

HMB230, WMB230 황삭 일반절삭 조건 참고 자료

HMB230, WMB230 Rough General Cutting Conditions Reference Table

WIDE-MAX Series																
HY-MAX Series																
파삭재 Work Material	탄소강, 합금강, 주철 Carbon Steel, Alloy Steel, Cast Iron S50C, SCM, FC250				프리하든강 Prehardened Steel NAK, HPM				열처리강 Hardened Steel SKD61, STAVAX				열처리강 Hardened Steel SKD11			
	~1000 N/mm²				35~45 HRC				45~55 HRC				55~60 HRC			
불반경 Radius	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)
R0.5	20,000	700	0.05	0.20	20,000	650	0.05	0.20	20,000	550	0.04	0.15	19,000	450	0.03	0.10
R0.75	20,000	1,200	0.07	0.30	20,000	1,050	0.07	0.30	18,000	650	0.06	0.23	15,000	500	0.04	0.15
R1	20,000	1,350	0.10	0.40	20,000	1,150	0.10	0.40	16,000	750	0.08	0.30	13,000	550	0.06	0.20
R1.5	16,000	1,600	0.15	0.60	16,000	1,450	0.15	0.60	11,000	800	0.12	0.45	8,500	550	0.09	0.30
R2	12,000	1,650	0.20	0.80	12,000	1,450	0.20	0.80	8,000	800	0.16	0.60	6,500	600	0.12	0.40
R2.5	10,000	1,550	0.25	1.00	10,000	1,450	0.25	1.00	6,500	800	0.20	0.75	5,000	600	0.15	0.50
R3	8,000	1,700	0.30	1.20	8,000	1,450	0.30	1.20	5,500	800	0.24	0.90	4,500	600	0.18	0.60
R4	6,000	1,800	0.40	1.60	6,000	1,500	0.40	1.60	4,000	850	0.32	1.20	3,500	600	0.24	0.80
R5	5,000	1,700	0.50	2.00	5,000	1,500	0.50	2.00	3,500	800	0.40	1.50	2,500	550	0.30	1.00
R6	4,500	1,600	0.60	2.40	4,000	1,350	0.60	2.40	3,000	750	0.48	1.80	2,100	500	0.36	1.20
R8	3,300	1,300	0.80	3.20	3,000	1,100	0.80	3.20	2,000	600	0.64	2.40	1,600	450	0.48	1.60

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HMB230, WMB230 Rough High Speed Cutting Conditions Reference Table

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HY-MAX Series																
파삭재 Work Material	탄소강, 합금강, 주철 Carbon Steel, Alloy Steel, Cast Iron S50C, SCM, FC250				프리하든강 Prehardened Steel NAK, HPM				열처리강 Hardened Steel SKD61, STAVAX				열처리강 Hardened Steel SKD11			
	~1000 N/mm²				35~45 HRC				45~55 HRC				55~60 HRC			
불반경 Radius	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)
R0.5	40,000	1,500	0.05	0.15	40,000	1,300	0.05	0.15	40,000	1,200	0.04	0.10	40,000	1,000	0.03	0.10
R0.75	40,000	2,200	0.07	0.23	40,000	2,100	0.07	0.23	40,000	1,700	0.06	0.15	38,000	1,200	0.05	0.15
R1	40,000	2,800	0.10	0.30	40,000	2,700	0.10	0.30	38,000	2,000	0.08	0.20	29,000	1,400	0.06	0.20
R1.5	32,000	3,200	0.15	0.45	32,000	2,800	0.15	0.45	25,000	2,100	0.12	0.30	19,000	1,450	0.09	0.30
R2	24,000	3,300	0.20	0.60	24,000	2,900	0.20	0.60	19,000	2,200	0.16	0.40	14,000	1,500	0.12	0.40
R2.5	20,000	3,300	0.25	0.75	20,000	2,900	0.25	0.75	16,000	2,200	0.20	0.50	12,000	1,500	0.15	0.50
R3	16,000	3,300	0.30	0.90	16,000	3,000	0.30	0.90	13,000	2,300	0.24	0.60	9,500	1,500	0.18	0.60
R4	14,000	3,600	0.40	1.20	14,000	3,000	0.40	1.20	11,000	2,300	0.32	0.80	7,500	1,500	0.24	0.80
R5	12,000	3,600	0.50	1.50	12,000	3,000	0.50	1.50	8,500	2,100	0.40	1.00	6,000	1,400	0.30	1.00
R6	8,000	3,000	0.60	1.80	8,000	2,600	0.60	1.80	6,500	1,900	0.48	1.20	4,600	1,200	0.36	1.20
R8	6,000	2,500	0.80	2.40	6,000	2,200	0.80	2.40	4,500	1,500	0.64	1.60	3,500	950	0.48	1.60

HMB230, WMB230 정삭 일반절삭 조건 참고 자료

HMB230, WMB230 Finish General Cutting Conditions Reference Table

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파삭재 Work Material	탄소강, 합금강, 주철 Carbon Steel, Alloy Steel, Cast Iron S50C, SCM, FC250				프리하든강 Prehardened Steel NAK, HPM				열처리강 Hardened Steel SKD61, STAVAX				열처리강 Hardened Steel SKD11			
	~1000 N/mm²				35~45 HRC				45~55 HRC				55~60 HRC			
불반경 Radius	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)
R0.5	20,000	700	0.03	0.03	20,000	650	0.03	0.02	20,000	550	0.03	0.02	19,000	450	0.02	0.02
R0.75	20,000	1,200	0.05	0.04	20,000	1,050	0.05	0.03	18,000	650	0.03	0.03	15,000	500	0.02	0.03
R1	20,000	1,350	0.05	0.05	20,000	1,150	0.05	0.04	16,000	750	0.03	0.04	13,000	550	0.02	0.04
R1.5	16,000	1,600	0.08	0.08	16,000	1,450	0.06	0.06	11,000	800	0.05	0.06	8,500	550	0.05	0.06
R2	12,000	1,650	0.10	0.10	12,000	1,450	0.08	0.08	8,000	800	0.05	0.08	6,500	600	0.05	0.08
R2.5	10,000	1,550	0.10	0.13	10,000	1,450	0.10	0.10	6,500	800	0.05	0.10	5,000	600	0.05	0.10
R3	8,000	1,700	0.15	0.15	8,000	1,450	0.10	0.10	5,500	800	0.10	0.10	4,500	600	0.10	0.10
R4	6,000	1,800	0.20	0.20	6,000	1,500	0.15	0.15	4,000	850	0.10	0.15	3,500	600	0.10	0.15
R5	5,000	1,700	0.20	0.25	5,000	1,500	0.15	0.20	3,500	800	0.10	0.20	2,500	550	0.10	0.20
R6	4,500	1,600	0.20	0.30	4,000	1,350	0.15	0.24	3,000	750	0.10	0.24	2,100	500	0.10	0.24

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	~1000 N/mm²				35~45 HRC				45~55 HRC				55~60 HRC			
불반경 Radius	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)	Spindle Speed (min ⁻¹)	Feed (mm/ min)	Depth of Cut ap(mm)	Depth of Cut ae(mm)
R0.5	40,000	3,800	0.03	0.03	40,000	3,500	0.03	0.02	40,000	3,000	0.03	0.02	40,000	2,000	0.02	0.02
R0.75	38,000	3,800	0.05	0.04	38,000	3,500	0.05	0.03	38,000	3,000	0.03	0.03	38,000	2,000	0.02	0.03
R1	32,000	3,800	0.05	0.05	32,000	3,500	0.05	0.04	32,000	3,100	0.03	0.04	32,000	2,600	0.02	0.04
R1.5	26,000	3,500	0.08	0.08	26,000	3,300	0.06	0.06	24,000	2,800	0.05	0.06	21,000	2,300	0.05	0.06
R2	22,000	3,700	0.10	0.10	22,000	3,400	0.08	0.08	20,000	2,900	0.05	0.08	17,000	2,300	0.05	0.08
R2.5	20,000	3,600	0.10	0.13	20,000	3,400	0.10	0.10	17,000	2,700	0.05	0.10	14,000	2,100	0.05	0.10
R3	16,000	3,500	0.15	0.15	16,000	3,200	0.10	0.10	13,000	2,600	0.10	0.10	11,000	2,000	0.10	0.10
R4	14,000	3,000	0.20	0.20	13,000	2,700	0.15	0.15	10,000	2,100	0.10	0.15	8,000	1,600	0.10	0.15
R5	10,000	2,600	0.20	0.25	10,000	2,500	0.15	0.20	8,000	1,900	0.10	0.20	6,000	1,350	0.10	0.20
R6	8,000	2,100	0.20	0.30	8,000	2,000	0.15	0.24	6,500	1,550	0.10	0.24	5,000	1,150	0.10	0.24

- NOTE**

 - 정밀하고 강성이 있는 홀더와 장비를 사용해 주십시오.
 - ap는 축방향의 절입량을 표시합니다. ae는 반경방향의 절입량을 표시합니다.
 - 파삭재와 가공형상에 따라 적절한 절삭유를 사용해 주십시오.
 - 절삭 조건표는 참고자료입니다. 실제 가공시에는 가공형상, 기계에 따라 조건을 조정해서 가공하시기 바랍니다.
- Use a rigid and precise machine and holder.
 - ap(mm) : Axial Depth of Cut / ae(mm) : Radial Depth of Cut
 - Use the appropriate coolant for the workpiece and machining shape.
 - The cutting condition table is a reference. In actual machining, adjust the conditions according to the machining shape and machine.