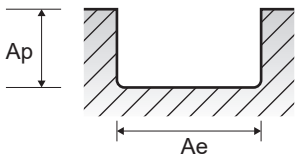
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS

G8A36 SERIES — 2 FLUTE CORNER RADIUS - SLOTTING

ISO	VDI 3323	Material Description	HRc	Ae	Ap	Parameter	Diameter (Ø) 0.2	0.3	0.4	0.5	0.6	0.8	0.9	1	2
P	5	Non-alloy steel	32	1.0D	0.05D	SFM (vc)	105	155	205	260	310	410	455	495	685
						IPT (fz)	.0001	.0001	.0001	.0002	.0002	.0002	.0003	.0003	.0005
						RPM	50000	50000	50000	50000	50000	50000	49000	48000	33300
						IPM (feed)	5	8	9	15	19	24	26	30	34
	8-9	Low alloy steel	32-38	1.0D	0.05D	SFM (vc)	105	155	205	260	310	410	455	495	685
						IPT (fz)	.0001	.0001	.0001	.0002	.0002	.0002	.0003	.0003	.0005
						RPM	50000	50000	50000	50000	50000	50000	49000	48000	33300
						IPM (feed)	5	8	9	15	19	24	26	30	34
	11.1	High alloyed steel, and tool steel	35	1.0D	0.05D	SFM (vc)	105	155	205	260	310	410	455	495	685
						IPT (fz)	.0001	.0001	.0001	.0002	.0002	.0002	.0003	.0003	.0005
						RPM	50000	50000	50000	50000	50000	50000	49000	48000	33300
						IPM (feed)	5	8	9	15	19	24	26	30	34
	11.2		44	1.0D	0.05D	SFM (vc)	95	140	185	230	280	330	360	390	535
						IPT (fz)	.0001	.0001	.0001	.0001	.0002	.0002	.0003	.0003	.0005
						RPM	45000	45000	45000	45000	45000	40000	39000	38000	2600
						IPM (feed)	32	38	38	39		38	38	33	30
H	38.1	Hardened steel	45-49	1.0D	0.05D	SFM (vc)	95	140	185	230	280	330	360	390	535
						IPT (fz)	.0001	.0001	.0001	.0001	.0002	.0002	.0003	.0003	.0005
						RPM	45000	45000	45000	45000	45000	40000	39000	38000	26000
						IPM (feed)	5	6	7	11	14	17	21	22	27
	38.2		50-55	1.0D	0.05D	SFM (vc)	80	125	165	205	245	245	260	265	360
						IPT (fz)	.0001	.0001	.0001	.0001	.0001	.0002	.0002	.0003	.0005
						RPM	40000	40000	40000	40000	40000	30000	27800	25500	17500
						IPM (feed)	4	5	6	9	11	12	13	14	17
	39.1		56-60	1.0D	0.05D	SFM (vc)	70	100	135	170	185	205	210	210	300
						IPT (fz)	.0000	.0000	.0001	.0001	.0001	.0001	.0002	.0002	.0003
						RPM	33000	33000	33000	33000	30000	25000	22700	20500	14500
						IPM (feed)	2	3	4	6	6	7	8	9	10
	39.2		61-65	1.0D	0.05D	SFM (vc)	70	75	105	130	155	155	160	165	225
						IPT (fz)	.0000	.0000	.0000	.0001	.0001	.0001	.0001	.0002	.0003
						RPM	33000	25000	25000	25000	25000	19000	17500	16000	11000
						IPM (feed)	2	2	2	3	4	4	5	5	6
	39.3		66-70	1.0D	0.02D	SFM (vc)	55	60	80	105	125	125	130	130	195
						IPT (fz)	.0000	.0000	.0001	.0001	.0001	.0001	.0001	.0001	.0003
						RPM	26400	20000	20000	20000	20000	15200	14000	12500	9500
						IPM (feed)	1	1	2	2	3	3	4	3	5
	40	Chilled Cast Iron	42	1.0D	0.05D	SFM (vc)	95	140	185	230	280	330	360	390	535
						IPT (fz)	.0001	.0001	.0001	.0001	.0002	.0002	.0003	.0003	.0005
						RPM	45000	45000	45000	45000	45000	40000	39000	38000	26000
						IPM (feed)	5	6	7	11	14	17	21	22	27
	41	Hardened Cast Iron	55	1.0D	0.05D	SFM (vc)	80	125	165	205	245	245	260	265	360
						IPT (fz)	.0001	.0001	.0001	.0001	.0001	.0002	.0002	.0003	.0005
						RPM	40000	40000	40000	40000	40000	30000	27800	25500	17500
						IPM (feed)	4	5	6	9	11	12	13	14	17

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)



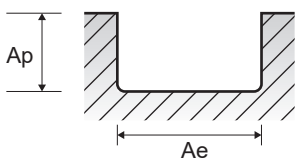
YG X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS

G8A36 SERIES — 2 FLUTE CORNER RADIUS - SLOTTING

ISO	VDI 3323	Material Description	HRc	Ae	Ap	Parameter	Diameter (Ø) 3	4	5	6	8	10	12	16	20
P	5	Non-alloy steel	32	1.0D	0.05D	SFM (vc)	675	690	810	810	815	805	820	810	805
						IPT (fz)	.0008	.0010	.0012	.0014	.0019	.0022	.0026	.0030	.0033
						RPM	21800	16700	15700	13100	9880	7800	6650	4900	3900
						IPM (feed)	34	35	39	37	37	34	34	29	26
	8-9	Low alloy steel	32-38	1.0D	0.05D	SFM (vc)	675	690	810	810	815	805	820	810	805
						IPT (fz)	.0008	.0010	.0012	.0014	.0019	.0022	.0026	.0030	.0033
						RPM	21800	16700	15700	13100	9880	7800	6650	4900	3900
						IPM (feed)	34	35	39	37	37	34	34	29	26
	11.1	High alloyed steel, and tool steel	35	1.0D	0.05D	SFM (vc)	675	690	810	810	815	805	820	810	805
						IPT (fz)	.0008	.0010	.0012	.0014	.0019	.0022	.0026	.0030	.0033
						RPM	21800	16700	15700	13100	9880	7800	6650	4900	3900
						IPM (feed)	34	35	39	37	37	34	34	29	26
	11.2		44	1.0D	0.05D	SFM (vc)	535	545	645	640	645	635	650	645	640
						IPT (fz)	.0008	.0011	.0013	.0014	.0018	.0022	.0026	.0029	.0034
						RPM	17300	13200	12500	10350	7800	6150	5250	3900	3100
						IPM (feed)	27	28	32	30	28	27	27	23	21
H	38.1	Hardened steel	45-49	1.0D	0.05D	SFM (vc)	535	545	645	640	645	635	650	645	640
						IPT (fz)	.0008	.0011	.0013	.0014	.0018	.0022	.0026	.0029	.0034
						RPM	17300	13200	12500	10350	7800	6150	5250	3900	3100
						IPM (feed)	27	28	32	30	28	27	27	23	21
	38.2		50-55	1.0D	0.05D	SFM (vc)	355	365	430	425	430	425	435	430	425
						IPT (fz)	.0007	.0010	.0012	.0014	.0017	.0020	.0023	.0027	.0034
						RPM	11500	8800	8300	6900	5200	4100	3500	2600	2050
						IPM (feed)	17	17	20	19	18	16	16	14	14
	39.1		56-60	1.0D	0.05D	SFM (vc)	295	295	330	330	330	330	330	330	330
						IPT (fz)	.0005	.0008	.0009	.0010	.0013	.0016	.0019	.0020	.0025
						RPM	9500	7200	6400	5300	4000	3200	2650	2000	1600
						IPM (feed)	10	11	11	11	10	10	10	8	8
	39.2		61-65	1.0D	0.05D	SFM (vc)	230	230	265	260	265	265	260	265	270
						IPT (fz)	.0004	.0006	.0007	.0008	.0011	.0012	.0014	.0016	.0019
						RPM	7500	5600	5100	4200	3200	2550	2100	1600	1300
						IPM (feed)	6	7	7	7	7	6	6	5	5
	39.3		66-70	1.0D	0.02D	SFM (vc)	200	195	230	230	230	225	230	230	225
						IPT (fz)	.0004	.0005	.0006	.0007	.0009	.0009	.0011	.0014	.0014
						RPM	6400	4750	4450	3700	2800	2200	1860	1400	1100
						IPM (feed)	5	5	5	5	5	4	4	4	3
	40	Chilled Cast Iron	42	1.0D	0.05D	SFM (vc)	535	545	645	640	645	635	650	645	640
						IPT (fz)	.0008	.0011	.0013	.0014	.0018	.0022	.0026	.0029	.0034
						RPM	17300	13200	12500	10350	7800	6150	5250	3900	3100
						IPM (feed)	27	28	32	30	28	27	27	23	21
	41	Hardened Cast Iron	55	1.0D	0.05D	SFM (vc)	355	365	430	425	430	425	435	430	425
						IPT (fz)	.0007	.0010	.0012	.0014	.0017	.0020	.0023	.0027	.0034
						RPM	11500	8800	8300	6900	5200	4100	3500	2600	2050
						IPM (feed)	17	17	20	19	18	16	16	14	14

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)



X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS

G8A36 SERIES — 2 FLUTE CORNER RADIUS - SIDE CUTTING

ISO	VDI 3323	Material Description	HRc	Ae	Ap	Parameter	Diameter (Ø) 1	2	3	4	5	6	8	10	12	16	20
P	5	Non-alloy steel	32	0.03D	1.0D	SFM (vc)	495	685	675	690	810	810	815	805	820	810	805
						IPT (fz)	.0004	.0007	.0011	.0015	.0018	.0020	.0026	.0030	.0035	.0042	.0047
						RPM	48000	33300	21800	16700	15700	13100	9880	7800	6650	4900	3900
						IPM (feed)	41	47	47	49	57	53	52	47	47	41	37
	8-9	Low alloy steel	32-38	0.03D	1.0D	SFM (vc)	495	685	675	690	810	810	815	805	820	810	805
						IPT (fz)	.0004	.0007	.0011	.0015	.0018	.0020	.0026	.0030	.0035	.0042	.0047
						RPM	48000	33300	21800	16700	15700	13100	9880	7800	6650	4900	3900
						IPM (feed)	41	47	47	49	57	53	52	47	47	41	37
	11.1	High alloyed steel, and tool steel	35	0.03D	1.0D	SFM (vc)	495	685	675	690	810	810	815	805	820	810	805
						IPT (fz)	.0004	.0007	.0011	.0015	.0018	.0020	.0026	.0030	.0035	.0042	.0047
						RPM	48000	33300	21800	16700	15700	13100	9880	7800	6650	4900	3900
						IPM (feed)	41	47	47	49	57	53	52	47	47	41	37
	11.2		44	0.03D	1.0D	SFM (vc)	390	535	535	545	645	640	645	635	650	645	640
						IPT (fz)	.0004	.0007	.0011	.0015	.0018	.0021	.0026	.0031	.0036	.0042	.0048
						RPM	38000	26000	17300	13200	12500	10350	7800	6150	5250	3900	3100
						IPM (feed)	32	38	38	39	45	43	41	38	38	33	30
H	38.1	Hardened steel	45-49	0.03D	1.0D	SFM (vc)	390	535	535	545	645	640	645	635	650	645	640
						IPT (fz)	.0004	.0007	.0011	.0015	.0018	.0021	.0026	.0031	.0036	.0042	.0048
						RPM	38000	26000	17300	13200	12500	10350	7800	6150	5250	3900	3100
						IPM (feed)	32	38	38	39	45	43	41	38	38	33	30
	38.2		50-55	0.03D	1.0D	SFM (vc)	265	360	355	365	430	425	430	425	435	430	425
						IPT (fz)	.0004	.0007	.0010	.0014	.0017	.0020	.0024	.0028	.0033	.0040	.0046
						RPM	25500	17500	11500	8800	8300	6900	5200	4100	3500	2600	2050
						IPM (feed)	20	24	24	25	28	27	25	23	23	21	19
	39.1		56-60	0.03D	1.0D	SFM (vc)	210	300	295	295	330	330	330	330	330	330	330
						IPT (fz)	.0003	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0025	.0030	.0034
						RPM	20500	14500	9500	7200	6400	5300	4000	3200	2650	2000	1600
						IPM (feed)	12	15	15	15	16	16	14	13	13	12	11
	39.2		61-65	0.03D	1.0D	SFM (vc)	165	225	230	230	265	260	265	265	260	265	270
						IPT (fz)	.0003	.0004	.0006	.0009	.0010	.0012	.0014	.0018	.0021	.0025	.0027
						RPM	16000	11000	7500	5600	5100	4200	3200	2550	2100	1600	1300
						IPM (feed)	8	9	9	10	10	10	9	9	9	8	7
	39.3		66-70	0.03D	1.0D	SFM (vc)	130	195	200	195	230	230	230	225	230	230	225
						IPT (fz)	.0002	.0004	.0005	.0007	.0009	.0009	.0013	.0014	.0016	.0021	.0018
						RPM	12500	9500	6400	4750	4450	3700	2800	2200	1860	1400	1100
						IPM (feed)	5	7	7	7	8	7	7	6	6	6	4
	40	Chilled Cast Iron	42	0.03D	1.0D	SFM (vc)	390	535	535	545	645	640	645	635	650	645	640
						IPT (fz)	.0004	.0007	.0011	.0015	.0018	.0021	.0026	.0031	.0036	.0042	.0048
						RPM	38000	26000	17300	13200	12500	10350	7800	6150	5250	3900	3100
						IPM (feed)	32	38	38	39	45	43	41	38	38	33	30
	41	Hardened Cast Iron	55	0.03D	1.0D	SFM (vc)	265	360	355	365	430	425	430	425	435	430	425
						IPT (fz)	.0004	.0007	.0010	.0014	.0017	.0020	.0024	.0028	.0033	.0040	.0046
						RPM	25500	17500	11500	8800	8300	6900	5200	4100	3500	2600	2050
						IPM (feed)	20	24	24	25	28	27	25	23	23	21	19

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)