

(R)球头半径 Radius	切深量 Depth of Cut		一般参数 Normal Speed		高速参数 High Speed	
	\overline{ap} mm	\overline{ae} mm	进给速度 Feed	主轴转速 Spindle Speed	进给速度 Feed	主轴转速 Spindle Speed
			mm/min	min ⁻¹	mm/min	min ⁻¹
0.1 ~ 0.2	0.005	0.01	600	20,000	1,500	50,000
0.25 ~ 0.3	0.01	0.01	800		2,000	
0.4 ~ 0.6	0.01	0.02	1,200		3,000	
0.7 ~ 0.8	0.01	0.02	1,600		4,000	
0.9 ~ 1	0.02	0.05	2,000		5,000	
备注 Notes	※1 切深量的 \overline{ap} 表示轴向切深量, \overline{ae} 表示步距量。 ※2 超精密加工专用的铣刀。请在完成钨钢铣刀的精加工后使用。 ※3 请将切深量固定为切削参数参考表内的数值使用。 ※4 R角加工时请特别注意参数设定(刀路轨迹等)。 ※5 建议使用油雾冷却方式。 ※6 建议使用刚性较大的铣刀刀柄和机床。 ※1 Depth of Cut: \overline{ap} =Axial Depth of Cut / \overline{ae} =Radial Depth of Cut. ※2 SFB200 is a Super-Finish Ball End Mill recommended to use after the finish process of carbide end mill. ※3 Cutting depth must be fixed all through the milling process according to the recommended milling conditions. ※4 Pay a special attention when choosing tool path and deciding a milling condition for corner milling. ※5 We recommend using oil mist coolant. ※6 Machine, tool chuck must be sufficiently accurate.					

长颈
Long Neck球头
Ball无涂层
Non-Coating

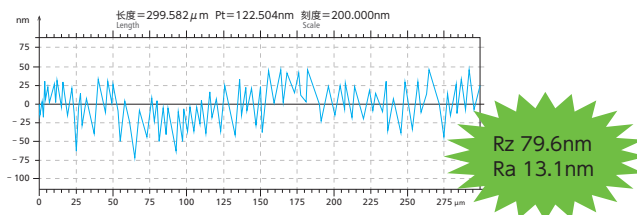
Ball

加工案例1 Machining Case 1

反射板 Reflector

- 加工材料: ELMAX 60HRC Work material: ELMAX 60HRC
- 冷却方式: 油雾 Coolant: Oil mist
- 总加工时间: 19小时10分钟 Total machining time: 19hr 10min

加工工序 Process	粗加工 Roughing	中精加工 Semi-finishing	精加工 Finishing
使用刀具 Tool	MSBH230 R0.2	SSBL200 R0.2x1.2	SFB200 R0.2
主轴转速 [min ⁻¹] Spindle speed	40,000		
进给速度 [mm/min] Feed	800	700	400
切深量 \overline{ap} x \overline{ae} [mm] Depth of cut	0.015 x 0.05	0.005 x 0.01	0.004 x 0.002
加工时间 Machining time	3小时23分钟 3hr 23min	2小时10分钟 2hr 10min	13小时37分钟 13hr 37min

工件尺寸: 20 × 20mm
Work size: 20 × 20mm

- H ~52 高硬度钢
HRC Hardened Steel
- H ~60 高硬度钢
HRC Hardened Steel
- H ~65 高硬度钢
HRC Hardened Steel
- H ~70 高硬度钢
HRC Hardened Steel

使用注意事项

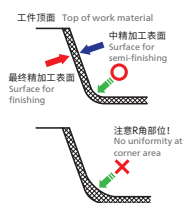
Points in Use

加工环境 Advice 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.

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

- 使用小径CBN铣刀时, 精加工量(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.

CBN
核心系列
CBN
Core Line