phi 0.5)$ $\leq 0.05D (\phi 0.5 \leq D \leq \phi 2)$ $\leq 0.1D (D > \phi 2)$	$\leq 1D$
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1. Please use SI coating tools for work materials of 50~60HRC.
2. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
3. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4. When drilling, please set the feed rate at 1/3 or below of the above value.

1. 切削50~60 HRC 以上之材料時，請使用SI鍍膜之刀具。
2. 切削沃斯田鐵系列不銹鋼時，請使用非水溶性切削油效果較好。
3. 機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低迴轉數及進給速度。
4. 縱向進給時，進給速度請設定為上表之1/3以下。

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SPEED TIGER

切削條件表

● JSE,SUMIE,SUPE,MIE,SLE/MLE 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Carbon steels, Alloy steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼, 合金鋼(~30HRC)			Alloy steels, Tool steels 調質鋼, SKD61, NAK等 Prehardened steels, AISI H13 合金鋼, 工具鋼(30~45HRC)			Hardened steels SKD61,SKD11, NAK, STAVAX等 AISI H13 熱處理鋼(45~50HRC)		
Cutting Speed 切削速度	300m/min			200m/min			100m/min		
Diameter 直徑(mm)	Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min ⁻¹) 迴轉數	Feed Rate (mm/min) 進給速度	
		Side Milling 側面	Slotting 溝		Side Milling 側面	Slotting 溝		Side Milling 側面	Slotting 溝
1	40,000	800	640	30,000	600	480	30,000	240	190
2	40,000	1,600	1,280	30,000	1,200	960	15,900	240	190
3	30,000	1,800	1,440	21,200	1,200	960	10,600	240	190
4	23,800	1,900	1,520	15,900	1,200	960	7,900	240	190
5	19,000	1,900	1,520	12,700	1,200	960	6,300	240	190
6	15,900	1,900	1,520	10,600	1,200	960	5,300	240	190
8	11,900	1,550	1,240	7,900	990	790	4,000	220	175
10	9,500	1,330	1,060	6,300	860	680	3,200	200	160
12	7,900	1,200	960	5,300	750	600	2,600	200	160
Depth of cut (D:直徑Dia) 切削量基準									