



RECOMMENDED CUTTING CONDITIONS

GM961 SERIES

2FLUTE BALL NOSE - PROFILE

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)

(NORMAL SPEED)

ISO	VDI 3323	Material Description	Ae	Parameter	Diameter (Ø)								
					1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
P	1-11.2	Non-alloy steel Low alloy steel High alloyed steel, and tool steel	0.2D	SFM(Vc)	360	395	455	400	410	425	415	410	435
				IPT(fz)	.0009	.0016	.0020	.0029	.0037	.0044	.0056	.0066	.0083
				RPM	11000	8050	6950	4890	4180	3250	2540	2090	1660
				IPM(FEED)	20	25	27	29	31	29	29	28	28
H	38.1	Hardened steel	0.1D	SFM(Vc)	455	510	620	630	655	785	785	755	805
				IPT(fz)	.0017	.0023	.0026	.0029	.0032	.0036	.0039	.0039	.0049
				RPM	13910	10390	9470	7700	6670	6000	4800	3850	3080
				IPM(FEED)	48	48	50	45	43	43	38	30	30
	38.2	Hardened steel	0.1D	SFM(Vc)	445	490	595	605	625	750	750	715	765
				IPT(fz)	.0017	.0023	.0026	.0029	.0033	.0036	.0039	.0039	.0048
				RPM	13600	9980	9090	7400	6370	5730	4580	3640	2920
				IPM(FEED)	45	45	48	43	42	42	36	28	28
	40	Chilled Cast Iron	0.2D	SFM(Vc)	360	395	455	400	410	425	415	410	435
				IPT(fz)	.0009	.0016	.0020	.0029	.0037	.0044	.0056	.0066	.0083
				RPM	11000	8050	6950	4890	4180	3250	2540	2090	1660
				IPM(FEED)	20	25	27	29	31	29	29	28	28
41	Hardened Cast Iron	0.1D	SFM(Vc)	445	490	595	605	625	750	750	715	765	
			IPT(fz)	.0017	.0023	.0026	.0029	.0033	.0036	.0039	.0039	.0048	
			RPM	13600	9980	9090	7400	6370	5730	4580	3640	2920	
			IPM(FEED)	45	45	48	43	42	42	36	28	28	

AP	~HRc45	HRc45~55
	D1/8 ~ D1/4 = .008 D5/16 ~ D5/8 = .012	D1/8 = .006 D3/16 ~ D5/16 = .010 D3/8 ~ D1 = .012

(HIGH SPEED)

ISO	VDI 3323	Material Description	Ae	Parameter	Diameter (Ø)								
					1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
P	1-11.2	Non-alloy steel Low alloy steel High alloyed steel, and tool steel	0.05D	SFM(Vc)	755	1135	1510	1420	1475	1510	1475	1360	1450
				IPT(fz)	.0009	.0017	.0022	.0035	.0044	.0049	.0063	.0079	.0098
				RPM	23070	23120	23070	17360	15030	11540	9020	6930	5540
				IPM(FEED)	43	78	100	123	132	114	114	109	109
H	38.1	Hardened steel	0.05D	SFM(Vc)	455	510	620	630	655	785	785	755	805
				IPT(fz)	.0027	.0034	.0040	.0044	.0047	.0051	.0055	.0056	.0070
				RPM	13910	10390	9470	7700	6670	6000	4800	3850	3080
				IPM(FEED)	76	72	76	67	63	62	53	43	43
	38.2	Hardened steel	0.05D	SFM(Vc)	445	490	595	605	625	750	750	715	765
				IPT(fz)	.0027	.0034	.0040	.0043	.0046	.0050	.0053	.0053	.0067
				RPM	13600	9980	9090	7400	6370	5730	4580	3640	2920
				IPM(FEED)	72	68	72	63	59	58	49	39	39
	40	Chilled Cast Iron	0.05D	SFM(Vc)	755	1135	1510	1420	1475	1510	1475	1360	1450
				IPT(fz)	.0009	.0017	.0022	.0035	.0044	.0049	.0063	.0079	.0098
				RPM	23070	23120	23070	17360	15030	11540	9020	6930	5540
				IPM(FEED)	43	78	100	123	132	114	114	109	109
41	Hardened Cast Iron	0.05D	SFM(Vc)	445	490	595	605	625	750	750	715	765	
			IPT(fz)	.0027	.0034	.0040	.0043	.0046	.0050	.0053	.0053	.0067	
			RPM	13600	9980	9090	7400	6370	5730	4580	3640	2920	
			IPM(FEED)	72	68	72	63	59	58	49	39	39	

AP	~HRc45	HRc45~55
	D1/8 ~ D1/4 = .008 D5/16 ~ D5/8 = .012	D1/8 = .006 D3/16 ~ D5/16 = .010 D3/8 ~ D1 = .012