

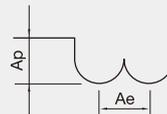
2HSBG / 2HCBG Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material		동 Copper				프리하든강 Prehardened Steels				고경도강 Hardened Steels			
경도 Hardness						40 ~ 50HRC				50 ~ 52HRC			
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
R0.05	0.2	54,000	360	0.010	0.050	43,200	306	0.009	0.045	34,560	245	0.007	0.036
R0.075	0.15	54,000	456	0.010	0.030	43,200	388	0.009	0.027	34,560	310	0.007	0.022
R0.1	0.2	54,000	516	0.012	0.008	43,200	439	0.011	0.007	34,560	351	0.009	0.006
	0.4	54,000	516	0.005	0.008	43,200	439	0.005	0.007	34,560	351	0.004	0.006
R0.1.5	0.3	54,000	864	0.020	0.013	43,200	734	0.018	0.012	34,560	588	0.014	0.009
	0.6	54,000	864	0.010	0.013	43,200	734	0.009	0.012	34,560	588	0.007	0.009
R0.2	0.4	54,000	1,044	0.028	0.016	43,200	887	0.025	0.014	34,560	710	0.020	0.012
	0.8	54,000	1,044	0.014	0.016	43,200	887	0.013	0.014	34,560	710	0.010	0.012
R0.25	0.5	56,000	1,500	0.035	0.022	44,800	1,275	0.032	0.020	35,840	1,020	0.025	0.016
R0.3	0.6	58,000	1,812	0.042	0.026	46,400	1,540	0.038	0.023	37,120	1,232	0.030	0.019
R0.35	0.7	55,000	2,028	0.049	0.031	44,000	1,724	0.044	0.028	35,200	1,379	0.035	0.022
R0.4	0.8	52,000	2,244	0.056	0.036	41,600	1,907	0.050	0.032	33,280	1,526	0.040	0.026
	2	52,000	2,244	0.300	0.036	41,600	1,907	0.270	0.032	33,280	1,526	0.216	0.026
R0.5	1	41,000	1,992	0.063	0.040	32,800	1,693	0.057	0.036	26,240	1,355	0.045	0.029
	2.5	41,000	1,992	0.022	0.040	32,800	1,693	0.020	0.036	26,240	1,355	0.016	0.029
R0.6	3	34,000	2,088	0.650	0.400	27,200	1,775	0.585	0.360	21,760	1,420	0.468	0.288
R0.75	1.5	27,000	2,196	0.087	0.068	21,600	1,867	0.078	0.061	17,280	1,493	0.063	0.049
	4	27,000	2,196	0.052	0.068	21,600	1,867	0.047	0.061	17,280	1,493	0.037	0.049
R1	2	20,000	2,136	0.112	0.089	16,000	1,816	0.101	0.080	12,800	1,452	0.081	0.064
	5	20,000	2,136	0.070	0.091	16,000	1,816	0.063	0.082	12,800	1,452	0.050	0.066
R1.25	6	16,000	2,208	0.067	0.115	12,800	1,877	0.060	0.104	10,240	1,501	0.048	0.083
R1.5	3	13,000	2,664	0.197	0.171	10,400	2,264	0.177	0.154	8,320	1,812	0.142	0.123
	8	13,000	2,664	0.100	0.171	10,400	2,264	0.090	0.154	8,320	1,812	0.072	0.123
R1.75	8	11,500	2,580	0.183	0.190	9,200	2,193	0.165	0.171	7,360	1,754	0.132	0.136
R2	4	10,000	2,496	0.266	0.208	8,000	2,122	0.239	0.187	6,400	1,697	0.192	0.150
	8	10,000	2,496	0.134	0.208	8,000	2,122	0.121	0.187	6,400	1,697	0.096	0.150
R2.5	5	8,300	2,388	0.215	0.240	6,640	2,030	0.194	0.216	5,312	1,624	0.155	0.173
	8	8,300	2,388	0.200	0.240	6,640	2,030	0.180	0.216	5,312	1,624	0.144	0.173
R3	10	6,900	2,328	0.290	0.281	5,520	1,979	0.261	0.253	4,416	1,583	0.209	0.202
	12	6,900	2,328	0.250	0.281	5,520	1,979	0.225	0.253	4,416	1,583	0.180	0.202
R3.5	14	6,310	1,764	0.230	0.281	5,520	1,979	0.207	0.253	4,416	1,583	0.166	0.202
	6	6,900	2,328	0.290	0.281	5,520	1,979	0.261	0.253	4,416	1,583	0.209	0.202
R4	8	5,720	1,200	0.400	0.175	4,576	1,020	0.360	0.158	3,661	816	0.288	0.126
	14	5,720	1,200	0.400	0.175	4,576	1,020	0.360	0.158	3,661	816	0.288	0.126
R4.5	16	5,135	1,020	0.450	0.165	4,108	867	0.405	0.148	3,286	694	0.324	0.118
R5	10	4,550	840	0.500	0.154	3,640	714	0.450	0.139	2,912	571	0.360	0.111
	15	4,550	840	0.500	0.154	3,640	714	0.450	0.139	2,912	571	0.360	0.111
R5.5	18	4,550	840	0.500	0.154	3,640	714	0.450	0.139	2,912	571	0.360	0.111
	20	4,160	780	0.550	0.157	3,328	663	0.495	0.141	2,662	530	0.396	0.113
R6	18	3,770	720	0.600	0.159	3,016	612	0.540	0.143	2,413	490	0.432	0.114
	22	3,770	720	0.600	0.159	3,016	612	0.540	0.143	2,413	490	0.432	0.114
R6.5	24	3,728	784	0.549	0.156	2,982	666	0.494	0.140	2,386	533	0.395	0.112
R7	24	3,686	847	0.498	0.153	2,948	720	0.448	0.137	2,359	576	0.359	0.110
R8	30	2,985	720	0.413	0.147	2,388	612	0.372	0.132	1,911	490	0.298	0.106
R10	38	2,429	432	0.276	0.133	1,943	367	0.248	0.120	1,554	294	0.198	0.096

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.
- 절삭조건이 없는 직경 및 유효장은 비슷한 직경 및 유효장에 비례하여 UP&DOWN 하여 설정 하십시오.
- HRC52 이상 고경도강 가공시 52HRC 조건의 같은 직경 대비 상기 절삭조건의 20% DOWN 해주십시오.
- 이 절삭 조건표는 절삭 조건의 참고 수치입니다. 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 적용 기계의 회전 속도가 부족한 경우에는 회전 속도와 이송속도를 같은 비율로 줄여서 적용합니다.
- 진동이 적고 강성이 좋은 공작기계 사용 요망 합니다 (Ø1이하 사용시 진동 허용 관리 5µm 이내 일것.)
- 원활한 칩 배출을 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.
- If the effective length or overall length of your tool are not show above the table, adjust your parameter with upper or lower diameter of parameter.
- When milling workpiece HRC over 52 hardened steel , reduce 20% of the RPM and feed compared to the same diameter.
- 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 dry milling is recommended for copper material.

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