

EHHR-ATH | Recommended Cutting Conditions

Standard	Workpiece Material		Hardened Steels Example: 1.2343 (52 ~ 57 HRC)					Hardened Steels Example: 1.2379 (58 ~ 62 HRC)						
	D	Z	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm
	1	4	80	25,500	0.036	3,670	0.040	0.55	60	19,100	0.023	1,720	0.023	0.55
2	80		12,700	0.072	3,660	0.080	1.1	60	9,600	0.045	1,730	0.046	1.1	
3	80		8,500	0.113	3,840	0.120	1.65	60	6,400	0.071	1,800	0.069	1.65	
4	6	80	6,400	0.152	5,840	0.160	2.2	60	4,800	0.095	2,740	0.092	2.2	
5		80	5,100	0.194	5,940	0.200	2.75	60	3,800	0.121	2,760	0.115	2.75	
6		80	4,200	0.233	5,870	0.240	3.3	60	3,200	0.146	2,790	0.138	3.3	
8		80	3,200	0.320	6,140	0.320	4.4	60	2,400	0.200	2,880	0.184	4.4	
10		80	2,500	0.400	6,000	0.400	5.5	60	1,900	0.250	2,850	0.230	5.5	
12		80	2,100	0.456	5,750	0.480	6.6	60	1,600	0.285	2,740	0.276	6.6	

Standard	Workpiece Material		Hardened Steels Example: HSS / PM (63 ~ 66 HRC)					Hardened Steels Example: HSS / PM (67 ~ 72 HRC)						
	D	Z	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm
	1	4	50	15,900	0.017	1,070	0.019	0.55	40	12,700	0.011	570	0.013	0.5
2	50		8,000	0.034	1,080	0.038	1.1	40	6,400	0.023	580	0.026	1	
3	50		5,300	0.053	1,120	0.057	1.65	40	4,200	0.035	590	0.039	1.5	
4	6	50	4,000	0.071	1,710	0.076	2.2	40	3,200	0.048	910	0.052	2	
5		50	3,200	0.091	1,750	0.095	2.75	40	2,500	0.061	910	0.065	2.5	
6		50	2,700	0.109	1,770	0.114	3.3	40	2,100	0.073	920	0.078	3	
8		50	2,000	0.150	1,800	0.152	4.4	40	1,600	0.100	960	0.104	4	
10		50	1,600	0.188	1,800	0.190	5.5	40	1,300	0.125	980	0.130	5	
12		50	1,300	0.214	1,670	0.228	6.6	40	1,100	0.143	940	0.156	6	

High Efficient	Workpiece Material		Hardened Steels Example: 1.2343 (52 ~ 57 HRC)					Hardened Steels Example: 1.2379 (58 ~ 62 HRC)						
	D	Z	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm
	1	4	100	31,880	0.037	4,730	0.038	0.7	70	22,280	0.023	2,070	0.022	0.7
2	100		15,880	0.074	4,710	0.076	1.4	70	11,200	0.046	2,080	0.044	1.4	
3	100		10,630	0.116	4,940	0.114	2.1	70	7,470	0.073	2,170	0.066	2.1	
4	6	100	8,000	0.157	7,510	0.152	2.8	70	5,600	0.098	3,290	0.087	2.8	
5		100	6,380	0.200	7,650	0.190	3.5	70	4,430	0.125	3,320	0.109	3.5	
6		100	5,250	0.240	7,550	0.228	4.2	70	3,730	0.150	3,350	0.131	4.2	
8		100	4,000	0.330	7,910	0.304	5.6	70	2,800	0.206	3,460	0.175	5.6	
10		100	3,130	0.412	7,740	0.380	7	70	2,220	0.258	3,430	0.219	7	
12		100	2,630	0.470	7,410	0.456	8.4	70	1,870	0.294	3,290	0.262	8.4	

High Efficient	Workpiece Material		Hardened Steels Example: HSS / PM (63 ~ 66 HRC)					Hardened Steels Example: HSS / PM (67 ~ 72 HRC)						
	D	Z	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm	V _c m/min	n min ⁻¹	f _z mm/t	V _r mm/min	a _p mm	a _e mm
	1	4	60	19,080	0.017	1,330	0.018	0.7	50	15,880	0.012	740	0.012	0.6
2	60		9,600	0.035	1,330	0.036	1.4	50	8,000	0.023	740	0.025	1.2	
3	60		6,360	0.054	1,390	0.054	2.1	50	5,250	0.036	760	0.037	1.8	
4	6	60	4,800	0.073	2,110	0.072	2.8	50	4,000	0.049	1,170	0.049	2.4	
5		60	3,840	0.094	2,160	0.090	3.5	50	3,130	0.062	1,170	0.062	3	
6		60	3,240	0.112	2,190	0.108	4.2	50	2,630	0.075	1,180	0.074	3.6	
8		60	2,400	0.155	2,220	0.144	5.6	50	2,000	0.103	1,240	0.099	4.8	
10		60	1,920	0.193	2,220	0.181	7	50	1,630	0.129	1,260	0.124	6	
12		60	1,560	0.220	2,060	0.217	8.4	50	1,380	0.147	1,220	0.148	7.2	

Note: Please use **CAM-R** for your programming corner radius. For precise tool definition for the CAM system please download DXF data (QuickFinder) or contact your local Hitachi Tool staff for more details.

Please set up ramping angle to less than 0.5°. This tool is only recommended for z-constant roughing.

We recommend air blow as first choice for cooling system.

Achtung: Bitte benutzen Sie **CAM-R** für die Programmierung des Eckenradius. Für präzise Werkzeugdefinition im CAM-System laden Sie sich bitte die DXF-Daten herunter (QuickFinder) oder kontaktieren Sie einen Hitachi Tool-Mitarbeiter für weitere Details.

Bitte benutzen Sie einen Rampen- oder Helixwinkel von < 0,5°. Dieses Werkzeug ist ausschließlich für Z-konstantes Schruppen/ Planfräsen geeignet.

Zum Kühlen empfehlen wir Druckluft.

Nota: Utilizzare raggio **CAM-R** per la programmazione del raggio torico. Per una precisa e corretta definizione del profilo dell'utensile per l'utilizzo CAM si prega di richiedere file DXF tramite QuickFinder o rivolgendosi al personale Hitachi Tool

Utilizzare angoli di rampa minori o uguali a 0,5°. Questo utensile è da utilizzare solo per lavorazioni a Z costante.

Come sistema di raffreddamento raccomandiamo l'utilizzo di aria.

Nota: En procesos de acabado y para una más precisa definición de la herramienta en el sistema de **CAM-R** por favor solicite los ficheros DXF (QuickFinder), o póngase en contacto con Hitachi Tool para obtener más detalles.

Por favor utilice un ángulo de entrada menor de 0,5°. Esta herramienta sólo está recomendada para desbaste en Z-Constante.

Recomendamos refrigeración por aire como primera opción.

Remarque: Veuillez utiliser **CAM-R** pour la programmation du rayon de tore. Pour une définition précise de l'outil dans votre système FAO, demandez nous le fichier DXF des outils, téléchargez les via notre logiciel QuickFinder, ou contactez votre interlocuteur commercial pour plus de détails.

Veuillez utiliser un angle de plongée inférieure à 0,5°. Cet outil n'est recommandé que pour des opérations d'ébauche par niveaux.

Nous recommandons l'utilisation du soufflage d'air en premier lieu.

Nota: Por favor, use o **CAM-R** para programação do raio de canto. Para a definição da ferramenta mais correta para o sistema CAM por favor solicitar dados DXF (QuickFinder) ou entre em contato com sua equipe de ferramentas Hitachi local para obter mais detalhes.

Defina o ângulo de rampa para menos de 0,5°. Esta ferramenta é recomendada apenas para desbaste em z-constante.

Recomendamos ar como primeira escolha para o sistema de arrefecimento e limpeza.