



- 고정도강(HRc52~70), 프리하든강 계열의 고정밀 가공 엔드밀
- 고품질 실리콘계 코팅(Si) 처리하여 내마모성이 우수합니다.
- 유효장을 테이퍼설계하여 깊은 홈작업시 목부파손 및 떨림을 최소화 하였습니다.
- 코너R 형상을 날부치평이 적도록 설계하였습니다.
- 고정밀 공차 적용으로 초정밀 가공에 적합합니다.
- 초미립자 초경합금(0.2μm)을 채택, 고속절삭시 뛰어난 성능을 발휘합니다.
- Endmills for pre-hardened and hardened steel(HRc52~70)
- Good wear resistance by high quality Si-based PVD coating.
- Minimize chatter and fracturing by taper designed flute.
- Designed for minimizing edge chipping by corner R shape.
- High precise edge tolerance.
- Outstanding performance at high speed machining by ultra fine (0.2μm) WC grade.



D Size	D Tolerance
Ø 1 ~ 4	+0 ~ -0.01mm

단위: mm

Order Number	날경 D × R	각도 θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 D × R	각도 θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고
4JJTC 010 001 0601	1 X R0.1	1°	1	6	50	4		4JJTC 020 005 4001	2 X R0.5	1°	2	40	80	4	
4JJTC 010 001 1001	1 X R0.1	1°	1	10	50	4		4JJTC 020 005 5001	2 X R0.5	1°	2	50	90	4	
4JJTC 010 001 1501	1 X R0.1	1°	1	15	50	4		4JJTC 030 002 2001	3 X R0.2	1°	3	20	60	6	
4JJTC 010 001 2001	1 X R0.1	1°	1	20	60	4		4JJTC 030 002 3001	3 X R0.2	1°	3	30	70	6	
4JJTC 010 001 2501	1 X R0.1	1°	1	25	60	4		4JJTC 030 002 4001	3 X R0.2	1°	3	40	80	6	
4JJTC 010 001 3001	1 X R0.1	1°	1	30	70	4		4JJTC 030 002 5001	3 X R0.2	1°	3	50	90	6	
4JJTC 010 001 3501	1 X R0.1	1°	1	35	75	4		4JJTC 030 002 6001	3 X R0.2	1°	3	60	100	6	
4JJTC 010 002 0601	1 X R0.2	1°	1	6	50	4		4JJTC 030 003 4001	3 X R0.3	1°	3	40	80	6	
4JJTC 010 002 1001	1 X R0.2	1°	1	10	50	4		4JJTC 030 003 5001	3 X R0.3	1°	3	50	90	6	
4JJTC 010 002 1501	1 X R0.2	1°	1	15	50	4		4JJTC 030 003 6001	3 X R0.3	1°	3	60	100	6	
4JJTC 010 002 2001	1 X R0.2	1°	1	20	60	4		4JJTC 030 005 2001	3 X R0.5	1°	3	20	60	6	
4JJTC 010 002 2501	1 X R0.2	1°	1	25	60	4		4JJTC 030 005 3001	3 X R0.5	1°	3	30	70	6	
4JJTC 010 002 3001	1 X R0.2	1°	1	30	70	4		4JJTC 030 005 4001	3 X R0.5	1°	3	40	80	6	
4JJTC 010 002 3501	1 X R0.2	1°	1	35	75	4		4JJTC 030 005 5001	3 X R0.5	1°	3	50	90	6	
4JJTC 010 003 1001	1 X R0.3	1°	1	10	50	4		4JJTC 030 005 6001	3 X R0.5	1°	3	60	100	6	
4JJTC 010 003 1501	1 X R0.3	1°	1	15	50	4		4JJTC 040 002 2001	4 X R0.2	1°	4	20	60	6	
4JJTC 010 003 2001	1 X R0.3	1°	1	20	60	4		4JJTC 040 002 3001	4 X R0.2	1°	4	30	70	6	
4JJTC 010 003 2501	1 X R0.3	1°	1	25	60	4		4JJTC 040 002 4001	4 X R0.2	1°	4	40	80	6	
4JJTC 015 002 1001	1.5 X R0.2	1°	1.5	10	50	4		4JJTC 040 002 5001	4 X R0.2	1°	4	50	90	6	
4JJTC 015 002 1501	1.5 X R0.2	1°	1.5	15	50	4		4JJTC 040 002 6001	4 X R0.2	1°	4	60	100	6	
4JJTC 015 002 2001	1.5 X R0.2	1°	1.5	20	60	4		4JJTC 040 003 4001	4 X R0.3	1°	4	40	80	6	
4JJTC 015 002 2501	1.5 X R0.2	1°	1.5	25	60	4		4JJTC 040 003 5001	4 X R0.3	1°	4	50	90	6	
4JJTC 015 002 3001	1.5 X R0.2	1°	1.5	30	70	4		4JJTC 040 003 6001	4 X R0.3	1°	4	60	100	6	
4JJTC 015 002 3501	1.5 X R0.2	1°	1.5	35	75	4		4JJTC 040 005 2001	4 X R0.5	1°	4	20	60	6	
4JJTC 015 003 1501	1.5 X R0.3	1°	1.5	15	50	4		4							

4JJCR / 6JJCR / 4JJTC

- 6JJCR은 RPM 동일, FEED만 최대 50% Up 적용.
- Use the same RPM and raise up the feed up to 50% for 6JJCR.

피삭재 Material		고경도강 Hardened Steels											
경도 Hardness		55 ~ 60HRC				60 ~ 65HRC				65 ~ 68HRC			
외경 Outside Diameter	반경 Corner Radius	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth
Ø 0.5	R 0.1	33,000	365	0.015	0.02	25,000	245	0.007	0.010	20,000	140	0.007	0.010
Ø 0.6	R 0.1	30,000	380	0.02	0.10	25,000	250	0.01	0.075	20,000	150	0.01	0.075
Ø 0.7	R 0.1	28,000	39	0.03	0.13	21,000	255	0.01	0.080	18,000	150	0.01	0.080
Ø 0.8	R 0.1	25,500	400	0.04	0.15	19,000	260	0.02	0.12	16,000	155	0.02	0.12
Ø 1	R 0.1	20,500	430	0.08	0.80	16,000	270	0.04	0.06	12,500	175	0.03	0.05
"	R 0.3	20,500	430	0.10	0.40	16,000	270	0.05	0.08	12,500	175	0.05	0.06
Ø 1.5	R 0.1	18,000	460	0.12	1.30	13,000	300	0.07	0.10	10,500	200	0.05	0.08
"	R 0.5	18,000	460	0.15	0.50	13,000	300	0.10	0.12	10,500	200	0.07	0.10
Ø 2	R 0.1	14,500	520	0.15	1.80	11,000	320	0.10	0.12	9,500	230	0.10	0.10
"	R 0.5	14,500	520	0.18	1.00	11,000	320	0.10	0.14	9,500	230	0.10	0.12
Ø 2.5	R 0.1	11,500	520	0.16	2.00	8,500	320	0.10	0.13	7,500	230	0.10	0.10
"	R 0.5	11,500	520	0.19	1.50	8,500	320	0.10	0.15	7,500	230	0.10	0.12
Ø 3	R 0.1	9,500	520	0.16	2.50	7,500	320	0.12	0.13	6,400	230	0.12	0.10
"	R 0.5	9,500	520	0.18	2.00	7,500	320	0.12	0.14	6,400	230	0.12	0.12
"	R 1	9,500	520	0.20	1.00	7,500	320	0.12	0.16	6,400	230	0.12	0.13
Ø 4	R 0.1	7,200	540	0.20	3.50	5,600	335	0.12	0.16	4,750	240	0.12	0.13
"	R 0.5	7,200	540	0.25	3.00	5,600	335	0.12	0.20	4,750	240	0.15	0.16
"	R 1	7,200	540	0.25	2.00	5,600	335	0.15	0.20	4,750	240	0.15	0.16
Ø 5	R 0.1	6,400	580	0.25	4.50	5,100	370	0.12	0.20	4,450	270	0.12	0.16
"	R 0.5	6,400	580	0.28	4.00	5,100	370	0.15	0.22	4,450	270	0.15	0.18
"	R 1	6,400	580	0.30	3.00	5,100	370	0.15	0.24	4,450	270	0.15	0.19
Ø 6	R 0.1	5,300	560	0.30	5.50	4,200	350	0.20	0.24	3,700	260	0.20	0.19
"	R 0.5	5,300	560	0.30	5.00	4,200	350	0.20	0.24	3,700	260	0.20	0.19
"	R 1	5,300	560	0.40	4.00	4,200	350	0.25	0.32	3,700	260	0.25	0.26
"	R 1.5	5,300	560	0.40	3.00	4,200	350	0.25	0.32	3,700	260	0.25	0.26
Ø 8	R 0.5	4,000	520	0.30	7.50	3,200	330	0.20	0.24	2,800	240	0.20	0.19
"	R 1	4,000	520	0.30	6.00	3,200	330	0.20	0.24	2,800	240	0.20	0.19
"	R 1.5	4,000	520	0.40	5.00	3,200	330	0.25	0.32	2,800	240	0.25	0.26
"	R 2	4,000	520	0.50	4.00	3,200	330	0.30	0.40	2,800	240	0.25	0.32
Ø 10	R 0.5	3,200	480	0.40	9.50	2,550	310	0.20	0.32	2,200	220	0.20	0.26
"	R 1	3,200	480	0.45	9.00	2,550	310	0.25	0.36	2,200	220	0.25	0.29
"	R 1.5	3,200	480	0.50	7.00	2,550	310	0.30	0.40	2,200	220	0.30	0.32
"	R 2	3,200	480	0.50	6.00	2,550	310	0.30	0.40	2,200	220	0.30	0.32
"	R 2.5</												

