X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS

G8A46, G8A54 SERIES — 2 FLUTE BALL NOSE - RIB PROCESSING

ISO	VDI 3323	Material Description	HRc	Parameter	Diameter (Ø) 0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	2	3	4
P	5	Non-alloy steel	32	SFM (vc)	105	150~155	200~205	175~255	175~250	180~255	180~250	175~230	170~220	175~225	175~255	175~255
				IPT (fz)	.0001	.0002	.0003	.0002~.0005	.0003~.0006	.0004~.0008	.0005~.0010	.0006~.0011	.0008~.0014	.0010~.0019	.0018~.0034	.0022~.0045
				RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
				IPM (feed)	12~14	19~21	28~31	24~34	23~34	25~35	24~34	23~31	23~30	23~32	29~39	27~39
				Ap (mm)	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
	8-9	Low alloy steel	32-38	SFM (vc)	105	150~155	200~205	175~255	175~250	180~255	180~250	175~230	170~220	175~225	175~255	175~255
				IPT (fz)	.0001	.0002	.0003	.0002~.0005	.0003~.0006	.0004~.0008	.0005~.0010	.0006~.0011	.0008~.0014	.0010~.0019	.0018~.0034	.0022~.0045
				RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
				IPM (feed)	12~14	19~21	28~31	24~34	23~34	25~35	24~34	23~31	23~30	23~32	29~39	27~39
				Ap (mm)	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
	11.1	High alloyed steel, and tool steel	35	SFM (vc)	105	150~155	200~205	175~255	175~250	180~255	180~250	175~230	170~220	175~225	175~255	175~255
				IPT (fz)	.0001	.0002	.0003	.0002~.0005	.0003~.0006	.0004~.0008	.0005~.0010	.0006~.0011	.0008~.0014	.0010~.0019	.0018~.0034	.0022~.0045
				RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
				IPM (feed)	12~14	19~21	28~31	24~34	23~34	25~35	24~34	23~31	23~30	23~32	29~39	27~39
				Ap (mm)	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
	11.2		44	SFM (vc)	105	150~155	200~205	175~255	175~250	180~255	180~250	175~230	170~220	175~225	175~255	175~255
				IPT (fz)	.0001	.0002	.0003	.0002~.0005	.0003~.0006	.0004~.0008	.0005~.0010	.0006~.0011	.0008~.0014	.0010~.0019	.0018~.0034	.0022~.0045
				RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
				IPM (feed)	12~14	19~21	28~31	24~34	23~34	25~35	24~34	23~31	23~30	23~32	29~39	27~39
				Ap (mm)	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
H	38.1 - 38.2	Hardened steel	45-49 50-55	SFM (vc)	105	150~155	200~205	165~180	165~185	165~180	160~180	150~175	155~180	165~180	165~180	165~180
				IPT (fz)	.0001	.0002	.0002	.0003	.0003~.0004	.0004~.0006	.0005~.0007	.0007~.0009	.0008~.0011	.0011~.0013	.0020~.0025	.0025~.0030
				RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400
				IPM (feed)	10~12	17~18	18~22	19~21	19~21	19~22	19~21	19~21	19~21	19~21	23~26	22~24
				Ap (mm)	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.026
	39.1 - 39.2		56-60 61-65	SFM (vc)	105	140~155	190~205	165~180	165~185	165~180	160~180	150~175	155~180	165~180	165~180	160~180
				IPT (fz)	.0001	.0002	.0002	.0002~.0003	.0003~.0004	.0004~.0005	.0005~.0006	.0006~.0008	.0007~.0010	.0010~.0012	.0019~.0023	.0024~.0029
				RPM	50000	46000~50000	46000~50000	31900~35200	26400~29700	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3850~4400
				IPM (feed)	9~10	15~17	16~18	17~19	16~19	17~20	17~20	17~19	17~19	17~19	22~24	21~22
				Ap (mm)	0.005~0.012	0.007~0.013	0.010~0.024	0.005~0.021	0.006~0.025	0.012~0.048	0.006~0.060	0.018~0.024	0.023~0.036	0.018~0.120	0.048~0.120	0.060~0.240
	40	Chilled Cast Iron	42	SFM (vc)	105	150~155	200~205	175~255	175~250	180~255	180~250	175~230	170~220	175~225	175~255	175~255
				IPT (fz)	.0001	.0002	.0003	.0002~.0005	.0003~.0006	.0004~.0008	.0005~.0010	.0006~.0011	.0008~.0014	.0010~.0019	.0018~.0034	.0022~.0045
				RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
				IPM (feed)	12~14	19~21	28~31	24~34	23~34	25~35	24~34	23~31	23~30	23~32	29~39	27~39
				Ap (mm)	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
	41	Hardened Cast Iron	55	SFM (vc)	105	150~155	200~205	165~180	165~185	165~180	160~180	150~175	155~180	165~180	165~180	165~180
				IPT (fz)	.0001	.0002	.0002	.0003	.0003~.0004	.0004~.0006	.0005~.0007	.0007~.0009	.0008~.0011	.0011~.0013	.0020~.0025	.0025~.0030
				RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400
				IPM (feed)	10~12	17~18	18~22	19~21	19~21	19~22	19~21	19~21	19~21	19~21	23~26	22~24
				Ap (mm)	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.026

SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)