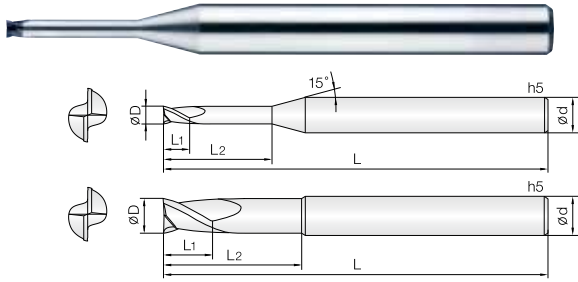


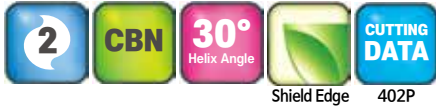
2ECBN CBN, 2 Flutes High Speed Rib End Mills

2날 CBN 고속가공용 리브 엔드밀



- 고정도강(HRc50~72)의 고정밀(±5μm) 정삭 가공용 엔드밀
- 고품질의 PCBN 소재를 적용하여 장시간 가공이 가능합니다.
- 다양한 유효장을 적용함으로써 최상의 작업이 가능합니다.
- 오일미스트 사용을 권장하며, RPM 2만~5만 범위의 고속가공을 추천합니다.
- C.B.N (Cubic Boron Nitride)

- PCBN Endmills for precise finishing (±5μm) of hardened steels (HRc50~72)
- Long tool life by high content PCBN.
- Excellent surface finish.
- Various flute length for optimum performance.
- Recommend high speed (20,000~50,000RPM) with oil-mist.
- C.B.N (Cubic Boron Nitride)

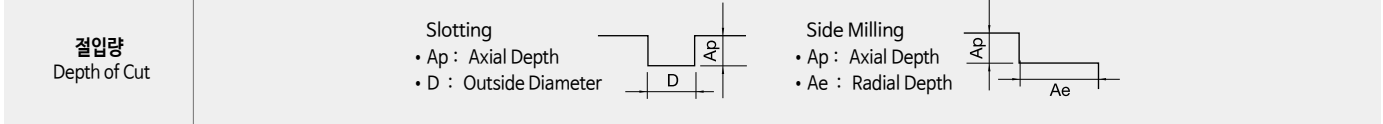


D Size	D Tolerance
Ø0.2~6	+0 - -0.01mm

단위 : mm

Order Number	날경 Diameter D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고	Order Number	날경 Diameter D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고
2ECBN 002 002 S04	0.2	0.2	-	48	4		2ECBN 010 015 S04	1	0.7	1.5	48	4	
2ECBN 002 004 S04	0.2	0.4	-	48	4		2ECBN 010 025 S04	1	0.7	2.5	48	4	
2ECBN 003 003 S04	0.3	0.3	-	48	4		2ECBN 010 040 S04	1	0.7	4	48	4	
2ECBN 003 005 S04	0.3	0.5	-	48	4		2ECBN 010 050 S04	1	0.7	5	48	4	
2ECBN 004 003 S04	0.4	0.3	-	48	4		2ECBN 010 060 S04	1	0.7	6	48	4	
2ECBN 004 010 S04	0.4	0.3	1	48	4		2ECBN 010 080 S04	1	0.7	8	48	4	
2ECBN 004 015 S04	0.4	0.3	1.5	48	4		2ECBN 010 100 S04	1	0.7	10	48	4	
2ECBN 004 020 S04	0.4	0.3	2	48	4		2ECBN 010 120 S04	1	0.7	12	48	4	
2ECBN 004 030 S04	0.4	0.3	3	48	4		2ECBN 010 140 S04	1	0.7	14	48	4	
2ECBN 004 040 S04	0.4	0.3	4	48	4		2ECBN 010 160 S04	1	0.7	16	48	4	
2ECBN 004 050 S04	0.4	0.3	5	48	4		2ECBN 012 007 S04	1.2	0.7	-	48	4	
2ECBN 004 060 S04	0.4	0.3	6	48	4		2ECBN 012 015 S04	1.2	0.7	1.5	48	4	
2ECBN 005 004 S04	0.5	0.4	-	48	4		2ECBN 012 030 S04	1.2	0.7	3	48	4	
2ECBN 005 010 S04	0.5	0.4	1	48	4		2ECBN 012 040 S04	1.2	0.7	4	48	4	
2ECBN 005 015 S04	0.5	0.4	1.5	48	4		2ECBN 012 060 S04	1.2	0.7	6	48	4	
2ECBN 005 020 S04	0.5	0.4	2	48	4		2ECBN 012 080 S04	1.2	0.7	8	48	4	
2ECBN 005 030 S04	0.5	0.4	3	48	4		2ECBN 012 100 S04	1.2	0.7	10	48	4	
2ECBN 005 040 S04	0.5	0.4	4	48	4		2ECBN 012 120 S04	1.2	0.7	12	48	4	
2ECBN 005 050 S04	0.5	0.4	5	48	4		2ECBN 012 160 S04	1.2	0.7	16	48	4	
2ECBN 005 060 S04	0.5	0.4	6	48	4		2ECBN 015 008 S04	1.5	0.8	-	48	4	
2ECBN 005 080 S04	0.5	0.4	8	48	4		2ECBN 015 015 S04	1.5	0.8	1.5	48	4	
2ECBN 006 005 S04	0.6	0.5	-	48	4		2ECBN 015 030 S04	1.5	0.8	3	48	4	
2ECBN 006 010 S04	0.6	0.5	1	48	4		2ECBN 015 060 S04	1.5	0.8	6	48	4	
2ECBN 006 015 S04	0.6	0.5	1.5	48	4		2ECBN 015 080 S04	1.5	0.8	8	48	4	
2ECBN 006 020 S04	0.6	0.5	2	48	4		2ECBN 015 100 S04	1.5	0.8	10	48	4	
2ECBN 006 030 S04	0.6	0.5	3	48	4		2ECBN 015 120 S04	1.5	0.8	12	48	4	
2ECBN 006 040 S04	0.6	0.5	4	48	4		2ECBN 015 140 S04	1.5	0.8	14	48	4	
2ECBN 006 060 S04	0.6	0.5	6	48	4		2ECBN 015 160 S04	1.5	0.8	16	48	4	
2ECBN 006 080 S04	0.6	0.5	8	48	4		2ECBN 015 180 S04	1.5	0.8	18	48	4	
2ECBN 006 100 S04	0.6	0.5	10	48	4		2ECBN 020 009 S04	2	0.9	-	50	4	
2ECBN 007 005 S04	0.7	0.5	-	48	4		2ECBN 020 020 S04	2	0.9	2	50	4	
2ECBN 007 015 S04	0.7	0.5	1.5	48	4		2ECBN 020 030 S04	2	0.9	3	50	4	
2ECBN 007 025 S04	0.7	0.5	2.5	48	4		2ECBN 020 060 S04	2	0.9	6	50	4	
2ECBN 007 040 S04	0.7	0.5	4	48	4		2ECBN 020 080 S04	2	0.9	8	50	4	
2ECBN 007 060 S04	0.7	0.5	6	48	4		2ECBN 020 100 S04	2	0.9	10	50	4	
2ECBN 008 006 S04	0.8	0.6	-	48	4		2ECBN 020 120 S04	2	0.9	12	50	4	
2ECBN 008 015 S04	0.8	0.6	1.5	48	4		2ECBN 020 140 S04	2	0.9	14	50	4	
2ECBN 008 025 S04	0.8	0.6	2.5	48	4		2ECBN 020 160 S04	2	0.9	16	50	4	
2ECBN 008 040 S04	0.8	0.6	4	48	4		2ECBN 020 180 S04	2	0.9	18	50	4	
2ECBN 008 060 S04	0.8	0.6	6	48	4		2ECBN 025 012 S06	2.5	1.2	-	66	6	
2ECBN 008 080 S04	0.8	0.6	8	48	4		2ECBN 025 030 S06	2.5	1.2	3	66	6	
2ECBN 008 100 S04	0.8	0.6	10	48	4		2ECBN 025 060 S06	2.5	1.2	6	66	6	
2ECBN 009 006 S04	0.9	0.6	-	48	4		2ECBN 025 100 S06	2.5	1.2	10	66	6	
2ECBN 009 015 S04	0.9	0.6	1.5	48	4		2ECBN 025 160 S06	2.5	1.2	16	66	6	
2ECBN 009 025 S04	0.9	0.6	2.5	48	4		2ECBN 025 200 S06	2.5	1.2	20	66	6	
2ECBN 009 040 S04	0.9	0.6	4	48	4		2ECBN 030 012 S06	3	1.2	-	66	6	
2ECBN 009 060 S04	0.9	0.6	6	48	4		2ECBN 030 030 S06	3	1.2	3	66	6	
2ECBN 009 080 S04	0.9	0.6	8	48	4		2ECBN 030 060 S06	3	1.2	6	66	6	
2ECBN 009 100 S04	0.9	0.6	10	48	4		2ECBN 030 080 S06	3	1.2	8	66	6	
2ECBN 010 007 S04	1	0.7	-	48	4		2ECBN 030 100 S06	3	1.2	10	66	6	

피삭재 Material		합금강/프리하드강 Alloy Steels / Pre-hardened Steels NAK80 / KP4M				고경도강 Hardened Steels STAVAX / SKD11				열처리 / 고경도강 Heat-treated steels / Hardened Steels YXR7 / SKH51			
경도 Hardness		40 ~ 45HRc				45 ~ 55HRc				55 ~ 62HRc			
외경 Outside Diameter	유효장 Effective Length	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth
∅ 0.2	0.2	50,000	211	0.005	0.005	50,000	140	0.004	0.004	50,000	78	0.003	0.003
"	0.5	50,000	200	0.004	0.004	50,000	130	0.003	0.003	50,000	71	0.002	0.003
∅ 0.3	0.3	50,000	520	0.006	0.010	50,000	290	0.004	0.005	50,000	260	0.003	0.005
"	0.5	50,000	460	0.006	0.010	50,000	270	0.003	0.005	50,000	250	0.003	0.005
"	1	50,000	422	0.006	0.010	50,000	260	0.003	0.005	50,000	220	0.003	0.004
∅ 0.4	0.3	50,000	840	0.010	0.010	50,000	490	0.005	0.006	50,000	430	0.005	0.005
"	1	50,000	690	0.010	0.010	50,000	470	0.005	0.005	50,000	420	0.005	0.005
"	2	50,000	370	0.005	0.005	50,000	240	0.003	0.003	50,000	209	0.002	0.003
∅ 0.5	0.4	50,000	940	0.010	0.020	50,000	810	0.005	0.010	50,000	732	0.005	0.010
"	1	50,000	850	0.010	0.015	50,000	560	0.005	0.010	50,000	523	0.005	0.010
"	3	50,000	560	0.010	0.015	50,000	530	0.005	0.010	50,000	504	0.005	0.010
∅ 0.8	0.6	50,000	1,530	0.020	0.020	50,000	1,254	0.015	0.015	50,000	1,083	0.010	0.010
"	2	50,000	1,440	0.020	0.020	50,000	1,169	0.010	0.010	50,000	1,064	0.010	0.010
"	4	40,000	860	0.015	0.020	40,000	703	0.010	0.010	40,000	620	0.010	0.010
"	6	30,000	440	0.015	0.015	30,000	390	0.010	0.010	30,000	280	0.005	0.005
∅ 1	0.7	50,000	1,730	0.020	0.030	50,000	1,311	0.020	0.020	50,000	1,230	0.010	0.020
"	2	40,000	1,390	0.015	0.020	40,000	960	0.015	0.015	40,000	870	0.010	0.010
"	4	30,000	1,030	0.015	0.015	30,000	620	0.010	0.015	30,000	600	0.010	0.010
"	8	24,000	650	0.010	0.010	24,000	440	0.005	0.010	24,000	340	0.005	0.005
∅ 1.5	0.8	40,000	1,700	0.030	0.040	40,000	1,090	0.020	0.030	40,000	1,130	0.020	0.020
"	2	30,000	1,400	0.030	0.030	30,000	1,100	0.020	0.030	30,000	880	0.020	0.020
"	4	30,000	1,130	0.030	0.030	30,000	900	0.015	0.020	30,000	770	0.010	0.015
"	8	16,000	520	0.015	0.015	16,000	410	0.010	0.015	16,000	350	0.010	0.010
∅ 2	2	40,000	1,530	0.040	0.040	40,000	1,270	0.030	0.030	40,000	1,090	0.020	0.030
"	4	30,000	1,330	0.030	0.030	30,000	1,060	0.025	0.025	30,000	910	0.020	0.020
"	8	26,000	1,130	0.030	0.030	26,000	900	0.020	0.025	26,000	770	0.010	0.010
∅ 2.5	1.2	40,000	2,200	0.050	0.050	40,000	1,760	0.040	0.040	40,000	1,500	0.030	0.040
"	4	40,000	1,540	0.030	0.040	40,000	1,240	0.030	0.030	40,000	1,150	0.020	0.030
"	10	24,000	810	0.020	0.030	24,000	650	0.010	0.030	24,000	260	0.010	0.020
∅ 3	6	40,000	1,400	0.030	0.030	40,000	1,120	0.020	0.030	40,000	960	0.020	0.030
"	10	21,000	1,130	0.020	0.030	21,000	900	0.020	0.020	21,000	770	0.010	0.020
"	16	16,000	730	0.020	0.030	16,000	590	0.010	0.020	16,000	500	0.010	0.010
∅ 4	6	40,000	1,430	0.030	0.040	40,000	1,120	0.030	0.030	40,000	1,040	0.020	0.030
"	10	21,000	1,080	0.020	0.030	21,000	850	0.020	0.020	21,000	740	0.010	0.020
"	16	16,000	700	0.010	0.020	21,000	560	0.010	0.020	16,000	470	0.010	0.010
∅ 6		16,000~ 50,000	740~ 3,000	0.050	0.060	13,000~ 50,000	590~ 2,000	0.050	0.060	11,000~ 50,000	390~ 1,500	0.050	0.060



- 날 끝이 정밀하게 연삭되어 있습니다. 파손을 피하기 위해 가능하면 비접촉 방식으로 측정하십시오.
- HRC68 이상 고경도강 가공 시 같은 직경의 같은 비율로 20% DOWN 시켜주십시오.
- 상기 절삭조건은 참고 수치이므로 실제 가공시에는 가공 형상, 가공 목적, 적용 기계 등에 따라 조건을 조정하십시오.
- 절삭조건이 없는 유효장은 비슷한 유효장에 비례하여 사용하십시오.
- 길이가 긴 엔드밀의 경우 떨림, 이상음이 발생할 경우에는 상기표의 회전속도와 이송속도를 같은 비율로 내려서 사용해 주십시오.
- The edge of the flute precisely grinded. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- In case machining Hardened steel HRC upper 68, reduce 20% of cutting parameter on the table.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If there is no effective length of your endmill on the table, use a similar type of effective length and apply the same proportion.
- In case of long length endmill shaking or abnormal sound, lower the rotation speed and feed speed of the table above by the same ratio.