

4YEBM

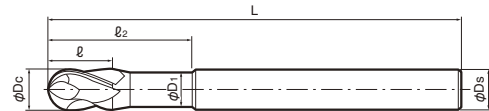
Number of Flutes: 4

Semi-Finishing of Difficult-to-Cut Material (Ball-nose end mill with 4 flutes)



Recommended Material

★ 1st Recommendation



Lineup

(Unit: mm)

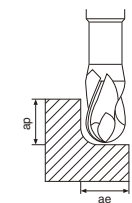
Description	Std.	*Radius of Ball Nose	Outside Dia.	Outside Dia. tolerance	Edge Length	Neck Dia.	Under Neck Length	Shank Dia.	Total length	Number of Flutes
		R	ØDc		ℓ	ØD1	ℓ2	ØDs	L	Z
4YEBM050-090-06	●	R2.5	5	-0.020 -0.038	9	4.5	15	6	57	4
4YEBM060-100-06	●	R3	6	-0.020 -0.038	10	5.5	15	6	57	4
4YEBM080-120-08	●	R4	8	-0.025 -0.047	12	7.4	20	8	63	4
4YEBM100-140-10	●	R5	10	-0.025 -0.047	14	9.2	25	10	72	4
4YEBM120-160-12	●	R6	12	-0.032 -0.059	16	11	30	12	83	4
4YEBM160-220-16	●	R8	16	-0.032 -0.059	22	15	38	16	92	4
4YEBM200-260-20	●	R10	20	-0.040 -0.073	26	19	50	20	104	4

* Actual ball-nose radius will be half of actual measurement of outer diameter.

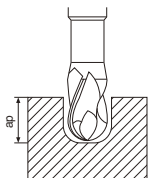
- Ball-nose end mill for semi-finishing of Difficult-to-Cut materials.

Recommended Cutting Conditions

Shouldering



Shouldering



Slotting

Workpiece Materials	Depth of Cut (ap×ae) (mm)	Outside Dia. (mm)	Ø5	Ø6	Ø8	Ø10	Ø12	Ø16	Ø20
Stainless Steel	1Dc×0.5Dc	Spindle Revolution (min ⁻¹)	5,700	4,800	3,600	2,900	2,400	1,800	1,400
		Feed Rate (mm/min)	620	630	630	640	560	450	390
Heat-resistant Alloy	1Dc×0.2Dc	Spindle Revolution (min ⁻¹)	1,700	1,400	1,000	800	700	500	400
		Feed Rate (mm/min)	70	80	100	80	90	90	80
Soft Steels	1Dc×0.5Dc	Spindle Revolution (min ⁻¹)	9,400	7,900	5,900	4,700	3,900	2,900	2,400
		Feed Rate (mm/min)	1,020	1,130	1,270	1,020	990	800	760
Titanium Alloy	1Dc×0.3Dc	Spindle Revolution (min ⁻¹)	3,200	2,700	2,000	1,600	1,300	1,000	800
		Feed Rate (mm/min)	180	190	220	170	170	160	160
Gray Cast Iron	1Dc×0.4Dc	Spindle Revolution (min ⁻¹)	7,800	6,500	4,900	3,900	3,200	2,400	1,900
		Feed Rate (mm/min)	840	930	1,050	840	820	660	630

* Machining with coolant is recommended for stainless steel.

Please refer to page L45 about Slotting.