

切削参数参考表 Recommended Milling Conditions

技术资料 K-008

加工材料 Work Material		调质钢・淬火钢 Prehardened Steels・Hardened Steels NAK80・STAVAX・SKD61 (~52HRC)				淬火钢 Hardened Steels SKD11 (~62HRC)			高速钢 High Speed Tool Steels SKH・HAP (~68HRC)				
(R)球头半径 Radius	有效长 Effective Length	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
		a_p mm	a_e mm	mm/min	min ⁻¹	a_p mm	a_e mm	mm/min	min ⁻¹	a_p mm	a_e mm	mm/min	min ⁻¹
0.1	0.3	0.005	0.005	720	50,000	0.005	0.005	540	50,000	0.003	0.003	360	50,000
0.15	0.3	0.005	0.01	1,400		0.005	0.01	800		0.005	0.005	500	
	0.5	0.005	0.005	1,200		0.005	0.005	640		0.003	0.005	460	
	0.75	0.005	0.005	1,000		0.005	0.005	540		0.003	0.005	400	
0.2	0.5	0.01	0.01	1,800		0.01	0.01	1,200		0.005	0.01	640	
	0.75	0.005	0.01	1,600		0.005	0.01	1,000		0.005	0.01	540	
	1	0.005	0.01	1,400		0.005	0.01	900		0.005	0.005	460	
0.25	1	0.015	0.015	1,800		0.01	0.015	1,500		0.01	0.01	1,100	
0.3	1.5	0.02	0.03	2,000		0.01	0.02	2,000		0.01	0.02	1,500	
0.4	2	0.03	0.05	2,000		0.02	0.03	2,000		0.01	0.03	1,500	
0.5	2.5	0.05	0.05	3,000		0.03	0.05	3,000		0.02	0.03	2,000	
0.6	3	0.05	0.05	3,000		0.03	0.05	3,000		0.02	0.03	2,000	
0.75	3.8	0.05	0.1	4,000		0.05	0.05	4,000		0.02	0.05	3,000	
1	4	0.1	0.1	5,000		0.05	0.05	5,000		0.03	0.05	3,000	
	5	0.1	0.1	5,000		0.05	0.05	5,000		0.03	0.05	3,000	
备 注 Notes		※切深量为中精加工、精加工时的最大值。 ※切深量的 a_p 表示轴向切入量， a_e 表示步距。 ※建议使用油雾冷却方式。 ※请以相同的比率调整主轴转速和进给速度。 ※加工参数会因切深量和机床刚性的状况而有所不同。请每次调整后再使用。 ※请根据需要控制刀具的伸出量。 ※Depth of Cut shows the maximum value for semi-finishing and finishing. ※Depth of Cut: a_p = Axial Depth of Cut / a_e = Radial Depth of Cut. ※We recommend using oil mist coolant. ※Adjust milling conditions according to the volume of depth of cut and rigidity of machine. ※Adjust both spindle speed and feed at the same rate. ※Length of tool overhang must be as short as possible.											

CBN铣刀 使用要点

加工环境 Advise on Cutting Environment

- 刀具偏摆量越小越好。
Minimize the deflection of cutting edge.
- 掌握机床主轴的伸缩量以及机床的水平状态，需要时采取恰当的措施。
To understand the nature of the expansion of the main spindle and machine posture transformation, and take measures against them.

精加工余量（余量） Advice on Finishing Allowance (stock amount)

- 使用小径CBN铣刀时，精加工余量（余量）均匀性非常重要。
When using small CBN end mill, uniform finishing allowance (stock amount) is important.
- 粗加工・中精加工使用刀具磨损过大时，中精加工和精加工的余量会变大，从而影响刀具寿命和加工精度，所以预加工时留有均匀的加工余量非常重要。
When tool is used on roughing and semi-finishing and it has a big abrasion, finishing allowance (stock amount) on semi-finishing and finishing is increasing and it affects tool life and cutting accuracy. Therefore, it is important to get uniform stock amount in the pre-stage cutting.

Points on Use

