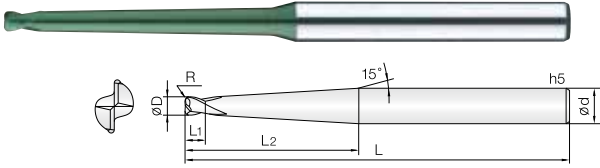




2날 고정도재 가공용 제이제이 테이퍼 넥 코너 레디우스 엔드밀



- 고정도강(HRc52~68), 프리하드강 계열의 고정밀 가공 엔드밀
- 고품량 실리콘계 코팅(Si) 처리하여 내마모성이 우수합니다.
- 유효장을 테이퍼 설계하여 깊은 홈 작업시 목부파손 및 떨림을 최소화 하였습니다.
- 코너R 형상을 날부치핑이 적도록 설계하였습니다.
- 고정밀 공차 적용으로 초정밀 가공에 적합합니다.
- 초미립자 초경합금(0.2µm)을 채택, 고속절삭시 뛰어난 성능을 발휘합니다.

• Endmills for pre-hardened and hardened steels(HRc52~68)

- Good wear resistance by high quality Si-based PVD coating.
- Minimize chattering 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.

2

UWC
초미립자

TISIN-S
Coating

R
±0.005

R
±0.01

30°
Helix Angle

CUTTING
DATA

R0.1 ~ 0.5 R1 415P

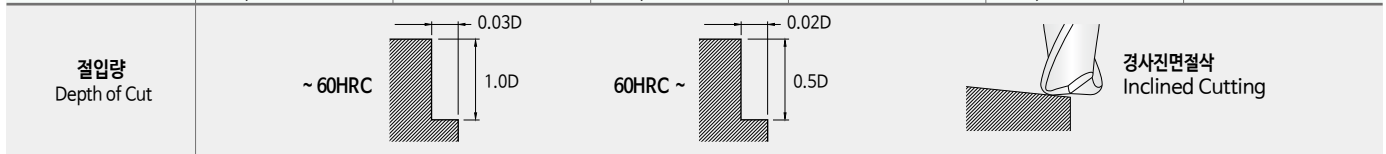
Condition	D Size	D Tolerance
ØD ≠ Ød	Ø1 ~ 4	+0 ~ -0.01mm

단위 : mm

Order Number	날경 D×R	각도 θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샤프크 Shank Dia d	비고	Order Number	날경 D×R	각도 θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샤프크 Shank Dia d	비고
2JJTC 010 001 0601	1 X R0.1	1°	1	6	50	4		2JJTC 020 003 2501	2 X R0.3	1°	2	25	60	4	
2JJTC 010 001 1001	1 X R0.1	1°	1	10	50	4		2JJTC 020 003 3001	2 X R0.3	1°	2	30	70	4	
2JJTC 010 001 1501	1 X R0.1	1°	1	15	50	4		2JJTC 020 003 3501	2 X R0.3	1°	2	35	75	4	
2JJTC 010 001 2001	1 X R0.1	1°	1	20	60	4		2JJTC 020 003 4001	2 X R0.3	1°	2	40	80	4	
2JJTC 010 001 2501	1 X R0.1	1°	1	25	60	4		2JJTC 020 003 5001	2 X R0.3	1°	2	50	90	4	
2JJTC 010 001 3001	1 X R0.1	1°	1	30	70	4		2JJTC 020 005 1201	2 X R0.5	1°	2	12	50	4	
2JJTC 010 001 3501	1 X R0.1	1°	1	35	75	4		2JJTC 020 005 1601	2 X R0.5	1°	2	16	50	4	
2JJTC 010 002 0601	1 X R0.2	1°	1	6	50	4		2JJTC 020 005 2001	2 X R0.5	1°	2	20	60	4	
2JJTC 010 002 1001	1 X R0.2	1°	1	10	50	4		2JJTC 020 005 2501	2 X R0.5	1°	2	25	60	4	
2JJTC 010 002 1501	1 X R0.2	1°	1	15	50	4		2JJTC 020 005 3001	2 X R0.5	1°	2	30	70	4	
2JJTC 010 002 2001	1 X R0.2	1°	1	20	60	4		2JJTC 020 005 3501	2 X R0.5	1°	2	35	75	4	
2JJTC 010 002 2501	1 X R0.2	1°	1	25	60	4		2JJTC 020 005 4001	2 X R0.5	1°	2	40	80	4	
2JJTC 010 002 3001	1 X R0.2	1°	1	30	70	4		2JJTC 020 005 5001	2 X R0.5	1°	2	50	90	4	
2JJTC 010 002 3501	1 X R0.2	1°	1	35	75	4		2JJTC 030 002 2001	3 X R0.2	1°	3	20	60	6	
2JJTC 010 003 0601	1 X R0.3	1°	1	6	50	4		2JJTC 030 002 3001	3 X R0.2	1°	3	30	70	6	
2JJTC 010 003 1001	1 X R0.3	1°	1	10	50	4		2JJTC 030 002 4001	3 X R0.2	1°	3	40	80	6	
2JJTC 010 003 1501	1 X R0.3	1°	1	15	50	4		2JJTC 030 002 5001	3 X R0.2	1°	3	50	90	6	
2JJTC 010 003 2001	1 X R0.3	1°	1	20	60	4		2JJTC 030 002 6001	3 X R0.2	1°	3	60	100	6	
2JJTC 010 003 2501	1 X R0.3	1°	1	25	60	4		2JJTC 030 003 2001	3 X R0.3	1°	3	20	60	6	
2JJTC 010 003 3001	1 X R0.3	1°	1	30	70	4		2JJTC 030 003 3001	3 X R0.3	1°	3	30	70	6	
2JJTC 010 003 3501	1 X R0.3	1°	1	35	75	4		2JJTC 030 003 4001	3 X R0.3	1°	3	40	80	6	
2JJTC 015 002 1001	1.5 X R0.2	1°	1.5	10	50	4		2JJTC 030 003 5001	3 X R0.3	1°	3	50	90	6	
2JJTC 015 002 1501	1.5 X R0.2	1°	1.5	15	50	4		2JJTC 030 003 6001	3 X R0.3	1°	3	60	100	6	
2JJTC 015 002 2001	1.5 X R0.2	1°	1.5	20	60	4		2JJTC 030 005 2001	3 X R0.5	1°	3	20	60	6	
2JJTC 015 002 2501	1.5 X R0.2	1°	1.5	25	60	4		2JJTC 030 005 3001	3 X R0.5	1°	3	30	70	6	
2JJTC 015 002 3001	1.5 X R0.2	1°	1.5	30	70	4		2JJTC 030 005 4001	3 X R0.5	1°	3	40	80	6	
2JJTC 015 002 3501	1.5 X R0.2	1°	1.5	35	75	4		2JJTC 030 005 5001	3 X R0.5	1°	3	50	90	6	
2JJTC 015 003 1001	1.5 X R0.3	1°	1.5	10	50	4		2JJTC 030 005 6001	3 X R0.5	1°	3	60	100	6	
2JJTC 015 003 1501	1.5 X R0.3	1°	1.5	15	50	4		2JJTC 030 010 2001	3 X R1	1°	3	20	60	6	
2JJTC 015 003 2001	1.5 X R0.3	1°	1.5	20	60	4		2JJTC 030 010 3001	3 X R1	1°	3	30	70	6	
2JJTC 015 003 2501	1.5 X R0.3	1°	1.5	25	60	4		2JJTC 030 010 4001	3 X R1	1°	3	40	80	6	
2JJTC 015 003 3001	1.5 X R0.3	1°	1.5	30	70	4		2JJTC 030 010 5001	3 X R1	1°	3	50	90	6	
2JJTC 015 003 3501	1.5 X R0.3	1°	1.5	35	75	4		2JJTC 030 010 6001	3 X R1	1°	3	60	100	6	
2JJTC 015 005 1001	1.5 X R0.5	1°	1.5	10	50	4		2JJTC 040 002 2001	4 X R0.2	1°	4	20	60	6	
2JJTC 015 005 1501	1.5 X R0.5	1°	1.5	15	50	4		2JJTC 040 002 3001	4 X R0.2	1°	4	30	70	6	
2JJTC 015 005 2001	1.5 X R0.5	1°	1.5	20	60	4		2JJTC 040 002 4001	4 X R0.2	1°	4	40	80	6	
2JJTC 015 005 2501	1.5 X R0.5	1°	1.5	25	60	4		2JJTC 040 002 5001	4 X R0.2	1°	4	50	90	6	
2JJTC 015 005 3001	1.5 X R0.5	1°	1.5	30	70	4		2JJTC 040 002 6001	4 X R0.2	1°	4	60	100	6	
2JJTC 015 005 3501	1.5 X R0.5	1°	1.5	35	75	4		2JJTC 040 003 2001	4 X R0.3	1°	4	20	60	6	
2JJTC 020 002 1201	2 X R0.2	1°	2	12	50	4		2JJTC 040 003 3001	4 X R0.3	1°	4	30	70	6	
2JJTC 020 002 1601	2 X R0.2	1°	2	16	50	4		2JJTC 040 003 4001	4 X R0.3	1°	4	40	80	6	
2JJTC 020 002 2001	2 X R0.2	1°	2	20	60	4		2JJTC 040 003 5001	4 X R0.3	1°	4	50	90	6	
2JJTC 020 002 2501	2 X R0.2	1°	2	25	60	4		2JJTC 040 003 6001	4 X R0.3	1°	4	60	100	6	
2JJTC 020 002 3001	2 X R0.2	1°	2	30	70	4		2JJTC 040 005 2001	4 X R0.5	1°	4	20	60	6	
2JJTC 020 002 3501	2 X R0.2	1°	2	35	75	4		2JJTC 040 005 3001	4 X R0.5	1°	4	30	70	6	
2JJTC 020 002 4001	2 X R0.2	1°	2	40	80	4		2JJTC 040 005 4001	4 X R0.5	1°	4	40	80	6	
2JJTC 020 002 5001	2 X R0.2	1°	2	50	90	4		2JJTC 040 005 5001	4 X R0.5	1°	4	50	90	6	
2JJTC 020 003 1201	2 X R0.3	1°	2	12	50	4		2JJTC 040 005 6001	4 X R0.5	1°	4	60	100	6	
2JJTC 020 003 1601	2 X R0.3	1°	2	16	50	4		2JJTC 040 010 2001	4 X R1	1°	4	20	60	6	
2JJTC 020 003 2001	2 X R0.3	1°	2	20	60	4		2JJTC 040 010 3001	4 X R1	1°	4	30	70	6	

홈절삭 Slotting													
피삭재 Material		고경도강 Hardened Steels STAVAX/SKD11				열처리 / 고경도강 Heat-treated steels / Hardened Steels SKD11 / SKD61				열처리 / 고경도강 Heat-treated steels / Hardened Steels YXR7 / SKH51			
경도 Hardness		45 ~ 55HRC				55 ~ 62HRC				62 ~ 70HRC			
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 0.4	R 0.1	33,000	105	0.01	0.01	25,000	60	0.005	0.008	25,000	60	0.005	0.008
ø 0.5	R 0.1	33,000	110	0.015	0.02	25,000	65	0.007	0.010	20,000	40	0.007	0.010
ø 0.8	R 0.2	30,000	125	0.02	0.10	25,000	85	0.01	0.075	20,000	50	0.01	0.075
ø 1	R 0.3	25,000	226	0.04	0.15	19,000	131	0.02	0.12	16,000	74	0.02	0.12
ø 1.5	R 0.5	20,500	268	0.10	0.30	16,000	157	0.05	0.20	12,500	95	0.05	0.20
ø 2	R 0.5	14,500	324	0.15	0.50	11,000	186	0.1	0.25	9,500	124	0.10	0.30
ø 2.5	R 0.5	9,500	324	0.20	0.50	7,500	186	0.12	0.35	6,400	124	0.12	0.40
ø 3	R 0.5	9,500	324	0.20	0.50	7,500	186	0.12	0.35	6,400	124	0.12	0.40
ø 4	R 0.3	7,200	337	0.25	0.30	5,600	197	0.15	0.20	4,750	127	0.15	0.30
ø 5	R 0.5	6,400	356	0.25	0.50	5,100	209	0.15	0.50	4,450	142	0.15	0.40
"	R 1	6,400	356	0.40	1.05	5,100	209	0.35	0.80	4,450	142	0.30	0.70
ø 6	R 0.5	5,300	349	0.20	0.70	4,200	209	0.2	0.60	3,700	140	0.20	0.50
"	R 1	5,300	349	0.30	1.00	4,200	209	0.3	0.80	3,700	140	0.20	0.65
"	R 1.5	5,300	349	0.50	1.30	4,200	209	0.4	1.00	3,700	140	0.30	0.80
ø 8	R 0.5	4,000	318	0.30	0.70	3,200	191	0.20	0.60	2,800	130	0.20	0.50
"	R 1	4,000	318	0.40	1.00	3,200	191	0.25	0.90	2,800	130	0.25	0.70
"	R 1.5	4,000	318	0.40	1.30	3,200	191	0.25	1.20	2,800	130	0.25	0.80
ø 10	R 0.5	3,200	300	0.40	0.80	2,550	180	0.2	0.60	2,200	122	0.20	0.50
"	R 1	3,200	300	0.50	1.00	2,550	180	0.3	0.80	2,200	122	0.30	0.80
"	R 2	3,200	300	0.50	1.70	2,550	180	0.3	1.50	2,200	122	0.30	1.30
ø 12	R 0.5	2,650	300	0.50	1.00	2,100	180	0.35	0.80	1,860	122	0.20	0.60
"	R 1	2,650	300	0.60	1.30	2,100	180	0.35	1.20	1,860	122	0.30	1.00
"	R 2	2,650	300	0.60	1.80	2,100	180	0.35	1.70	1,860	122	0.30	1.40
"	R 3	2,650	300	0.60	2.50	2,100	180	0.40	2.00	1,860	122	0.30	1.80

측면절삭 Side Cutting													
피삭재 Material		고경도강 Hardened Steels STAVAX/SKD11				열처리 / 고경도강 Heat-treated steels / Hardened Steels SKD11 / SKD61				열처리 / 고경도강 Heat-treated steels / Hardened Steels YXR7 / SKH51			
경도 Hardness		45 ~ 55HRC				55 ~ 62HRC				62 ~ 70HRC			
외경 Outside Diameter		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 0.4		33,000	105	0.40	0.012	25,000	60	0.2	0.008	25,000	60	0.2	0.008
ø 0.5		33,000	110	0.50	0.015	25,000	65	0.25	0.010	20,000	40	0.25	0.010
ø 0.8		30,000	125	0.80	0.024	25,000	85	0.4	0.016	20,000	50	0.4	0.016
ø 1		25,000	145	1.00	0.030	19,000	128	0.5	0.02	16,000	74	0.5	0.02
ø 2		14,500	208	2.00	0.060	11,000	129	1	0.04	9,500	76	1	0.04
ø 3		9,500	208	3.00	0.090	7,500	131	1.5	0.06	6,400	77	1.5	0.06
ø 4		7,200	216	4.00	0.120	5,600	132	2	0.08	4,750	78	2	0.08
ø 6		5,300	224	6.00	0.180	4,200	133	3	0.12	3,700	80	3	0.12
ø 8		4,000	204	8.00	0.240	3,200	135	4	0.16	2,800	81	4	0.16
ø 10		3,200	192	10.00	0.300	2,550	136	5	0.20	2,200	82	5	0.20
ø 12		2,650	192	12.00	0.360	2,100	138	6	0.24	1,860	84	6	0.24



- HRC55 이하 피삭재(합금강, 공구강) 가공시 같은 파이에 대비 상기 절삭조건외의 20% UP 해주십시오.
- 유효장이 긴 경우에는 회전수와 이송속도를 최대30% 이하로 줄이십시오.
- 측면 절삭시 코너R 부분과 각도내용을 참고하여 절삭 하시기 바랍니다.
- 곡면 절삭시 날경의 코너R 보다 낮은 이동 PITCH를 설정 하십시오.
- 곡면 절삭시 안정적인 속도 내에서 피드를 최대 30%까지 UP 해주십시오.
- 상기 절삭조건은 참고 수치이므로 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 에어브로, 절삭유, 오일미스트 쿨런트를 추천하며, 칩을 잘 제거하고 가공시 발열과 발화에 주의 하십시오
- When milling workpiece, HRC below 55 (Alloy steel, tool steel), Raise up 20% RPM and feed compared to the same diameter.
- In case of long effective length, reduce the RPM and feed by 30% or less.
- For side milling, refer to the corner radius and
- For curved milling, set up the lower value of the pitch than the corner radius value of tool diameter.
- For curved milling, raise up the feed by 30% in stable condition.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.