



- 고경도강(HRc52~68), 프리하든강 계열의 고정밀 가공 엔드밀
- 깊은 홈 가공이 빈번해진 추세에 맞춰, 고객 요구에 빠르게 대응하는 맞춤제작 방식입니다. (최고 2일안에 납품가능)
- 고정밀 공차 적용으로 초정밀 가공에 적합합니다.
- 고객주문에 맞춰, 자사 재고품의 각도 및 유효길이를 재조정 가공합니다.
- 초미립자 초경합금(0.2µm)을 채택, 고속절삭시 뛰어난 성능을 발휘합니다.

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

- Tailor-made special tools production for deep hole machining
- Suitable for ultra-precision machining by applying ultra-precision tolerances.
- With our STD stock the angle and effective length will be re-adjusted upon customers' required order spec
- Adoped ultra-fine grain cemented carbide (0.2µm) and shows excellent performance during high-speed cutting.

3

**UWC**  
초미립자

**TISIN-S**  
Coating

R  
±0.005

R  
±0.01

30°  
Helix Angle

**CUTTING DATA**  
408P

Condition	D Size	D Tolerance
ØD ≠ Ød	Ø1 ~ 12	+0 ~ -0.01mm

단위 : mm

Order Number	날경 Diameter R × D	각도 Angle θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샤프트 Shank Dia d	비고
3JJTBS 010 060 S04	0.5R X 1	필요한 각도 지정 여부	1	필요한 유효장 지정 여부	60	4	
3JJTBS 010 080 S04	0.5R X 1		1		80	4	
3JJTBS 010 090 S06	0.5R X 1		1		90	6	
3JJTBS 015 060 S04	0.75R X 1.5		1.5		60	4	
3JJTBS 015 080 S04	0.75R X 1.5		1.5		80	4	
3JJTBS 015 090 S06	0.75R X 1.5		1.5		90	6	
3JJTBS 020 070 S04	1R X 2		2		70	4	
3JJTBS 020 090 S04	1R X 2		2		90	4	
3JJTBS 020 090 S06	1R X 2		2		90	6	
3JJTBS 030 080 S06	1.5R X 3		3		80	6	
3JJTBS 030 100 S06	1.5R X 3		3		100	6	
3JJTBS 030 110 S08	1.5R X 3		3		110	8	
3JJTBS 040 080 S06	2R X 4	Kindly request the desired angle	5	Kindly request the desired effective length	80	6	
3JJTBS 040 110 S06	2R X 4		5		110	6	
3JJTBS 040 120 S08	2R X 4		5		120	8	
3JJTBS 050 090 S08	2.5R X 5		7		90	8	
3JJTBS 050 120 S08	2.5R X 5		7		120	8	
3JJTBS 060 110 S08	3R X 6		9		110	8	
3JJTBS 060 150 S10	3R X 6		9		150	10	
3JJTBS 080 120 S10	4R X 8		12		120	10	
3JJTBS 080 160 S12	4R X 8		12		160	12	
3JJTBS 100 120 S12	5R X 10		15		120	12	
3JJTBS 100 160 S12	5R X 10		15		160	12	
3JJTBS 120 160 S16	6R X 12		18		160	16	
3JJTBS 120 200 S16	6R X 12	18	200	16			

# 2JTB Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material			합금강 / 프리하드강 Alloy Steels / Pre-hardened Steels NAK80 / KP4M			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			40 ~ 45Hrc			45 ~ 55Hrc			55 ~ 62Hrc			62 ~ 70Hrc		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 0.3	4	1° 30'	43,050	2,142	0.032	31,500	1,418	0.022	23,625	788	0.021	23,625	704	0.016
"	8	1° 30'	26,775	998	0.020	22,050	735	0.015	16,800	515	0.015	16,800	410	0.010
"	12	1° 30'	26,250	893	0.010	22,575	714	0.012	14,700	399	0.010	13,650	336	0.007
"	4	2°	43,050	2,142	0.032	31,500	1,418	0.022	23,625	788	0.021	23,625	704	0.016
"	8	2°	26,775	998	0.022	22,050	735	0.017	16,800	515	0.016	16,800	410	0.010
"	12	2°	26,250	893	0.012	22,575	714	0.014	14,700	399	0.012	13,650	336	0.007
R 0.4	4	0° 30'	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	0° 30'	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	0° 30'	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007
"	4	1°	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	1°	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	1°	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007
"	4	1° 30'	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	1° 30'	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	1° 30'	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007
"	4	2°	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	2°	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	2°	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007

# 2JTB/3JTB Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material			합금강 / 프리하드강 Alloy Steels / Pre-hardened Steels NAK80 / KPM4M			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			40 ~ 45Hrc			45 ~ 55Hrc			55 ~ 62Hrc			62 ~ 70Hrc		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 0.5	6	0° 30'	26,250	2,100	0.047	17,850	1,365	0.037	17,850	1,050	0.032	16,800	861	0.026
"	10	0° 30'	17,850	1,103	0.023	12,600	767	0.019	11,550	683	0.017	11,550	525	0.013
"	20	0° 30'	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	6	1°	26,250	2,100	0.047	17,850	1,365	0.037	17,850	1,050	0.032	16,800	861	0.026
"	10	1°	17,850	1,103	0.023	12,600	767	0.019	11,550	683	0.017	11,550	525	0.013
"	20	1°	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	1°	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	6	1° 30'	26,250	2,100	0.047	17,850	1,365	0.037	17,850	1,050	0.032	16,800	861	0.026
"	10	1° 30'	17,850	1,103	0.023	12,600	767	0.019	11,550	683	0.017	11,550	525	0.013
"	20	1° 30'	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	1° 30'	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	20	2°	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	2°	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	20	3°	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	3°	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	40	3°	12,250	550	0.004	8,550	420	0.002	7,800	365	0.002	7,800	285	0.002
R 0.75	10	0° 30'	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	0° 30'	13,650	1,260	0.032	9,450	945	0.021	9,450	735	0.016	9,450	630	0.014
"	30	0° 30'	9,450	893	0.016	7,350	651	0.013	7,350	546	0.011	7,350	504	0.011
"	10	1°	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	1°	13,650	1,260	0.032	9,450	945	0.021	9,450	735	0.016	9,450	630	0.014
"	30	1°	9,450	893	0.016	7,350	651	0.013	7,350	546	0.011	7,350	504	0.011
"	10	1° 30'	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	1° 30'	13,650	1,260	0.036	9,450	945	0.024	9,450	735	0.018	9,450	630	0.016
"	30	1° 30'	9,450	893	0.017	7,350	651	0.014	7,350	546	0.012	7,350	504	0.011
"	40	1° 30'	8,400	675	0.010	6,300	510	0.008	6,300	420	0.007	6,300	400	0.006
"	10	2°	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	2°	13,650	1,260	0.036	9,450	945	0.024	9,450	735	0.018	9,450	630	0.016
"	30	2°	9,450	893	0.017	7,350	651	0.014	7,350	546	0.012	7,350	504	0.011
"	40	2°	8,400	675	0.010	6,300	510	0.008	6,300	420	0.007	6,300	400	0.006
R 1	12	0° 30'	15,750	2,468	0.084	11,550	1,785	0.068	11,025	1,428	0.059	11,025	1,124	0.048
"	20	0° 30'	10,500	1,470	0.063	8,400	1,050	0.053	9,450	1,050	0.047	9,450	924	0.037
"	30	0° 30'	9,450	1,260	0.047	7,350	840	0.037	7,350	819	0.032	7,350	672	0.026
"	40	0° 30'	9,450	1,260	0.037	7,035	819	0.032	6,300	735	0.026	6,300	609	0.021
"	12	1°	15,750	2,468	0.084	11,550	1,785	0.068	11,025	1,428	0.059	11,025	1,124	0.048
"	20	1°	10,500	1,470	0.063	8,400	1,050	0.053	9,450	1,050	0.047	9,450	924	0.037

피삭재 Material			합금강 / 프리하든강 Alloy Steels / Pre-hardened Steels NAK80 / KP4M			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			40 ~ 45HRc			45 ~ 55HRc			55 ~ 62HRc			62 ~ 70HRc		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 1	30	1°	9,450	1,260	0.047	7,350	840	0.037	7,350	819	0.032	7,350	672	0.026
"	40	1°	9,450	1,260	0.037	7,035	819	0.032	6,300	735	0.026	6,300	609	0.021
"	50	1°	7,900	990	0.027	6,650	770	0.025	5,600	655	0.022	5,600	525	0.015
"	12	1° 30'	15,750	2,468	0.090	11,550	1,785	0.068	11,025	1,428	0.065	11,025	1,124	0.052
"	20	1° 30'	10,500	1,470	0.074	8,400	1,050	0.060	9,450	1,050	0.054	9,450	924	0.042
"	30	1° 30'	9,450	1,260	0.055	7,350	840	0.043	7,350	819	0.038	7,350	672	0.031
"	40	1° 30'	9,450	1,260	0.043	7,035	819	0.037	6,300	735	0.033	6,300	609	0.026
"	50	1° 30'	7,900	990	0.030	6,650	770	0.028	5,600	655	0.029	5,600	525	0.021
"	30	2°	9,450	1,260	0.055	7,350	840	0.043	7,350	819	0.038	7,350	672	0.031
"	40	2°	9,450	1,260	0.043	7,035	819	0.037	6,300	735	0.033	6,300	609	0.026
"	50	2°	7,900	990	0.030	6,650	770	0.028	5,600	655	0.029	5,600	525	0.021
"	30	3°	9,450	1,260	0.055	7,350	840	0.043	7,350	819	0.038	7,350	672	0.031
"	40	3°	9,450	1,260	0.043	7,035	819	0.037	6,300	735	0.033	6,300	609	0.026
"	50	3°	7,900	990	0.030	6,650	770	0.028	5,600	655	0.029	5,600	525	0.021
R 1.5	20	0° 30'	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	0° 30'	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	40	0° 30'	7,875	1,470	0.063	5,250	924	0.053	5,355	840	0.042	5,355	735	0.037
"	50	0° 30'	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
"	20	1°	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	1°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	40	1°	7,875	1,470	0.063	5,250	924	0.053	5,155	840	0.042	5,155	735	0.037
"	50	1°	7,875	1,365	0.042	5,250	840	0.032	5,155	788	0.026	5,155	683	0.024
"	60	1°	6,400	1,225	0.028	4,325	710	0.021	4,300	670	0.018	4,300	540	0.016
"	20	1° 30'	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	1° 30'	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	40	1° 30'	7,875	1,470	0.063	5,250	924	0.053	5,355	840	0.042	5,355	735	0.037
"	50	1° 30'	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
"	60	1° 30'	6,400	1,225	0.028	4,325	710	0.021	4,300	670	0.018	4,300	540	0.016
"	20	2°	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	2°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	48	2°	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
"	60	2°	6,400	1,225	0.028	4,325	710	0.021	4,300	670	0.018	4,300	540	0.016
"	30	3°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	50	3°	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
R 2	40	0° 30'	6,300	1,260	0.085	3,675	630	0.068	3,360	557	0.053	3,360	525	0.045
"	60	0° 30'	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	50	1°	5,250	1,010	0.074	3,450	550	0.058	3,120	480	0.048	3,110	445	0.038
"	60	1°	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	70	1°	3,200	540	0.048	2,760	320	0.036	2,770	360	0.036	2,770	300	0.028
"	45	1° 30'	5,250	1,010	0.074	3,450	550	0.058	3,120	480	0.048	3,110	445	0.038
"	60	1° 30'	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	70	1° 30'	3,200	540	0.048	2,760	320	0.036	2,770	360	0.036	2,770	300	0.028
"	25	3°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	42	3°	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
R 2.5	40	1°	6,300	1,260	0.085	3,675	630	0.068	3,360	557	0.053	3,360	525	0.045
"	60	1°	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	90	1°	2,200	480	0.041	2,450	280	0.030	2,470	250	0.028	2,200	237	0.023
"	40	1° 30'	6,300	1,260	0.085	3,675	630	0.068	3,360	557	0.053	3,360	525	0.045
"	60	1° 30'	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	90	1° 30'	2,200	480	0.041	2,450	280	0.030	2,470	250	0.028	2,200	237	0.023
R 3	40	1°	9,450	2,205	0.147	7,350	1,103	0.105	6,300	998	0.084	6,300	893	0.061
"	50	1°	7,800	1,910	0.122	5,980	980	0.088	5,000	845	0.070	5,300	760	0.055
"	60	1°	6,100	1,670	0.105	5,285	820	0.070	4,180	760	0.062	4,300	620	0.048
"	70	1°	4,725	1,470	0.074	4,095	735	0.063	3,570	683	0.053	3,570	578	0.042
"	80	1°	3,540	1,320	0.061	3,400	640	0.046	2,100	510	0.040	2,100	468	0.033
"	49	1° 30'	7,800	1,910	0.122	5,980	980	0.088	5,000	845	0.070	5,300	760	0.055
"	85	1° 30'	3,360	1,220	0.055	3,100	580	0.040	1,880	460	0.035	1,880	448	0.028
"	60	2°	6,100	1,670	0.105	5,285	820	0.070	4,180	760	0.062	4,300	620	0.048
"	90	2°	3,000	1,050	0.055	2,870	520	0.040	1,720	410	0.035	1,720	400	0.028
R 4	50	1°	9,345	2,310	0.189	7,350	1,155	0.147	6,300	1,050	0.105	6,300	840	0.086
"	60	1°	7,150	1,846	0.138	5,330	916	0.114	4,550	820	0.080	4,550	655	0.064
"	80	1°	4,515	1,365	0.095	3,360	683	0.084	3,045	578	0.068	3,045	473	0.042
"	52	1° 30'	9,345	2,310	0.197	7,350	1,155	0.154	6,300	1,050	0.113	6,300	840	0.094
"	89	1° 30'	3,400	1,090	0.073	2,970	578	0.046	1,890	454	0.041	1,860	443	0.033

# 2JJTB/3JJTBS Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material			합금강 / 프리하든강 Alloy Steels / Pre-hardened Steels NAK80 / KP4M			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			40 ~ 45HRC			45 ~ 55HRC			55 ~ 62HRC			62 ~ 70HRC		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 5	60	1°	5,775	1,785	0.194	3,675	893	0.168	3,570	735	0.126	3,570	630	0.084
"	75	1°	4,200	998	0.093	3,150	504	0.068	2,940	420	0.053	2,940	336	0.034
"	54	1° 30'	6,175	1,850	0.220	3,935	923	0.185	3,760	768	0.146	3,760	678	0.097
R 6	85	1° 30'	2,940	336	0.063	1,995	168	0.032	1,575	158	0.016	1,575	105	0.011
"	63	3°	3,990	735	0.126	2,940	368	0.086	2,625	326	0.063	2,625	231	0.047

절입량  
Depth of Cut

Ap : Axial Depth 축방향의절입깊이(mm)  
 Ae : Radial Depth 반경방향의절입깊이(mm)  
 D : Outside Diameter 외경(mm)  
 n : Speed 회전속도 (min<sup>-1</sup>)  
 Vf : Feed 이송속도 (mm/min)

- 절삭조건에 없는 각도는 같은 직경에 이전 각도와 비례하여 사용하십시오.
- 이송속도 및 축방향의 절입깊이는 리브창과 테이퍼각에 따라 고려하시고, 절삭상황에 맞추어 조정하십시오.
- 에어브로 혹은 미스트 콜러트를 추천하며, 동 가공 시 습식 콜러트 추천합니다.
- 상기 절삭조건은 참고 수치이므로 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 적용 기계의 회전속도가 부족한 경우에는 회전속도와 이송속도를 같은 비율로 줄여서 적용합니다.
- 칩 제거 주의 및 가공시 발열, 발화에 주의하십시오.

- If there is no same taper angle of your endmill on the table, refer to the previous taper angle of diameter and apply the same proportion.
- Adjust the value of the feed and Ap based on the effective length and taper angle, and adjust the milling condition.
- Air blow or mist coolant is recommended, and wet coolants are recommended for copper milling.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- Where the parameters exceed the machine's maximum spindle speed, the RPM and feedrate should be reduced proportionally.
- Note for chip emission, heat or ignition.

# 2JJSP Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	공구강 / 금형강 Tool Steels / Alloy Steels SCM/HPM		합금강 / 프리하든강 Alloy Steels / Prehardened Steels NAK80/KP4M		스테인레스강 Stainless Steels SUS304/SUS316		고경도강 Hardened Steels STAVAX/SKD11		열처리 / 고경도강 Heat-treated steels / Hardened Steels SKD11 / SKD61 / YXR7 / R7 / SKH51		열처리 / 고경도강 Heat-treated steels / Hardened Steels SKD11 / SKD61 / YXR7 / R7 / SKH51	
	경도 Hardness	30 ~ 40HRC	40 ~ 45HRC		-		45 ~ 55HRC		55 ~ 60HRC		60 ~ 70HRC	
반경 Radius	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R 0.5	25,600	680	25,600	680	25,600	680	25,600	680	25,600	610	25,600	610
R 0.75	22,000	850	22,000	850	22,000	850	22,000	850	22,000	750	22,000	750
R 1	19,200	1,080	19,200	1,080	19,200	1,080	19,200	1,080	19,200	960	17,600	960
R 2	12,400	1,440	11,200	1,240	10,800	1,160	10,000	1,080	10,000	920	8,800	920
R 3	8,400	1,480	7,600	1,360	7,200	1,280	6,800	1,200	6,800	1,040	5,900	1,040
R 4	6,400	1,120	5,700	1,000	5,500	960	5,100	880	5,100	790	4,400	790
R 5	5,100	880	4,600	800	4,400	784	4,000	720	4,000	640	3,600	640
R 6	4,800	840	3,800	670	3,640	640	3,400	600	3,400	540	3,000	540

절입량  
Depth of Cut

Ap	Ae
0.05D	0.05D

~ 55HRC

Ap	Ae
0.02D	0.05D

~ 70HRC

- 절삭조건에 ap, ae 수치는 황삭 및 황중삭의 수치이므로, 견고한 조도의 가공을 원하시면 황삭 값의 50%를 적용 하십시오.
- 상기 절삭조건은 참고 수치이므로 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 조건 표가 기계의 최대스핀들 속도를 초과하거나 버 및 적열 현상이 발생할때 스펀들 속도와 이송 속도를 비례하여 조정 하십시오.

- The values of ap and ae on the table are for roughing or semi-roughing. If you need a great surface roughness, apply 50% of the value.
- 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, or found red heat on the material, adjust RPM and feed in the same proportion.