被切削材 Work Material: 碳素鋼 : Carbon Steels S50C / SS400 : 1.1210 / 1.0036 : 1050 / A570 Gr.45 (~HRc22)

型號 Type NO.	刀具伸長量 Extension Length	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min-1)	進給速度 Feed (mm/min)	加工深度(Aa) Depth of Cut	加工寬度(Ap) Width of Cut	加工方式 Milling Type
UPER0405	18mm	110	8700~9200	1000~1400	0.03~0.08	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	1000~1400	0~0.3	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	500~800	1~1.5	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	400~700	4	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	1000~1400	4	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	1000~1400	4	0~0.3	側銑(Side milling)
UPER0405	18mm	110	8700~9200	1000~1400	8	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	1200~1600	8	0~0.3	側銑(Side milling)
UPER0405	18mm	130	10000~11000	1400~1800	0.03~0.08	0.03~0.08	3D銑(3D milling)
UPER0405	18mm	120	9000~10000	1600~2000	0~0.25	0~0.25	3D銑(3D milling)
UPER0502	18mm	110	7000~7500	800~1200	0.05~0.1	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	1400~1800	0~0.4	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	700~1000	2~2.5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	800~1200	5	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	1200~1600	5	0~0.4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	800~1200	10	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	1600~2000	10	0~0.4	側銑(Side milling)
UPER0502	18mm	150	9000~10000	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0502	18mm	140	8700~9200	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER0505	18mm	110	7000~7500	800~1200	0.05~0.1	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	1400~1800	0~0.4	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	700~1000	2~2.5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	800~1200	5	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	1200~1600	5	0~0.4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	800~1200	10	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	1600~2000	10	0~0.4	側銑(Side milling)
UPER0505	18mm	150	9000~10000	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0505	18mm	140	8700~9200	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER0605	20mm	120	6200~6700	800~1200	0.05~0.1	6	溝銑(Slotting)
UPER0605	20mm	115	6000~6500	1600~2000	0~0.4	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	700~1000	2~3	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	400~700	6	6	溝銑(Slotting)
UPER0605	20mm	120	6200~6700	800~1200	6	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1400~1800	6	0~0.4	側銑(Side milling)
UPER0605	20mm	100	5000~5500	500~800	6	4~5	側銑(Side milling)
UPER0605	20mm	120	6200~6700	800~1200	12	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1800~2200	12	0~0.4	側銑(Side milling)
UPER0605	20mm	175	9000~9500	1400~1800	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0605	20mm	155	8000~8500	2000~2400	0~0.3	0~0.3	3D銑(3D milling)
UPER0610	20mm	120	6200~6700	800~1200	0.05~0.1	6	溝銑(Slotting)
UPER0610	20mm	115	6000~6500	1600~2000	0~0.4	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	700~1000	2~3	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	400~700	6	6	溝銑(Slotting)
UPER0610	20mm	120	6200~6700	800~1200	6	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1400~1800	6	0~0.4	側銑(Side milling)
UPER0610	20mm	100	5000~5500	500~800	6	4~5	側銑(Side milling)
UPER0610	20mm	120	6200~6700	800~1200	12	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1800~2200	12	0~0.4	側銑(Side milling)
UPER0610	20mm	175	9000~9500	1400~1800	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0610	20mm	155	8000~8500	2000~2400	0~0.3	0~0.3	3D銑(3D milling)
UPER0805	25mm	130	5000~5500	800~1200	0.05~0.1	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	2000~2400	0~0.5	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	700~1100	3~4	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	500~800	8	8	溝銑(Slotting)
UPER0805	25mm	130	5000~5500	800~1200	8	0.05~0.1	側銑(Side milling)
UPER0805	25mm	85	3200~3700	1200~1600	8	0~0.5	側銑(Side milling)
UPER0805	25mm	95	3500~4000	700~1000	8	3~4	側銑(Side milling)
UPER0805	25mm	100	3700~4200	500~800	8	6~7	側銑(Side milling)
UPER0805	25mm	130	5000~5500	800~1200	16	0.05~0.1	側銑(Side milling)
UPER0805	25mm	110	4200~4700	1400~1800	16	0~0.5	側銑(Side milling)
UPER0805	25mm	80	3000~3500	1000~1400	16	1~2	側銑(Side milling)
UPER0805	25mm	175	6700~7200	1400~1800	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0805	25mm	165	6300~6800	2400~2800	0~0.3	0~0.3	3D銑(3D milling)
UPER0810	25mm	130	5000~5500	800~1200	0.05~0.1	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	2000~2400	0~0.5	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	700~1100	3~4	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	500~800	8	8	溝銑(Slotting)
UPER0810	25mm	130	5000~5500	800~1200	8	0.05~0.1	側銑(Side milling)
UPER0810	25mm	85	3200~3700	1200~1600	8	0~0.5	側銑(Side milling)
UPER0810	25mm	95	3500~4000	700~1000	8	3~4	側銑(Side milling)
UPER0810	25mm	100	3700~4200	500~800	8	6~7	側銑(Side milling)
UPER0810	25mm	130	5000~5500	800~1200	16	0.05~0.1	側銑(Side milling)
UPER0810	25mm	110	4200~4700	1400~1800	16	0~0.5	側銑(Side milling)
UPER0810	25mm	80	3000~3500	1000~1400	16	1~2	側銑(Side milling)
UPER0810	25mm	175	6700~7200	1400~1800	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0810	25mm	165	6300~6800	2400~2800	0~0.3	0~0.3	3D銑(3D milling)
UPER1005	30mm	140	4200~4700	800~1200	0.05~0.1	10	溝銑(Slotting)
UPER1005	30mm	125	3700~4200	1400~1800	0~0.5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	400~700	4~5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	400~700	10	10	溝銑(Slotting)
UPER1005	30mm	140	4200~4700	700~1100	10	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	1200~1600	10	0~0.5	側銑(Side milling)
UPER1005	30mm	125	3700~4200	500~800	10	1~2	側銑(Side milling)
UPER1005	30mm	90	2700~3200	500~800	10	4~5	側銑(Side milling)
UPER1005	30mm	90	2700~3200	300~600	10	7~8	側銑(Side milling)
UPER1005	30mm	140	4200~4700	700~1100	20	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	1000~1400	20	0~0.5	側銑(Side milling)
UPER1005	30mm	165	5000~5500	800~1200	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1005	30mm	135	4000~4500	1600~2000	0~0.4	0~0.4	3D銑(3D milling)
UPER1010	30mm	140	4200~4700	800~1200	0.05~0.1	10	溝銑(Slotting)
UPER1010	30mm	125	3700~4200	1400~1800	0~0.5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	400~700	4~5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	400~700	10	10	溝銑(Slotting)
UPER1010	30mm	140	4200~4700	700~1100	10	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	1200~1600	10	0~0.5	側銑(Side milling)
UPER1010	30mm	125	3700~4200	500~800	10	1~2	側銑(Side milling)
UPER1010	30mm	90	2700~3200	500~800	10	4~5	側銑(Side milling)
UPER1010	30mm	90	2700~3200	300~600	10	7~8	側銑(Side milling)
UPER1010	30mm	140	4200~4700	700~1100	20	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	1000~1400	20	0~0.5	側銑(Side milling)
UPER1010	30mm	165	5000~5500	800~1200	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1010	30mm	135	4000~4500	1600~2000	0~0.4	0~0.4	3D銑(3D milling)
UPER1020	30mm	140	4200~4700	800~1200	0.05~0.1	10	溝銑(Slotting)
UPER1020	30mm	125	3700~4200	1400~1800	0~0.5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	400~700	4~5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	400~700	10	10	溝銑(Slotting)
UPER1020	30mm	140	4200~4700	700~1100	10	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	1200~1600	10	0~0.5	側銑(Side milling)
UPER1020	30mm	125	3700~4200	500~800	10	1~2	側銑(Side milling)
UPER1020	30mm	90	2700~3200	500~800	10	4~5	側銑(Side milling)
UPER1020	30mm	90	2700~3200	300~600	10	7~8	側銑(Side milling)
UPER1020	30mm	140	4200~4700	700~1100	20	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	1000~1400	20	0~0.5	側銑(Side milling)
UPER1020	30mm	165	5000~5500	800~1200	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1020	30mm	135	4000~4500	1600~2000	0~0.4	0~0.4	3D銑(3D milling)
UPER1210	35mm	130	3300~3800	800~1200	0.1~0.15	12	溝銑(Slotting)
UPER1210	35mm	110	2700~3200	1200~1600	0~0.5	12	溝銑(Slotting)
UPER1210	35mm	95	2300~2800	500~800	2~3	12	溝銑(Slotting)
UPER1210	35mm	130	3300~3800	700~1100	12	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	1000~1400	12	0~0.5	側銑(Side milling)
UPER1210	35mm	80	2000~2400	700~1000	12	2~3	側銑(Side milling)
UPER1210	35mm	80	2000~2400	300~500	12	5~6	側銑(Side milling)
UPER1210	35mm	130	3300~3800	700~1100	24	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	1200~1600	24	0~0.5	側銑(Side milling)
UPER1210	35mm	80	2000~2400	300~500	24	1~2	側銑(Side milling)
UPER1210	35mm	150	3800~4300	800~1100	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1210	35mm	135	3400~3800	1400~1800	0~0.5	0~0.5	3D銑(3D milling)
UPER1220	35mm	130	3300~3800	800~1200	0.1~0.15	12	溝銑(Slotting)
UPER1220	35mm	110	2700~3200	1200~1600	0~0.5	12	溝銑(Slotting)
UPER1220	35mm	95	2300~2800	500~800	2~3	12	溝銑(Slotting)
UPER1220	35mm	130	3300~3800	700~1100	12	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	1000~1400	12	0~0.5	側銑(Side milling)
UPER1220	35mm	80	2000~2400	700~1000	12	2~3	側銑(Side milling)
UPER1220	35mm	80	2000~2400	300~500	12	5~6	側銑(Side milling)
UPER1220	35mm	130	3300~3800	700~1100	24	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	1200~1600	24	0~0.5	側銑(Side milling)
UPER1220	35mm	80	2000~2400	300~500	24	1~2	側銑(Side milling)
UPER1220	35mm	150	3800~4300	800~1100	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1220	35mm	135	3400~3800	1400~1800	0~0.5	0~0.5	3D銑(3D milling)
UPER1610	50mm	130	2300~2800	700~1000	0.1~0.15	16	溝銑(Slotting)
UPER1610	50mm	110	2000~2500	1000~1200	0~0.6	16	溝銑(Slotting)
UPER1610	50mm	95	1700~2200	400~700	3~4	16	溝銑(Slotting)
UPER1610	50mm	110	2000~2500	500~700	16	0.1~0.15	側銑(Side milling)
UPER1610	50mm	110	2000~2500	800~1200	16	0~0.6	側銑(Side milling)
UPER1610	50mm	85	1500~2000	500~700	16	3~4	側銑(Side milling)
UPER1610	50mm	110	2000~2500	500~700	32	0.1~0.15	側銑(Side milling)
UPER1610	50mm	110	2000~2500	800~1200	32	0~0.6	側銑(Side milling)
UPER1610	50mm	85	1500~2000	300~500	32	1~2	側銑(Side milling)
UPER1610	50mm	150	2800~3300	800~1100	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1610	50mm	140	2500~3000	1200~1600	0~0.5	0~0.5	3D銑(3D milling)
UPER1620	50mm	130	2300~2800	700~1000	0.1~0.15	16	溝銑(Slotting)
UPER1620	50mm	110	2000~2500	1000~1200	0~0.6	16	溝銑(Slotting)
UPER1620	50mm	95	1700~2200	400~700	3~4	16	溝銑(Slotting)
UPER1620	50mm	110	2000~2500	500~700	16	0.1~0.15	側銑(Side milling)
UPER1620	50mm	110	2000~2500	800~1200	16	0~0.6	側銑(Side milling)
UPER1620	50mm	85	1500~2000	500~700	16	3~4	側銑(Side milling)
UPER1620	50mm	110	2000~2500	500~700	32	0.1~0.15	側銑(Side milling)
UPER1620	50mm	110	2000~2500	800~1200	32	0~0.6	側銑(Side milling)
UPER1620	50mm	85	1500~2000	300~500	32	1~2	側銑(Side milling)
UPER1620	50mm	150	2800~3300	800~1100	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1620	50mm	140	2500~3000	1200~1600	0~0.5	0~0.5	3D銑(3D milling)
UPER2010	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2010	55mm	110	1600~2000	700~900	0~0.6	20	溝銑(Slotting)
UPER2010	55mm	95	1300~1700	200~300	3~4	20	溝銑(Slotting)
UPER2010	55mm	110	1600~2000	300~500	20	0.1~0.15	側銑(Side milling)
UPER2010	55mm	110	1600~2000	600~800	20	0~0.6	側銑(Side milling)
UPER2010	55mm	85	1200~1600	250~400	20	3~4	側銑(Side milling)
UPER2010	55mm	110	1600~2000	300~500	36	0.1~0.15	側銑(Side milling)
UPER2010	55mm	110	1600~2000	600~800	36	0~0.6	溝銑(Slotting)
UPER2010	55mm	85	1200~1600	250~450	36	1~2	溝銑(Slotting)
UPER2010	55mm	150	2300~2700	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER2010	55mm	140	2200~2600	1000~1400	0~0.5	0~0.5	3D銑(3D milling)
UPER2020	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2020	55mm	110	1600~2000	700~900	0~0.6	20	溝銑(Slotting)
UPER2020	55mm	95	1300~1700	200~300	3~4	20	溝銑(Slotting)
UPER2020	55mm	110	1600~2000	300~500	20	0.1~0.15	側銑(Side milling)
UPER2020	55mm	110	1600~2000	600~800	20	0~0.6	側銑(Side milling)
UPER2020	55mm	85	1200~1600	250~400	20	3~4	側銑(Side milling)
UPER2020	55mm	110	1600~2000	300~500	36	0.1~0.15	側銑(Side milling)
UPER2020	55mm	110	1600~2000	600~800	36	0~0.6	溝銑(Slotting)
UPER2020	55mm	85	1200~1600	250~450	36	1~2	溝銑(Slotting)
UPER2020	55mm	150	2300~2700	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER2020	55mm	140	2200~2600	1000~1400	0~0.5	0~0.5	3D銑(3D milling)

附註 / Note:
建議冷卻方式為濕式。
Suggest to use Wet coolant.

被切削材 Work Material: 鉻鉬合金鋼 SCM440 : 1.7225 : 4140 : 42CrMoA (HRc25~28)

型號 Type NO.	刀具伸長量 Extension Length	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min-1)	進給速度 Feed (mm/min)	加工深度(Aa) Depth of Cut	加工寬度(Ap) Width of Cut	加工方式 Milling Type
UPER0405	18mm	110	8700~9200	800~1200	0.03~0.08	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	800~1200	0~0.3	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	400~700	1~1.5	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	300~500	4	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	800~1200	4	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	800~1200	4	0~0.3	側銑(Side milling)
UPER0405	18mm	110	8700~9200	800~1200	8	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	1000~1400	8	0~0.3	側銑(Side milling)
UPER0405	18mm	130	10000~11000	1200~1600	0.03~0.08	0.03~0.08	3D銑(3D milling)
UPER0405	18mm	120	9000~10000	1400~1800	0~0.25	0~0.25	3D銑(3D milling)
UPER0502	18mm	110	7000~7500	700~1100	0.05~0.1	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	1200~1600	0~0.4	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	500~800	2~2.5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	700~1100	5	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	1000~1400	5	0~0.4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	700~1100	10	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	1400~1800	10	0~0.4	側銑(Side milling)
UPER0502	18mm	150	9000~10000	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0502	18mm	140	8700~9200	1600~2000	0~0.3	0~0.3	3D銑(3D milling)
UPER0505	18mm	110	7000~7500	700~1100	0.05~0.1	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	1200~1600	0~0.4	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	500~800	2~2.5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	700~1100	5	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	1000~1400	5	0~0.4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	700~1100	10	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	1400~1800	10	0~0.4	側銑(Side milling)
UPER0505	18mm	150	9000~10000	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0505	18mm	140	8700~9200	1600~2000	0~0.3	0~0.3	3D銑(3D milling)
UPER0605	20mm	120	6200~6700	700~1000	0.05~0.1	6	溝銑(Slotting)
UPER0605	20mm	115	6000~6500	1400~1800	0~0.4	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	500~800	2~3	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	300~600	6	6	溝銑(Slotting)
UPER0605	20mm	120	6200~6700	700~1000	6	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1200~1600	6	0~0.4	側銑(Side milling)
UPER0605	20mm	120	6200~6700	700~1000	12	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1600~2000	12	0~0.4	側銑(Side milling)
UPER0605	20mm	175	9000~9500	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0605	20mm	155	8000~8500	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER0610	20mm	120	6200~6700	700~1000	0.05~0.1	6	溝銑(Slotting)
UPER0610	20mm	115	6000~6500	1400~1800	0~0.4	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	500~800	2~3	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	300~600	6	6	溝銑(Slotting)
UPER0610	20mm	120	6200~6700	700~1000	6	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1200~1600	6	0~0.4	側銑(Side milling)
UPER0610	20mm	120	6200~6700	700~1000	12	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1600~2000	12	0~0.4	側銑(Side milling)
UPER0610	20mm	175	9000~9500	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0610	20mm	155	8000~8500	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER0805	25mm	130	5000~5500	700~1000	0.05~0.1	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	1800~2200	0~0.5	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	500~800	3~4	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	300~600	8	8	溝銑(Slotting)
UPER0805	25mm	130	5000~5500	700~1000	8	0.05~0.1	側銑(Side milling)
UPER0805	25mm	85	3200~3700	1000~1400	8	0~0.5	側銑(Side milling)
UPER0805	25mm	95	3500~4000	500~800	8	3~4	側銑(Side milling)
UPER0805	25mm	130	5000~5500	700~1000	16	0.05~0.1	側銑(Side milling)
UPER0805	25mm	110	4200~4700	1200~1600	16	0~0.5	側銑(Side milling)
UPER0805	25mm	175	6700~7200	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0805	25mm	165	6300~6800	2000~2400	0~0.3	0~0.3	3D銑(3D milling)
UPER0810	25mm	130	5000~5500	700~1000	0.05~0.1	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	1800~2200	0~0.5	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	500~800	3~4	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	300~600	8	8	溝銑(Slotting)
UPER0810	25mm	130	5000~5500	700~1000	8	0.05~0.1	側銑(Side milling)
UPER0810	25mm	85	3200~3700	1000~1400	8	0~0.5	側銑(Side milling)
UPER0810	25mm	95	3500~4000	500~800	8	3~4	側銑(Side milling)
UPER0810	25mm	130	5000~5500	700~1000	16	0.05~0.1	側銑(Side milling)
UPER0810	25mm	110	4200~4700	1200~1600	16	0~0.5	側銑(Side milling)
UPER0810	25mm	175	6700~7200	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0810	25mm	165	6300~6800	2000~2400	0~0.3	0~0.3	3D銑(3D milling)
UPER1005	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1005	30mm	125	3700~4200	1200~1600	0~0.5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1005	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	1000~1400	10	0~0.5	側銑(Side milling)
UPER1005	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1005	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1005	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	800~1200	20	0~0.5	側銑(Side milling)
UPER1005	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1005	30mm	135	4000~4500	1200~1600	0~0.4	0~0.4	3D銑(3D milling)
UPER1010	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1010	30mm	125	3700~4200	1200~1600	0~0.5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1010	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	1000~1400	10	0~0.5	側銑(Side milling)
UPER1010	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1010	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1010	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	800~1200	20	0~0.5	側銑(Side milling)
UPER1010	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1010	30mm	135	4000~4500	1200~1600	0~0.4	0~0.4	3D銑(3D milling)
UPER1020	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1020	30mm	125	3700~4200	1200~1600	0~0.5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1020	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	1000~1400	10	0~0.5	側銑(Side milling)
UPER1020	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1020	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1020	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	800~1200	20	0~0.5	側銑(Side milling)
UPER1020	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1020	30mm	135	4000~4500	1200~1600	0~0.4	0~0.4	3D銑(3D milling)
UPER1210	35mm	130	3300~3800	700~1100	0.1~0.15	12	溝銑(Slotting)
UPER1210	35mm	110	2700~3200	1000~1400	0~0.5	12	溝銑(Slotting)
UPER1210	35mm	95	2300~2800	400~700	2~3	12	溝銑(Slotting)
UPER1210	35mm	130	3300~3800	500~800	12	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	800~1200	12	0~0.5	側銑(Side milling)
UPER1210	35mm	80	2000~2400	500~800	12	2~3	側銑(Side milling)
UPER1210	35mm	130	3300~3800	500~800	24	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	1000~1400	24	0~0.5	側銑(Side milling)
UPER1210	35mm	150	3800~4300	500~800	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1210	35mm	135	3400~3800	1200~1600	0~0.5	0~0.5	3D銑(3D milling)
UPER1220	35mm	130	3300~3800	700~1100	0.1~0.15	12	溝銑(Slotting)
UPER1220	35mm	110	2700~3200	1000~1400	0~0.5	12	溝銑(Slotting)
UPER1220	35mm	95	2300~2800	400~700	2~3	12	溝銑(Slotting)
UPER1220	35mm	130	3300~3800	500~800	12	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	800~1200	12	0~0.5	側銑(Side milling)
UPER1220	35mm	80	2000~2400	500~800	12	2~3	側銑(Side milling)
UPER1220	35mm	130	3300~3800	500~800	24	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	1000~1400	24	0~0.5	側銑(Side milling)
UPER1220	35mm	150	3800~4300	500~800	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1220	35mm	135	3400~3800	1200~1600	0~0.5	0~0.5	3D銑(3D milling)
UPER1610	50mm	130	2300~2800	600~900	0.1~0.15	16	溝銑(Slotting)
UPER1610	50mm	110	2000~2500	800~1000	0~0.6	16	溝銑(Slotting)
UPER1610	50mm	95	1700~2200	300~600	3~4	16	溝銑(Slotting)
UPER1610	50mm	130	2300~2800	400~600	16	0.1~0.15	側銑(Side milling)
UPER1610	50mm	110	2000~2500	700~1000	16	0~0.6	側銑(Side milling)
UPER1610	50mm	85	1500~2000	400~600	16	3~4	側銑(Side milling)
UPER1610	50mm	130	2300~2800	400~600	32	0.1~0.15	側銑(Side milling)
UPER1610	50mm	110	2000~2500	700~1000	32	0~0.6	側銑(Side milling)
UPER1610	50mm	150	2800~3300	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1610	50mm	140	2500~3000	1100~1500	0~0.5	0~0.5	3D銑(3D milling)
UPER1620	50mm	130	2300~2800	600~900	0.1~0.15	16	溝銑(Slotting)
UPER1620	50mm	110	2000~2500	800~1000	0~0.6	16	溝銑(Slotting)
UPER1620	50mm	95	1700~2200	300~600	3~4	16	溝銑(Slotting)
UPER1620	50mm	130	2300~2800	400~600	16	0.1~0.15	側銑(Side milling)
UPER1620	50mm	110	2000~2500	700~1000	16	0~0.6	側銑(Side milling)
UPER1620	50mm	85	1500~2000	400~600	16	3~4	側銑(Side milling)
UPER1620	50mm	130	2300~2800	400~600	32	0.1~0.15	側銑(Side milling)
UPER1620	50mm	110	2000~2500	700~1000	32	0~0.6	側銑(Side milling)
UPER1620	50mm	150	2800~3300	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1620	50mm	140	2500~3000	1100~1500	0~0.5	0~0.5	3D銑(3D milling)
UPER2010	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2010	55mm	100	1400~1800	600~800	0~0.6	20	溝銑(Slotting)
UPER2010	55mm	95	1300~1700	180~280	3~4	20	溝銑(Slotting)
UPER2010	55mm	100	1400~1800	300~400	20	0.1~0.15	側銑(Side milling)
UPER2010	55mm	100	1400~1800	600~800	20	0~0.6	側銑(Side milling)
UPER2010	55mm	85	1200~1600	200~350	20	3~4	側銑(Side milling)
UPER2010	55mm	100	1400~1800	300~400	36	0.1~0.15	側銑(Side milling)
UPER2010	55mm	100	1400~1800	600~800	36	0~0.6	溝銑(Slotting)
UPER2010	55mm	150	2300~2700	700~1000	0.1~0.15	0.1~0.15	溝銑(Slotting)
UPER2010	55mm	140	2200~2600	1000~1400	0~0.5	0~0.5	側銑(Side milling)
UPER2020	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2020	55mm	100	1400~1800	600~800	0~0.6	20	溝銑(Slotting)
UPER2020	55mm	95	1300~1700	180~280	3~4	20	溝銑(Slotting)
UPER2020	55mm	100	1400~1800	300~400	20	0.1~0.15	側銑(Side milling)
UPER2020	55mm	100	1400~1800	600~800	20	0~0.6	側銑(Side milling)
UPER2020	55mm	85	1200~1600	200~350	20	3~4	側銑(Side milling)
UPER2020	55mm	100	1400~1800	300~400	36	0.1~0.15	側銑(Side milling)
UPER2020	55mm	100	1400~1800	600~800	36	0~0.6	溝銑(Slotting)
UPER2020	55mm	150	2300~2700	700~1000	0.1~0.15	0.1~0.15	溝銑(Slotting)
UPER2020	55mm	140	2200~2600	1000~1400	0~0.5	0~0.5	側銑(Side milling)

附註 / Note:
建議冷卻方式為濕式。
Suggest to use Wet coolant.

被切削材 Work Material: 合金工具鋼 / 碳工具鋼 : Alloy Tool Steels / Carbon Tool Steels P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2 (HRc23~32)

型號 Type NO.	刀具伸長量 Extension Length	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min-1)	進給速度 Feed (mm/min)	加工深度(Aa) Depth of Cut	加工寬度(Ap) Width of Cut	加工方式 Milling Type
UPER0405	18mm	110	8700~9200	800~1200	0.03~0.08	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	800~1200	0~0.3	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	400~700	1~1.5	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	300~500	4	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	800~1200	4	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	800~1200	4	0~0.3	側銑(Side milling)
UPER0405	18mm	110	8700~9200	800~1200	8	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	1000~1400	8	0~0.3	側銑(Side milling)
UPER0405	18mm	130	10000~11000	1200~1600	0.03~0.08	0.03~0.08	3D銑(3D milling)
UPER0405	18mm	120	9000~10000	1400~1800	0~0.25	0~0.25	3D銑(3D milling)
UPER0502	18mm	110	7000~7500	700~1100	0.05~0.1	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	1200~1600	0~0.4	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	500~800	2~2.5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	700~1100	5	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	1000~1400	5	0~0.4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	700~1100	10	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	1400~1800	10	0~0.4	側銑(Side milling)
UPER0502	18mm	150	9000~10000	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0502	18mm	140	8700~9200	1600~2000	0~0.3	0~0.3	3D銑(3D milling)
UPER0505	18mm	110	7000~7500	700~1100	0.05~0.1	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	1200~1600	0~0.4	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	500~800	2~2.5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	700~1100	5	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	1000~1400	5	0~0.4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	700~1100	10	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	1400~1800	10	0~0.4	側銑(Side milling)
UPER0505	18mm	150	9000~10000	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0505	18mm	140	8700~9200	1600~2000	0~0.3	0~0.3	3D銑(3D milling)
UPER0605	20mm	120	6200~6700	700~1000	0.05~0.1	6	溝銑(Slotting)
UPER0605	20mm	115	6000~6500	1400~1800	0~0.4	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	500~800	2~3	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	300~600	6	6	溝銑(Slotting)
UPER0605	20mm	120	6200~6700	700~1000	6	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1200~1600	6	0~0.4	側銑(Side milling)
UPER0605	20mm	120	6200~6700	700~1000	12	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1600~2000	12	0~0.4	側銑(Side milling)
UPER0605	20mm	175	9000~9500	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0605	20mm	155	8000~8500	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER0610	20mm	120	6200~6700	700~1000	0.05~0.1	6	溝銑(Slotting)
UPER0610	20mm	115	6000~6500	1400~1800	0~0.4	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	500~800	2~3	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	300~600	6	6	溝銑(Slotting)
UPER0610	20mm	120	6200~6700	700~1000	6	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1200~1600	6	0~0.4	側銑(Side milling)
UPER0610	20mm	120	6200~6700	700~1000	12	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1600~2000	12	0~0.4	側銑(Side milling)
UPER0610	20mm	175	9000~9500	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0610	20mm	155	8000~8500	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER0805	25mm	130	5000~5500	700~1000	0.05~0.1	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	1800~2200	0~0.5	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	500~800	3~4	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	300~600	8	8	溝銑(Slotting)
UPER0805	25mm	130	5000~5500	700~1000	8	0.05~0.1	側銑(Side milling)
UPER0805	25mm	85	3200~3700	1000~1400	8	0~0.5	側銑(Side milling)
UPER0805	25mm	95	3500~4000	500~800	8	3~4	側銑(Side milling)
UPER0805	25mm	130	5000~5500	700~1000	16	0.05~0.1	側銑(Side milling)
UPER0805	25mm	110	4200~4700	1200~1600	16	0~0.5	側銑(Side milling)
UPER0805	25mm	175	6700~7200	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0805	25mm	165	6300~6800	2000~2400	0~0.3	0~0.3	3D銑(3D milling)
UPER0810	25mm	130	5000~5500	700~1000	0.05~0.1	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	1800~2200	0~0.5	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	500~800	3~4	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	300~600	8	8	溝銑(Slotting)
UPER0810	25mm	130	5000~5500	700~1000	8	0.05~0.1	側銑(Side milling)
UPER0810	25mm	85	3200~3700	1000~1400	8	0~0.5	側銑(Side milling)
UPER0810	25mm	95	3500~4000	500~800	8	3~4	側銑(Side milling)
UPER0810	25mm	130	5000~5500	700~1000	16	0.05~0.1	側銑(Side milling)
UPER0810	25mm	110	4200~4700	1200~1600	16	0~0.5	側銑(Side milling)
UPER0810	25mm	175	6700~7200	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0810	25mm	165	6300~6800	2000~2400	0~0.3	0~0.3	3D銑(3D milling)
UPER1005	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1005	30mm	125	3700~4200	1200~1600	0~0.5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1005	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	1000~1400	10	0~0.5	側銑(Side milling)
UPER1005	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1005	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1005	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	800~1200	20	0~0.5	側銑(Side milling)
UPER1005	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1005	30mm	135	4000~4500	1200~1600	0~0.4	0~0.4	3D銑(3D milling)
UPER1010	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1010	30mm	125	3700~4200	1200~1600	0~0.5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1010	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	1000~1400	10	0~0.5	側銑(Side milling)
UPER1010	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1010	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1010	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	800~1200	20	0~0.5	側銑(Side milling)
UPER1010	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1010	30mm	135	4000~4500	1200~1600	0~0.4	0~0.4	3D銑(3D milling)
UPER1020	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1020	30mm	125	3700~4200	1200~1600	0~0.5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1020	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	1000~1400	10	0~0.5	側銑(Side milling)
UPER1020	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1020	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1020	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	800~1200	20	0~0.5	側銑(Side milling)
UPER1020	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1020	30mm	135	4000~4500	1200~1600	0~0.4	0~0.4	3D銑(3D milling)
UPER1210	35mm	130	3300~3800	700~1100	0.1~0.15	12	溝銑(Slotting)
UPER1210	35mm	110	2700~3200	1000~1400	0~0.5	12	溝銑(Slotting)
UPER1210	35mm	95	2300~2800	400~700	2~3	12	溝銑(Slotting)
UPER1210	35mm	130	3300~3800	500~800	12	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	800~1200	12	0~0.5	側銑(Side milling)
UPER1210	35mm	80	2000~2400	500~800	12	2~3	側銑(Side milling)
UPER1210	35mm	130	3300~3800	500~800	24	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	1000~1400	24	0~0.5	側銑(Side milling)
UPER1210	35mm	150	3800~4300	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1210	35mm	135	3400~3800	1200~1600	0~0.5	0~0.5	3D銑(3D milling)
UPER1220	35mm	130	3300~3800	700~1100	0.1~0.15	12	溝銑(Slotting)
UPER1220	35mm	110	2700~3200	1000~1400	0~0.5	12	溝銑(Slotting)
UPER1220	35mm	95	2300~2800	400~700	2~3	12	溝銑(Slotting)
UPER1220	35mm	130	3300~3800	500~800	12	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	800~1200	12	0~0.5	側銑(Side milling)
UPER1220	35mm	80	2000~2400	500~800	12	2~3	側銑(Side milling)
UPER1220	35mm	130	3300~3800	500~800	24	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	1000~1400	24	0~0.5	側銑(Side milling)
UPER1220	35mm	150	3800~4300	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1220	35mm	135	3400~3800	1200~1600	0~0.5	0~0.5	3D銑(3D milling)
UPER1610	50mm	130	2300~2800	600~900	0.1~0.15	16	溝銑(Slotting)
UPER1610	50mm	110	2000~2500	800~1000	0~0.6	16	溝銑(Slotting)
UPER1610	50mm	95	1700~2200	300~600	3~4	16	溝銑(Slotting)
UPER1610	50mm	100	1800~2200	400~600	16	0.1~0.15	側銑(Side milling)
UPER1610	50mm	110	2000~2500	700~1000	16	0~0.6	側銑(Side milling)
UPER1610	50mm	85	1500~2000	400~600	16	3~4	側銑(Side milling)
UPER1610	50mm	100	1800~2200	400~600	32	0.1~0.15	側銑(Side milling)
UPER1610	50mm	110	2000~2500	700~1000	32	0~0.6	側銑(Side milling)
UPER1610	50mm	150	2800~3300	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1610	50mm	140	2500~3000	1100~1500	0~0.5	0~0.5	3D銑(3D milling)
UPER1620	50mm	130	2300~2800	600~900	0.1~0.15	16	溝銑(Slotting)
UPER1620	50mm	110	2000~2500	800~1000	0~0.6	16	溝銑(Slotting)
UPER1620	50mm	95	1700~2200	300~600	3~4	16	溝銑(Slotting)
UPER1620	50mm	100	1800~2200	400~600	16	0.1~0.15	側銑(Side milling)
UPER1620	50mm	110	2000~2500	700~1000	16	0~0.6	側銑(Side milling)
UPER1620	50mm	85	1500~2000	400~600	16	3~4	側銑(Side milling)
UPER1620	50mm	100	1800~2200	400~600	32	0.1~0.15	側銑(Side milling)
UPER1620	50mm	110	2000~2500	700~1000	32	0~0.6	側銑(Side milling)
UPER1620	50mm	150	2800~3300	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1620	50mm	140	2500~3000	1100~1500	0~0.5	0~0.5	3D銑(3D milling)
UPER2010	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2010	55mm	100	1400~1800	600~800	0~0.6	20	溝銑(Slotting)
UPER2010	55mm	95	1300~1700	180~280	3~4	20	溝銑(Slotting)
UPER2010	55mm	100	1400~1800	300~400	20	0.1~0.15	側銑(Side milling)
UPER2010	55mm	100	1400~1800	600~800	20	0~0.6	側銑(Side milling)
UPER2010	55mm	85	1200~1600	200~350	20	3~4	側銑(Side milling)
UPER2010	55mm	100	1400~1800	300~400	36	0.1~0.15	側銑(Side milling)
UPER2010	55mm	100	1400~1800	600~800	36	0~0.6	溝銑(Slotting)
UPER2010	55mm	150	2300~2700	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER2010	55mm	140	2200~2600	1000~1400	0~0.5	0~0.5	3D銑(3D milling)
UPER2020	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2020	55mm	100	1400~1800	600~800	0~0.6	20	溝銑(Slotting)
UPER2020	55mm	95	1300~1700	180~280	3~4	20	溝銑(Slotting)
UPER2020	55mm	100	1400~1800	300~400	20	0.1~0.15	側銑(Side milling)
UPER2020	55mm	100	1400~1800	600~800	20	0~0.6	側銑(Side milling)
UPER2020	55mm	85	1200~1600	200~350	20	3~4	側銑(Side milling)
UPER2020	55mm	100	1400~1800	300~400	36	0.1~0.15	側銑(Side milling)
UPER2020	55mm	100	1400~1800	600~800	36	0~0.6	溝銑(Slotting)
UPER2020	55mm	150	2300~2700	700~1000	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER2020	55mm	140	2200~2600	1000~1400	0~0.5	0~0.5	3D銑(3D milling)

附註 / Note:
建議冷卻方式為濕式。
Suggest to use Wet coolant.

被切削材 Work Material: 沃斯田鐵系不銹鋼 : Stainless Steels 【Easy】 SUS304 : 1.4301 : AISI 304 (HRc28~32)

型號 Type NO.	刀具伸長量 Extension Length	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min-1)	進給速度 Feed (mm/min)	加工深度(Aa) Depth of Cut	加工寬度(Ap) Width of Cut	加工方式 Milling Type
UPER0405	18mm	110	8700~9200	800~1200	0.03~0.08	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	700~1100	0~0.3	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	400~700	1~1.5	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	300~500	4	4	溝銑(Slotting)
UPER0405	18mm	110	8700~9200	800~1200	4	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	700~1100	4	0~0.3	側銑(Side milling)
UPER0405	18mm	110	8700~9200	800~1200	8	0.03~0.08	側銑(Side milling)
UPER0405	18mm	110	8700~9200	800~1200	8	0~0.3	側銑(Side milling)
UPER0405	18mm	130	10000~11000	1200~1600	0.03~0.08	0.03~0.08	3D銑(3D milling)
UPER0405	18mm	120	9000~10000	1200~1600	0~0.25	0~0.25	3D銑(3D milling)
UPER0502	18mm	110	7000~7500	700~1100	0.05~0.1	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	1000~1400	0~0.4	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	500~800	2~2.5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0502	18mm	110	7000~7500	700~1100	5	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	800~1200	5	0~0.4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0502	18mm	110	7000~7500	700~1100	10	0.05~0.1	側銑(Side milling)
UPER0502	18mm	110	7000~7500	1200~1600	10	0~0.4	側銑(Side milling)
UPER0502	18mm	150	9000~10000	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0502	18mm	140	8700~9200	1400~1800	0~0.3	0~0.3	3D銑(3D milling)
UPER0505	18mm	110	7000~7500	700~1100	0.05~0.1	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	1000~1400	0~0.4	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	500~800	2~2.5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	400~700	5	5	溝銑(Slotting)
UPER0505	18mm	110	7000~7500	700~1100	5	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	800~1200	5	0~0.4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	500~800	5	3~4	側銑(Side milling)
UPER0505	18mm	110	7000~7500	700~1100	10	0.05~0.1	側銑(Side milling)
UPER0505	18mm	110	7000~7500	1200~1600	10	0~0.4	側銑(Side milling)
UPER0505	18mm	150	9000~10000	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0505	18mm	140	8700~9200	1400~1800	0~0.3	0~0.3	3D銑(3D milling)
UPER0605	20mm	120	6200~6700	700~1000	0.05~0.1	6	溝銑(Slotting)
UPER0605	20mm	115	6000~6500	1200~1600	0~0.4	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	500~800	2~3	6	溝銑(Slotting)
UPER0605	20mm	110	5700~6200	300~600	6	6	溝銑(Slotting)
UPER0605	20mm	120	6200~6700	700~1000	6	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1000~1400	6	0~0.4	側銑(Side milling)
UPER0605	20mm	120	6200~6700	700~1000	12	0.05~0.1	側銑(Side milling)
UPER0605	20mm	100	5000~5500	1400~1800	12	0~0.4	側銑(Side milling)
UPER0605	20mm	175	9000~9500	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0605	20mm	155	8000~8500	1600~2000	0~0.3	0~0.3	3D銑(3D milling)
UPER0610	20mm	120	6200~6700	700~1000	0.05~0.1	6	溝銑(Slotting)
UPER0610	20mm	115	6000~6500	1200~1600	0~0.4	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	500~800	2~3	6	溝銑(Slotting)
UPER0610	20mm	110	5700~6200	300~600	6	6	溝銑(Slotting)
UPER0610	20mm	120	6200~6700	700~1000	6	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1000~1400	6	0~0.4	側銑(Side milling)
UPER0610	20mm	120	6200~6700	700~1000	12	0.05~0.1	側銑(Side milling)
UPER0610	20mm	100	5000~5500	1400~1800	12	0~0.4	側銑(Side milling)
UPER0610	20mm	175	9000~9500	1200~1600	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0610	20mm	155	8000~8500	1600~2000	0~0.3	0~0.3	3D銑(3D milling)
UPER0805	25mm	130	5000~5500	700~1000	0.05~0.1	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	1600~2000	0~0.5	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	500~800	3~4	8	溝銑(Slotting)
UPER0805	25mm	110	4200~4700	300~600	8	8	溝銑(Slotting)
UPER0805	25mm	130	5000~5500	700~1000	8	0.05~0.1	側銑(Side milling)
UPER0805	25mm	85	3200~3700	800~1200	8	0~0.5	側銑(Side milling)
UPER0805	25mm	95	3500~4000	500~800	8	3~4	側銑(Side milling)
UPER0805	25mm	130	5000~5500	700~1000	16	0.05~0.1	側銑(Side milling)
UPER0805	25mm	110	4200~4700	1000~1400	16	0~0.5	側銑(Side milling)
UPER0805	25mm	175	6700~7200	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0805	25mm	165	6300~6800	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER0810	25mm	130	5000~5500	700~1000	0.05~0.1	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	1600~2000	0~0.5	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	500~800	3~4	8	溝銑(Slotting)
UPER0810	25mm	110	4200~4700	300~600	8	8	溝銑(Slotting)
UPER0810	25mm	130	5000~5500	700~1000	8	0.05~0.1	側銑(Side milling)
UPER0810	25mm	85	3200~3700	800~1200	8	0~0.5	側銑(Side milling)
UPER0810	25mm	95	3500~4000	500~800	8	3~4	側銑(Side milling)
UPER0810	25mm	130	5000~5500	700~1000	16	0.05~0.1	側銑(Side milling)
UPER0810	25mm	110	4200~4700	1000~1400	16	0~0.5	側銑(Side milling)
UPER0810	25mm	175	6700~7200	1000~1400	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER0810	25mm	165	6300~6800	1800~2200	0~0.3	0~0.3	3D銑(3D milling)
UPER1005	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1005	30mm	125	3700~4200	1000~1400	0~0.5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1005	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1005	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	800~1200	10	0~0.5	側銑(Side milling)
UPER1005	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1005	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1005	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1005	30mm	125	3700~4200	700~1100	20	0~0.5	側銑(Side milling)
UPER1005	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1005	30mm	135	4000~4500	1000~1400	0~0.4	0~0.4	3D銑(3D milling)
UPER1010	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1010	30mm	125	3700~4200	1000~1400	0~0.5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1010	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1010	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	800~1200	10	0~0.5	側銑(Side milling)
UPER1010	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1010	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1010	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1010	30mm	125	3700~4200	700~1100	20	0~0.5	側銑(Side milling)
UPER1010	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1010	30mm	135	4000~4500	1000~1400	0~0.4	0~0.4	3D銑(3D milling)
UPER1020	30mm	140	4200~4700	700~1000	0.05~0.1	10	溝銑(Slotting)
UPER1020	30mm	125	3700~4200	1000~1400	0~0.5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	300~600	4~5	10	溝銑(Slotting)
UPER1020	30mm	90	2700~3200	300~600	10	10	溝銑(Slotting)
UPER1020	30mm	140	4200~4700	500~800	10	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	800~1200	10	0~0.5	側銑(Side milling)
UPER1020	30mm	125	3700~4200	400~700	10	1~2	側銑(Side milling)
UPER1020	30mm	90	2700~3200	400~700	10	4~5	側銑(Side milling)
UPER1020	30mm	140	4200~4700	500~800	20	0.05~0.1	側銑(Side milling)
UPER1020	30mm	125	3700~4200	700~1100	20	0~0.5	側銑(Side milling)
UPER1020	30mm	165	5000~5500	700~1000	0.05~0.1	0.05~0.1	3D銑(3D milling)
UPER1020	30mm	135	4000~4500	1000~1400	0~0.4	0~0.4	3D銑(3D milling)
UPER1210	35mm	130	3300~3800	700~1100	0.1~0.15	12	溝銑(Slotting)
UPER1210	35mm	110	2700~3200	800~1200	0~0.5	12	溝銑(Slotting)
UPER1210	35mm	95	2300~2800	400~700	2~3	12	溝銑(Slotting)
UPER1210	35mm	130	3300~3800	500~800	12	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	700~1100	12	0~0.5	側銑(Side milling)
UPER1210	35mm	80	2000~2400	500~800	12	2~3	側銑(Side milling)
UPER1210	35mm	130	3300~3800	500~800	24	0.1~0.15	側銑(Side milling)
UPER1210	35mm	110	2700~3200	800~1200	24	0~0.5	側銑(Side milling)
UPER1210	35mm	150	3800~4300	600~900	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1210	35mm	135	3400~3800	1000~1400	0~0.5	0~0.5	3D銑(3D milling)
UPER1220	35mm	130	3300~3800	700~1100	0.1~0.15	12	溝銑(Slotting)
UPER1220	35mm	110	2700~3200	800~1200	0~0.5	12	溝銑(Slotting)
UPER1220	35mm	95	2300~2800	400~700	2~3	12	溝銑(Slotting)
UPER1220	35mm	130	3300~3800	500~800	12	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	700~1100	12	0~0.5	側銑(Side milling)
UPER1220	35mm	80	2000~2400	500~800	12	2~3	側銑(Side milling)
UPER1220	35mm	130	3300~3800	500~800	24	0.1~0.15	側銑(Side milling)
UPER1220	35mm	110	2700~3200	800~1200	24	0~0.5	側銑(Side milling)
UPER1220	35mm	150	3800~4300	600~900	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1220	35mm	135	3400~3800	1000~1400	0~0.5	0~0.5	3D銑(3D milling)
UPER1610	50mm	130	2300~2800	500~800	0.1~0.15	16	溝銑(Slotting)
UPER1610	50mm	100	1800~2200	600~900	0~0.6	16	溝銑(Slotting)
UPER1610	50mm	95	1700~2200	300~600	2~3	16	溝銑(Slotting)
UPER1610	50mm	95	1700~2200	300~500	16	0.1~0.15	側銑(Side milling)
UPER1610	50mm	100	1800~2200	600~900	16	0~0.6	側銑(Side milling)
UPER1610	50mm	85	1500~2000	400~700	16	2~3	側銑(Side milling)
UPER1610	50mm	95	1700~2200	300~500	32	0.1~0.15	側銑(Side milling)
UPER1610	50mm	100	1800~2200	600~900	32	0~0.6	側銑(Side milling)
UPER1610	50mm	150	2800~3300	600~900	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1610	50mm	140	2500~3000	800~1200	0~0.5	0~0.5	3D銑(3D milling)
UPER1620	50mm	130	2300~2800	500~800	0.1~0.15	16	溝銑(Slotting)
UPER1620	50mm	100	1800~2200	600~900	0~0.6	16	溝銑(Slotting)
UPER1620	50mm	95	1700~2200	300~600	2~3	16	溝銑(Slotting)
UPER1620	50mm	95	1700~2200	300~500	16	0.1~0.15	側銑(Side milling)
UPER1620	50mm	100	1800~2200	600~900	16	0~0.6	側銑(Side milling)
UPER1620	50mm	85	1500~2000	400~700	16	2~3	側銑(Side milling)
UPER1620	50mm	95	1700~2200	300~500	32	0.1~0.15	側銑(Side milling)
UPER1620	50mm	100	1800~2200	600~900	32	0~0.6	側銑(Side milling)
UPER1620	50mm	150	2800~3300	600~900	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER1620	50mm	140	2500~3000	800~1200	0~0.5	0~0.5	3D銑(3D milling)
UPER2010	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2010	55mm	95	1300~1700	600~800	0~0.6	20	溝銑(Slotting)
UPER2010	55mm	95	1300~1700	180~280	2~3	20	溝銑(Slotting)
UPER2010	55mm	95	1300~1700	300~400	20	0.1~0.15	側銑(Side milling)
UPER2010	55mm	95	1300~1700	600~800	20	0~0.6	側銑(Side milling)
UPER2010	55mm	85	1200~1600	200~350	20	2~3	側銑(Side milling)
UPER2010	55mm	95	1300~1700	300~400	36	0.1~0.15	側銑(Side milling)
UPER2010	55mm	95	1300~1700	500~700	36	0~0.6	溝銑(Slotting)
UPER2010	55mm	150	2300~2700	700~900	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER2010	55mm	140	2200~2600	1000~1200	0~0.5	0~0.5	3D銑(3D milling)
UPER2020	55mm	130	1900~2300	600~800	0.1~0.15	20	溝銑(Slotting)
UPER2020	55mm	95	1300~1700	600~800	0~0.6	20	溝銑(Slotting)
UPER2020	55mm	95	1300~1700	180~280	2~3	20	溝銑(Slotting)
UPER2020	55mm	95	1300~1700	300~400	20	0.1~0.15	側銑(Side milling)
UPER2020	55mm	95	1300~1700	600~800	20	0~0.6	側銑(Side milling)
UPER2020	55mm	85	1200~1600	200~350	20	2~3	側銑(Side milling)
UPER2020	55mm	95	1300~1700	300~400	36	0.1~0.15	側銑(Side milling)
UPER2020	55mm	95	1300~1700	500~700	36	0~0.6	溝銑(Slotting)
UPER2020	55mm	150	2300~2700	700~900	0.1~0.15	0.1~0.15	3D銑(3D milling)
UPER2020	55mm	140	2200~2600	1000~1200	0~0.5	0~0.5	3D銑(3D milling)

附註 / Note:
建議冷卻方式為濕式。
Suggest to use Wet coolant.