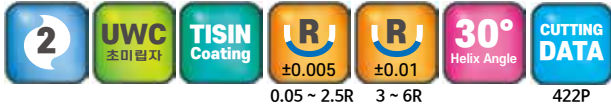


- 고경도강(HRC52~62), 프리하든강 계열의 고정밀 가공엔드밀
- 실리콘계 코팅(Si) 처리하여 내마모성이 우수합니다.
- 고정밀 공차 적용으로 초정밀 가공에 적합합니다.
- 날부인선의 조도가 뛰어나피삭재의 면조도가 우수합니다.
- 초미립자 초경합금(0.2µm)을 채택, 고속절삭시 뛰어난 성능을 발휘합니다.

#### • Endmills for pre-hardened and hardened steel (HRC52~62)

- Good wear resistance by Si-based PVD coating.
- High precise edge tolerance.
- Very nice work surface finish.
- Outstanding performance at high speed machining by ultra fine (0.2µm) WC grade.



0.05 ~ 2.5R 3 ~ 6R 422P

Condition	D Size		D Tolerance	
	ØD ≠ Ød	ØD = Ød	Ø6 - 12	-0.005 ~ -0.015mm
	Ø0.1 ~ 0.15	Ø0.2 ~ 12	+0 ~ -0.005mm	+0 ~ -0.01mm

단위 : mm

Order Number	날경 Diameter R × D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter R × D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고
2HRB 001 003 S04	0.05R X 0.1	0.15	0.3	40	4		2HRB 005 140 S04	0.25R X 0.5	0.5	14	45	4	
2HRB 001 005 S04	0.05R X 0.1	0.15	0.5	40	4		2HRB 006 010 S04	0.3R X 0.6	0.6	1	45	4	
2HRB 0015 003 S04	0.075R X 0.15	0.15	0.3	40	4		2HRB 006 020 S04	0.3R X 0.6	0.6	2	45	4	
2HRB 0015 005 S04	0.075R X 0.15	0.15	0.5	40	4		2HRB 006 030 S04	0.3R X 0.6	0.6	3	45	4	
2HRB 0015 010 S04	0.075R X 0.15	0.15	1	40	4		2HRB 006 040 S04	0.3R X 0.6	0.6	4	45	4	
2HRB 002 005 S04	0.1R X 0.2	0.2	0.5	40	4		2HRB 006 050 S04	0.3R X 0.6	0.6	5	45	4	
2HRB 002 010 S04	0.1R X 0.2	0.2	1	40	4		2HRB 006 060 S04	0.3R X 0.6	0.6	6	45	4	
2HRB 002 015 S04	0.1R X 0.2	0.2	1.5	40	4		2HRB 006 080 S04	0.3R X 0.6	0.6	8	45	4	
2HRB 002 020 S04	0.1R X 0.2	0.2	2	40	4		2HRB 006 100 S04	0.3R X 0.6	0.6	10	45	4	
2HRB 002 025 S04	0.1R X 0.2	0.2	2.5	40	4		2HRB 006 120 S04	0.3R X 0.6	0.6	12	45	4	
2HRB 002 030 S04	0.1R X 0.2	0.2	3	40	4		2HRB 006 140 S04	0.3R X 0.6	0.6	14	45	4	
2HRB 0025 005 S04	0.125R X 0.25	0.25	0.5	40	4		2HRB 006 160 S04	0.3R X 0.6	0.6	16	45	4	
2HRB 0025 010 S04	0.125R X 0.25	0.25	1	40	4		2HRB 007 020 S04	0.35R X 0.7	0.7	2	45	4	
2HRB 0025 015 S04	0.125R X 0.25	0.25	1.5	40	4		2HRB 007 040 S04	0.35R X 0.7	0.7	4	45	4	
2HRB 0025 020 S04	0.125R X 0.25	0.25	2	40	4		2HRB 007 060 S04	0.35R X 0.7	0.7	6	45	4	
2HRB 0025 025 S04	0.125R X 0.25	0.25	2.5	40	4		2HRB 007 080 S04	0.35R X 0.7	0.7	8	45	4	
2HRB 0025 030 S04	0.125R X 0.25	0.25	3	40	4		2HRB 007 100 S04	0.35R X 0.7	0.7	10	45	4	
2HRB 003 010 S04	0.15R X 0.3	0.3	1	40	4		2HRB 007 120 S04	0.35R X 0.7	0.7	12	45	4	
2HRB 003 015 S04	0.15R X 0.3	0.3	1.5	40	4		2HRB 008 020 S04	0.4R X 0.8	0.8	2	45	4	
2HRB 003 020 S04	0.15R X 0.3	0.3	2	40	4		2HRB 008 030 S04	0.4R X 0.8	0.8	3	45	4	
2HRB 003 025 S04	0.15R X 0.3	0.3	2.5	40	4		2HRB 008 040 S04	0.4R X 0.8	0.8	4	45	4	
2HRB 003 030 S04	0.15R X 0.3	0.3	3	40	4		2HRB 008 050 S04	0.4R X 0.8	0.8	5	45	4	
2HRB 003 035 S04	0.15R X 0.3	0.3	3.5	40	4		2HRB 008 060 S04	0.4R X 0.8	0.8	6	45	4	
2HRB 003 040 S04	0.15R X 0.3	0.3	4	40	4		2HRB 008 080 S04	0.4R X 0.8	0.8	8	45	4	
2HRB 003 050 S04	0.15R X 0.3	0.3	5	40	4		2HRB 008 100 S04	0.4R X 0.8	0.8	10	45	4	
2HRB 004 010 S04	0.2R X 0.4	0.4	1	40	4		2HRB 008 120 S04	0.4R X 0.8	0.8	12	45	4	
2HRB 004 015 S04	0.2R X 0.4	0.4	1.5	40	4		2HRB 008 140 S04	0.4R X 0.8	0.8	14	45	4	
2HRB 004 020 S04	0.2R X 0.4	0.4	2	40	4		2HRB 008 160 S04	0.4R X 0.8	0.8	16	45	4	
2HRB 004 025 S04	0.2R X 0.4	0.4	2.5	40	4		2HRB 009 040 S04	0.45R X 0.9	0.9	4	45	4	
2HRB 004 030 S04	0.2R X 0.4	0.4	3	40	4		2HRB 010 020 S04	0.5R X 1	1	2	45	4	
2HRB 004 035 S04	0.2R X 0.4	0.4	3.5	40	4		2HRB 010 020 S06	0.5R X 1	1	2	50	6	
2HRB 004 040 S04	0.2R X 0.4	0.4	4	40	4		2HRB 010 030 S04	0.5R X 1	1	3	45	4	
2HRB 004 045 S04	0.2R X 0.4	0.4	4.5	40	4		2HRB 010 030 S06	0.5R X 1	1	3	50	6	
2HRB 004 050 S04	0.2R X 0.4	0.4	5	40	4		2HRB 010 040 S04	0.5R X 1	1	4	45	4	
2HRB 004 060 S04	0.2R X 0.4	0.4	6	40	4		2HRB 010 040 S06	0.5R X 1	1	4	50	6	
2HRB 004 080 S04	0.2R X 0.4	0.4	8	40	4		2HRB 010 050 S04	0.5R X 1	1	5	45	4	
2HRB 004 100 S04	0.2R X 0.4	0.4	10	40	4		2HRB 010 050 S06	0.5R X 1	1	5	50	6	
2HRB 005 010 S04	0.25R X 0.5	0.5	1	45	4		2HRB 010 060 S04	0.5R X 1	1	6	45	4	
2HRB 005 015 S04	0.25R X 0.5	0.5	1.5	45	4		2HRB 010 060 S06	0.5R X 1	1	6	50	6	
2HRB 005 020 S04	0.25R X 0.5	0.5	2	45	4		2HRB 010 080 S04	0.5R X 1	1	8	45	4	
2HRB 005 025 S04	0.25R X 0.5	0.5	2.5	45	4		2HRB 010 080 S06	0.5R X 1	1	8	50	6	
2HRB 005 030 S04	0.25R X 0.5	0.5	3	45	4		2HRB 010 100 S04	0.5R X 1	1	10	50	4	
2HRB 005 035 S04	0.25R X 0.5	0.5	3.5	45	4		2HRB 010 100 S06	0.5R X 1	1	10	50	6	
2HRB 005 040 S04	0.25R X 0.5	0.5	4	45	4		2HRB 010 120 S04	0.5R X 1	1	12	50	4	
2HRB 005 045 S04	0.25R X 0.5	0.5	4.5	45	4		2HRB 010 120 S06	0.5R X 1	1	12	50	6	
2HRB 005 050 S04	0.25R X 0.5	0.5	5	45	4		2HRB 010 140 S04	0.5R X 1	1	14	50	4	
2HRB 005 060 S04	0.25R X 0.5	0.5	6	45	4		2HRB 010 140 S06	0.5R X 1	1	14	50	6	
2HRB 005 080 S04	0.25R X 0.5	0.5	8	45	4		2HRB 010 160 S04	0.5R X 1	1	16	50	4	
2HRB 005 100 S04	0.25R X 0.5	0.5	10	45	4		2HRB 010 160 S06	0.5R X 1	1	16	60	6	
2HRB 005 120 S04	0.25R X 0.5	0.5	12	45	4		2HRB 010 180 S04	0.5R X 1	1	18	50	4	

단위 : mm

Order Number	날경 Diameter R × D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter R × D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고
2HRB 010 180 S06	0.5R X 1	1	18	60	6		2HRB 015 250 S06	0.75R X 1.5	1.5	25	65	6	
2HRB 010 200 S04	0.5R X 1	1	20	50	4		2HRB 015 300 S04	0.75R X 1.5	1.5	30	70	4	
2HRB 010 200 S06	0.5R X 1	1	20	60	6		2HRB 015 300 S06	0.75R X 1.5	1.5	30	70	6	
2HRB 010 220 S04	0.5R X 1	1	22	60	4		2HRB 015 350 S04	0.75R X 1.5	1.5	35	70	4	
2HRB 010 220 S06	0.5R X 1	1	22	65	6		2HRB 015 400 S04	0.75R X 1.5	1.5	40	80	4	
2HRB 010 250 S04	0.5R X 1	1	25	60	4		2HRB 016 060 S04	0.8R X 1.6	1.6	6	45	4	
2HRB 010 300 S04	0.5R X 1	1	30	70	4		2HRB 016 080 S04	0.8R X 1.6	1.6	8	45	4	
2HRB 012 040 S04	0.6R X 1.2	1.2	4	45	4		2HRB 016 120 S04	0.8R X 1.6	1.6	12	50	4	
2HRB 012 040 S06	0.6R X 1.2	1.2	4	50	6		2HRB 016 160 S04	0.8R X 1.6	1.6	16	50	4	
2HRB 012 060 S04	0.6R X 1.2	1.2	6	45	4		2HRB 016 200 S04	0.8R X 1.6	1.6	20	50	4	
2HRB 012 060 S06	0.6R X 1.2	1.2	6	50	6		2HRB 018 060 S04	0.9R X 1.8	1.8	6	45	4	
2HRB 012 080 S04	0.6R X 1.2	1.2	8	45	4		2HRB 018 080 S04	0.9R X 1.8	1.8	8	45	4	
2HRB 012 080 S06	0.6R X 1.2	1.2	8	50	6		2HRB 018 120 S04	0.9R X 1.8	1.8	12	50	4	
2HRB 012 100 S04	0.6R X 1.2	1.2	10	50	4		2HRB 018 160 S04	0.9R X 1.8	1.8	16	50	4	
2HRB 012 100 S06	0.6R X 1.2	1.2	10	50	6		2HRB 018 200 S04	0.9R X 1.8	1.8	20	50	4	
2HRB 012 120 S04	0.6R X 1.2	1.2	12	50	4		2HRB 020 040 S04	1R X 2	2	4	45	4	
2HRB 012 120 S06	0.6R X 1.2	1.2	12	50	6		2HRB 020 040 S06	1R X 2	2	4	50	6	
2HRB 012 160 S04	0.6R X 1.2	1.2	16	50	4		2HRB 020 060 S04	1R X 2	2	6	45	4	
2HRB 012 160 S06	0.6R X 1.2	1.2	16	60	6		2HRB 020 060 S06	1R X 2	2	6	50	6	
2HRB 012 200 S04	0.6R X 1.2	1.2	20	50	4		2HRB 020 080 S04	1R X 2	2	8	45	4	
2HRB 012 200 S06	0.6R X 1.2	1.2	20	60	6		2HRB 020 080 S06	1R X 2	2	8	50	6	
2HRB 012 240 S04	0.6R X 1.2	1.2	24	60	4		2HRB 020 100 S04	1R X 2	2	10	50	4	
2HRB 012 240 S06	0.6R X 1.2	1.2	24	65	6		2HRB 020 100 S06	1R X 2	2	10	50	6	
2HRB 014 060 S04	0.7R X 1.4	1.4	6	45	4		2HRB 020 120 S04	1R X 2	2	12	50	4	
2HRB 014 080 S04	0.7R X 1.4	1.4	8	45	4		2HRB 020 120 S06	1R X 2	2	12	50	6	
2HRB 014 120 S04	0.7R X 1.4	1.4	12	50	4		2HRB 020 140 S04	1R X 2	2	14	50	4	
2HRB 014 160 S04	0.7R X 1.4	1.4	16	50	4		2HRB 020 140 S06	1R X 2	2	14	50	6	
2HRB 015 030 S04	0.75R X 1.5	1.5	3	45	4		2HRB 020 160 S04	1R X 2	2	16	50	4	
2HRB 015 030 S06	0.75R X 1.5	1.5	3	50	6		2HRB 020 160 S06	1R X 2	2	16	60	6	
2HRB 015 040 S04	0.75R X 1.5	1.5	4	45	4		2HRB 020 180 S04	1R X 2	2	18	50	4	
2HRB 015 040 S06	0.75R X 1.5	1.5	4	50	6		2HRB 020 180 S06	1R X 2	2	18	60	6	
2HRB 015 060 S04	0.75R X 1.5	1.5	6	45	4		2HRB 020 200 S04	1R X 2	2	20	50	4	
2HRB 015 060 S06	0.75R X 1.5	1.5	6	50	6		2HRB 020 200 S06	1R X 2	2	20	60	6	
2HRB 015 080 S04	0.75R X 1.5	1.5	8	45	4		2HRB 020 220 S04	1R X 2	2	22	60	4	
2HRB 015 080 S06	0.75R X 1.5	1.5	8	50	6		2HRB 020 220 S06	1R X 2	2	22	65	6	
2HRB 015 100 S04	0.75R X 1.5	1.5	10	50	4		2HRB 020 250 S04	1R X 2	2	25	60	4	
2HRB 015 100 S06	0.75R X 1.5	1.5	10	50	6		2HRB 020 250 S06	1R X 2	2	25	65	6	
2HRB 015 120 S04	0.75R X 1.5	1.5	12	50	4		2HRB 020 300 S04	1R X 2	2	30	70	4	
2HRB 015 120 S06	0.75R X 1.5	1.5	12	50	6		2HRB 020 300 S06	1R X 2	2	30	70	6	
2HRB 015 140 S04	0.75R X 1.5	1.5	14	50	4		2HRB 020 350 S04	1R X 2	2	35	70	4	
2HRB 015 140 S06	0.75R X 1.5	1.5	14	50	6		2HRB 020 350 S06	1R X 2	2	35	75	6	
2HRB 015 160 S04	0.75R X 1.5	1.5	16	50	4		2HRB 020 400 S04	1R X 2	2	40	80	4	
2HRB 015 160 S06	0.75R X 1.5	1.5	16	60	6		2HRB 020 400 S06	1R X 2	2	40	80	6	
2HRB 015 180 S04	0.75R X 1.5	1.5	18	50	4		2HRB 020 450 S04	1R X 2	2	45	80	4	
2HRB 015 180 S06	0.75R X 1.5	1.5	18	60	6		2HRB 020 500 S04	1R X 2	2	50	90	4	
2HRB 015 200 S04	0.75R X 1.5	1.5	20	50	4		2HRB 025 080 S04	1.25R X 2.5	2.5	8	45	4	
2HRB 015 200 S06	0.75R X 1.5	1.5	20	60	6		2HRB 025 080 S06	1.25R X 2.5	2.5	8	50	6	
2HRB 015 220 S04	0.75R X 1.5	1.5	22	60	4		2HRB 025 100 S04	1.25R X 2.5	2.5	10	50	4	
2HRB 015 220 S06	0.75R X 1.5	1.5	22	65	6		2HRB 025 100 S06	1.25R X 2.5	2.5	10	50	6	
2HRB 015 250 S04	0.75R X 1.5	1.5	25	60	4		2HRB 025 120 S04	1.25R X 2.5	2.5	12	50	4	



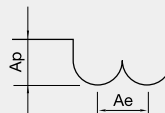
단위 : mm

Order Number	날경 Diameter R × D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고	Order Number	날경 Diameter R × D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고
2HRB 025 120 S06	1.25R X 2.5	2.5	12	50	6		2HRB 080 250 060	4R X 8	12	25	60	8	
2HRB 025 160 S04	1.25R X 2.5	2.5	16	50	4		2HRB 080 300 100	4R X 8	12	30	100	8	
2HRB 025 160 S06	1.25R X 2.5	2.5	16	60	6		2HRB 100 300 070	5R X 10	16	30	70	10	
2HRB 025 200 S04	1.25R X 2.5	2.5	20	60	4		2HRB 100 350 100	5R X 10	16	35	100	10	
2HRB 025 250 S04	1.25R X 2.5	2.5	25	60	4		2HRB 120 300 075	6R X 12	18	30	75	12	
2HRB 025 300 S04	1.25R X 2.5	2.5	30	70	4		2HRB 120 400 110	6R X 12	18	40	110	12	
2HRB 025 350 S04	1.25R X 2.5	2.5	35	70	4								
2HRB 025 400 S04	1.25R X 2.5	2.5	40	80	4								
2HRB 030 060 S06	1.5R X 3	3	6	50	6								
2HRB 030 080 S06	1.5R X 3	3	8	50	6								
2HRB 030 100 S06	1.5R X 3	3	10	50	6								
2HRB 030 120 S06	1.5R X 3	3	12	50	6								
2HRB 030 160 S06	1.5R X 3	3	16	60	6								
2HRB 030 200 S06	1.5R X 3	3	20	60	6								
2HRB 030 250 S06	1.5R X 3	3	25	65	6								
2HRB 030 300 S06	1.5R X 3	3	30	70	6								
2HRB 030 350 S06	1.5R X 3	3	35	75	6								
2HRB 030 400 S06	1.5R X 3	3	40	80	6								
2HRB 030 450 S06	1.5R X 3	3	45	90	6								
2HRB 030 500 S06	1.5R X 3	3	50	100	6								
2HRB 030 600 S06	1.5R X 3	3	60	100	6								
2HRB 030 650 S06	1.5R X 3	3	65	110	6								
2HRB 030 700 S06	1.5R X 3	3	70	110	6								
2HRB 040 080 S06	2R X 4	4	8	50	6								
2HRB 040 100 S06	2R X 4	4	10	50	6								
2HRB 040 120 S06	2R X 4	4	12	50	6								
2HRB 040 160 S06	2R X 4	4	16	60	6								
2HRB 040 200 S06	2R X 4	4	20	60	6								
2HRB 040 250 S06	2R X 4	4	25	65	6								
2HRB 040 300 S06	2R X 4	4	30	70	6								
2HRB 040 350 S06	2R X 4	4	35	75	6								
2HRB 040 400 S06	2R X 4	4	40	80	6								
2HRB 040 450 S06	2R X 4	4	45	90	6								
2HRB 040 500 S06	2R X 4	4	50	100	6								
2HRB 040 550 S06	2R X 4	4	55	100	6								
2HRB 040 600 S06	2R X 4	4	60	100	6								
2HRB 040 650 S06	2R X 4	4	65	110	6								
2HRB 040 700 S06	2R X 4	4	70	110	6								
2HRB 050 160 S06	2.5R X 5	6	16	60	6								
2HRB 050 200 S06	2.5R X 5	6	20	60	6								
2HRB 050 250 S06	2.5R X 5	6	25	70	6								
2HRB 050 300 S06	2.5R X 5	6	30	75	6								
2HRB 050 400 S06	2.5R X 5	6	40	80	6								
2HRB 050 450 S06	2.5R X 5	6	45	90	6								
2HRB 050 500 S06	2.5R X 5	6	50	100	6								
2HRB 050 600 S06	2.5R X 5	6	60	100	6								
2HRB 050 650 S06	2.5R X 5	6	65	110	6								
2HRB 050 700 S06	2.5R X 5	6	70	110	6								
2HRB 060 150 S06	3R X 6	10	15	55	6								
2HRB 060 300 S06	3R X 6	10	30	110	6								

피삭재 Material		동 Copper C1100				합금강 / 프리하드강 Alloy Steels / Prehardened Steels NAK80/KP4M				고경도강 Hardened Steels STAVAX/SKD11				열처리 / 고경도강 Heat-treated steels / Hardened Steels SKD11 / SKD61			
경도 Hardness		40 ~ 45HRc								45 ~ 55HRc				55 ~ 62HRc			
반경 Radius	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	RPM	FEED	Ap Axial Depth	Ae Radial Depth
R0.05	0.3	50,000	85	0.004	0.004	45,000	70	0.004	0.004	45,000	50	0.002	0.002	45,000	40	0.002	0.002
"	0.5	50,000	75	0.004	0.004	45,000	60	0.002	0.002	45,000	30	0.002	0.002	45,000	30	0.002	0.002
R0.1	0.5	50,000	492	0.010	0.010	45,000	396	0.006	0.007	45,000	260	0.006	0.006	45,000	220	0.005	0.006
"	1	50,000	432	0.007	0.008	45,000	372	0.004	0.005	45,000	276	0.004	0.004	45,000	200	0.004	0.004
"	1.5	50,000	360	0.006	0.006	42,000	276	0.003	0.004	42,000	216	0.003	0.004	42,000	180	0.003	0.003
R0.15	1	50,000	744	0.012	0.013	45,000	552	0.010	0.010	38,000	420	0.009	0.010	38,000	348	0.007	0.009
"	3	48,000	528	0.008	0.009	40,800	360	0.006	0.007	33,600	264	0.005	0.005	33,600	216	0.004	0.005
"	5	39,600	336	0.004	0.005	28,800	216	0.003	0.003	24,000	168	0.003	0.003	21,600	120	0.002	0.002
R0.2	1	61,200	1,020	0.021	0.034	54,000	768	0.016	0.022	39,600	516	0.013	0.022	39,600	432	0.011	0.021
"	3	55,200	768	0.015	0.016	44,400	480	0.010	0.010	32,400	312	0.009	0.010	32,400	264	0.008	0.010
"	5	39,600	468	0.008	0.016	30,000	372	0.008	0.010	26,400	288	0.006	0.010	26,400	228	0.004	0.005
R0.25	1	63,600	1,560	0.026	0.047	45,600	960	0.020	0.033	33,600	636	0.014	0.032	33,600	312	0.007	0.020
"	5	52,800	1,032	0.012	0.014	34,800	552	0.008	0.008	31,200	444	0.007	0.010	31,200	216	0.006	0.009
"	10	38,400	528	0.008	0.016	28,800	456	0.007	0.010	28,800	372	0.005	0.010	27,600	216	0.005	0.009
R0.3	1	63,600	1,956	0.030	0.140	39,600	960	0.022	0.091	27,600	600	0.019	0.091	26,400	516	0.014	0.091
"	5	50,400	1,104	0.014	0.068	28,800	504	0.012	0.043	26,400	396	0.008	0.042	26,400	336	0.007	0.040
"	10	31,200	540	0.006	0.032	24,000	360	0.005	0.020	22,800	312	0.004	0.020	22,800	240	0.003	0.018
R0.4	2	61,200	2,280	0.054	0.160	34,800	816	0.045	0.100	27,600	552	0.038	0.100	26,400	456	0.030	0.100
"	6	51,600	1,452	0.035	0.100	28,800	636	0.028	0.068	21,600	420	0.020	0.068	21,600	348	0.015	0.065
"	10	31,000	630	0.022	0.080	23,400	468	0.020	0.050	17,300	408	0.015	0.050	16,800	336	0.010	0.050
R0.5	2	50,400	2,160	0.068	0.320	33,600	900	0.052	0.220	21,600	540	0.040	0.220	18,000	540	0.008	0.140
"	5	50,400	2,160	0.068	0.320	33,600	900	0.052	0.220	21,600	540	0.040	0.220	18,000	540	0.008	0.140
"	10	30,000	1,164	0.024	0.086	16,320	600	0.020	0.056	15,000	456	0.014	0.056	13,680	312	0.008	0.050
"	16	17,640	720	0.018	0.086	13,680	480	0.016	0.056	12,360	384	0.012	0.056	11,520	252	0.005	0.030
R0.75	3	31,200	2,400	0.167	0.320	21,600	1,152	0.120	0.210	12,960	672	0.100	0.210	12,000	600	0.090	0.210
"	10	26,400	1,680	0.100	0.220	14,760	780	0.080	0.170	9,720	480	0.062	0.170	9,720	456	0.050	0.160
"	18	12,120	624	0.030	0.160	12,120	504	0.022	0.110	9,600	432	0.020	0.110	9,600	408	0.012	0.110
"	30	9,840	516	0.014	0.080	9,840	456	0.012	0.050	9,480	420	0.010	0.050	9,480	396	0.010	0.050
R1	4	26,400	2,448	0.220	0.520	21,000	1,392	0.180	0.350	14,640	1,080	0.140	0.350	14,640	900	0.120	0.350
"	10	26,400	2,256	0.180	0.350	21,000	1,224	0.140	0.230	14,640	972	0.110	0.230	14,640	792	0.090	0.230
"	20	15,960	1,164	0.090	0.165	15,960	600	0.060	0.110	12,720	600	0.055	0.110	12,720	492	0.035	0.110
"	30	10,200	636	0.025	0.070	10,200	480	0.020	0.050	10,200	480	0.015	0.050	10,200	384	0.015	0.045
R1.5	6	16,800	3,240	0.250	0.500	14,400	1,824	0.200	0.340	9,840	1,320	0.160	0.320	6,480	732	0.160	0.320
"	10	16,800	3,240	0.250	0.500	14,400	1,824	0.200	0.340	9,840	1,320	0.160	0.320	6,480	732	0.160	0.300
"	20	14,040	2,244	0.200	0.450	12,360	1,476	0.145	0.320	8,520	1,128	0.120	0.310	5,760	660	0.080	0.300
"	30	10,920	1,620	0.120	0.220	9,360	816	0.100	0.150	8,520	816	0.080	0.150	5,760	384	0.070	0.300
R2	8	12,600	3,012	0.350	0.850	10,440	1,752	0.290	0.550	7,200	1,332	0.220	0.500	7,200	1,056	0.150	0.500
"	20	12,600	3,012	0.350	0.850	10,440	1,752	0.290	0.550	7,200	1,332	0.220	0.500	7,200	1,056	0.150	0.500
"	30	11,160	2,040	0.250	0.500	8,880	1,380	0.200	0.320	6,600	1,056	0.150	0.300	6,600	816	0.130	0.300
"	40	8,160	1,464	0.150	0.500	7,200	1,056	0.132	0.320	6,600	1,056	0.100	0.300	6,600	816	0.090	0.300
R2.5	15	10,800	2,880	0.380	0.800	8,400	1,500	0.300	0.700	6,000	1,140	0.220	0.700	6,000	900	0.200	0.650
"	25	10,800	2,400	0.380	0.800	8,400	1,380	0.300	0.550	6,000	1,080	0.220	0.550	6,000	816	0.200	0.500
"	40	9,360	1,320	0.250	0.800	6,720	840	0.200	0.550	4,920	660	0.150	0.550	4,920	504	0.130	0.500
R3	15	8,400	2,676	0.500	1.000	8,160	1,764	0.420	0.800	5,760	1,320	0.300	0.800	4,440	864	0.300	0.800
"	30	8,400	1,812	0.380	0.900	7,200	1,680	0.300	0.650	5,040	1,176	0.220	0.650	4,440	792	0.220	0.600
R4	25	8,160	1,764	0.410	1.000	7,200	1,176	0.350	0.750	4,920	912	0.180	0.600	4,560	732	0.200	0.630
"	30	7,680	1,680	0.380	1.000	6,960	1,128	0.300	0.750	4,800	864	0.160	0.600	4,320	720	0.200	0.600
R5	30	6,240	1,344	0.560	1.200	5,880	1,128	0.370	0.900	4,800	852	0.200	0.670	4,200	708	0.200	0.650
"	35	6,000	1,296	0.500	1.000	5,400	1,080	0.350	0.850	4,560	816	0.150	0.600	3,840	648	0.200	0.600
R6	30	5,160	1,104	0.650	1.400	4,800	984	0.420	0.900	4,320	828	0.250	0.600	3,600	600	0.250	0.600
"	40	4,920	1,080	0.600	1.200	4,560	960	0.400	0.850	4,080	780	0.200	0.600	3,600	600	0.200	0.600

절입량  
Depth of Cut

- Ap : Axial Depth
- Ae : Radial Depth
- D : Outside Diameter
- n : Speed
- Vf : Feed



- 유효장 길이가 긴 경우, RPM과 FEED를 동일 비율로 낮춰주세요.
- 상기 절삭조건은 참고 수치이므로 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 적용 기계의 회전 속도가 부족한 경우에는 회전 속도와 이송 속도를 같은 비율로 줄여서 적용 합니다.
- 진동이 적고 강성이 좋은 공작기계 사용 요망 합니다.(Ø1이하 사용시 진동 허용 관리 5µm 이내 일것.)
- 원활한 칩배출을 위하여 에어브로 혹은 미스트 콜러트 사용을 추천하며, 동 가공시 습식 콜러트를 추천 합니다.
- If the effective length is long, reduce the RPM and feed in the same proportion.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity (Ø1 or less, the vibration tolerance management should be within 5µm).
- Air blow or oil mist is recommended for smooth chip emission, and wet coolant milling is recommended for copper material.