



HPRE (High Speed Milling Condition)



Danger of fire by spark incidence or heat caused by tool breakage can happen during processing.
Confirm fire prevention countermeasure beforehand necessarily before use.

Work Material	PREHARDENED STEELS NAK			HARDENED STEELS SKD, STAVAX			COPPER ALLOYS		
Hardness (HRc)	HRc30 ~ 45			HRc45 ~ 55					
Outside Diameter	Depth of Cut Ad(mm)	SPEED (min ⁻¹)	FEED (mm/min)	Depth of Cut Ad(mm)	SPEED (min ⁻¹)	FEED (mm/min)	Depth of Cut Ad(mm)	SPEED (min ⁻¹)	FEED (mm/min)
0.1	0.001~0.004	38,000~50,000	50~80	0.001~0.004	18,000~30,000	30~60	0.001~0.005	39,000~50,000	50~100
0.2	0.002~0.005	38,000~50,000	150~350	0.001~0.004	20,000~33,000	100~250	0.002~0.006	39,000~50,000	300~450
0.3	0.003~0.006	35,000~48,000	200~400	0.002~0.005	22,000~34,000	130~280	0.003~0.008	39,000~50,000	350~550
0.4	0.003~0.008	30,000~45,000	250~500	0.002~0.006	24,000~36,000	150~320	0.004~0.010	39,000~50,000	390~620
0.5	0.004~0.015	25,000~40,000	250~500	0.002~0.010	19,000~32,000	160~350	0.005~0.020	34,000~50,000	430~800
0.6	0.004~0.020	20,000~40,000	230~620	0.003~0.015	16,000~32,000	150~420	0.005~0.030	34,000~50,000	400~980
0.7	0.010~0.020	21,000~32,000	330~450	0.006~0.010	17,000~25,000	230~300	0.014~0.025	30,000~45,000	600~820
0.8	0.005~0.030	16,000~32,000	250~650	0.004~0.018	12,500~20,000	180~350	0.007~0.040	21,000~42,000	420~1,170
1.0	0.007~0.040	13,000~27,000	250~600	0.004~0.035	10,000~17,000	160~400	0.009~0.060	17,000~34,000	430~1,200
1.2	0.015~0.050	12,500~20,000	350~500	0.010~0.030	11,000~14,000	250~350	0.020~0.050	18,000~25,000	620~980
1.5	0.010~0.050	9,000~16,000	270~550	0.008~0.040	7,000~14,000	190~400	0.025~0.070	15,000~22,000	500~1,100
2.0	0.017~0.050	7,000~15,000	280~550	0.010~0.035	5,500~12,000	200~400	0.025~0.070	10,000~17,000	500~1,100
3.0	0.030~0.070	5,000~10,000	350~600	0.020~0.050	4,000~10,000	230~400	0.050~0.110	7,000~11,000	600~1,150
4.0	0.040~0.100	3,500~7,000	340~650	0.030~0.070	2,800~10,000	230~410	0.060~0.150	5,000~8,500	630~1,200
DEPTH OF CUT									

1. Use a rigid and precise machine and holder.
2. For milling steels, air blow or MQL(Oil Mist) are recommended. When using cutting fluids, use cutting fluid with smoke retardant.
(For milling copper, water soluble fluids are recommended.)