



4G MILL END MILLS

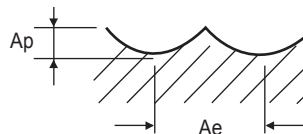
RECOMMENDED CUTTING CONDITIONS

SEMD98 SERIES

2FLUTE BALL NOSE - PLANE

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)													
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5
P	1-8	Non-alloy steel	0.08D	0.05D	SFM(Vc)	40	60	95	125	155	185	215	245	280	310	370	465	615	615
					IPT(fz)	.0003	.0005	.0006	.0007	.0009	.0011	.0013	.0015	.0017	.0019	.0020	.0021	.0023	.0029
					RPM	40000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	29820	23800
					IPM(FEED)	22	28	35	45	57	69	80	92	103	113	120	128	135	138
	9	Low alloy steel	0.08D	0.05D	SFM(Vc)	40	60	95	125	155	185	215	245	280	310	355	445	590	590
					IPT(fz)	.0002	.0004	.0005	.0007	.0008	.0010	.0011	.0013	.0015	.0017	.0018	.0018	.0020	.0026
					RPM	40000	30000	30000	30000	30000	30000	30000	30000	30000	30000	28800	28800	28680	22900
					IPM(FEED)	20	25	32	40	50	59	69	78	89	99	102	106	113	119
	10-11.1	High alloyed steel, and tool steel	0.08D	0.05D	SFM(Vc)	40	60	95	125	155	185	215	245	280	310	370	465	615	615
					IPT(fz)	.0003	.0005	.0006	.0007	.0009	.0011	.0013	.0015	.0017	.0019	.0020	.0021	.0023	.0029
					RPM	40000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	29820	23800
					IPM(FEED)	22	28	35	45	57	69	80	92	103	113	120	128	135	138
	11.2	High alloyed steel, and tool steel	0.08D	0.05D	SFM(Vc)	40	60	95	125	155	185	215	245	280	310	355	445	590	590
					IPT(fz)	.0002	.0004	.0005	.0007	.0008	.0010	.0011	.0013	.0015	.0017	.0018	.0018	.0020	.0026
					RPM	40000	30000	30000	30000	30000	30000	30000	30000	30000	30000	28800	28800	28680	22900
					IPM(FEED)	20	25	32	40	50	59	69	78	89	99	102	106	113	119
K	15	Grey cast iron Nodular cast iron Malleable cast iron	0.08D	0.05D	SFM(Vc)	40	60	95	125	155	185	215	245	280	310	370	465	615	615
					IPT(fz)	.0003	.0005	.0006	.0007	.0009	.0011	.0013	.0015	.0017	.0019	.0020	.0021	.0023	.0029
					RPM	40000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	29820	23800
					IPM(FEED)	22	28	35	45	57	69	80	92	103	113	120	128	135	138
H	38.1-38.2	Hardened steel	0.08D	0.05D	SFM(Vc)	35	55	85	110	140	165	195	225	250	280	320	400	495	495
					IPT(fz)	.0002	.0004	.0005	.0007	.0008	.0010	.0011	.0013	.0015	.0017	.0018	.0018	.0020	.0025
					RPM	33000	27000	27000	27000	27000	27000	27000	27000	27000	27000	25800	25800	24000	19200
					IPM(FEED)	16	23	28	35	45	52	61	71	80	90	91	94	94	94
	40	Chilled Cast Iron	0.08D	0.05D	SFM(Vc)	40	60	95	125	155	185	215	245	280	310	355	445	590	590
					IPT(fz)	.0002	.0004	.0005	.0007	.0008	.0010	.0011	.0013	.0015	.0017	.0018	.0018	.0020	.0026
					RPM	40000	30000	30000	30000	30000	30000	30000	30000	30000	30000	28800	28800	28680	22900
					IPM(FEED)	20	25	32	40	50	59	69	78	89	99	102	106	113	119
	41	Hardened Cast Iron	0.08D	0.05D	SFM(Vc)	35	55	85	110	140	165	195	225	250	280	320	400	495	495
					IPT(fz)	.0002	.0004	.0005	.0007	.0008	.0010	.0011	.0013	.0015	.0017	.0018	.0018	.0020	.0025
					RPM	33000	27000	27000	27000	27000	27000	27000	27000	27000	27000	25800	25800	24000	19200
					IPM(FEED)	16	23	28	35	45	52	61	71	80	90	91	94	94	94

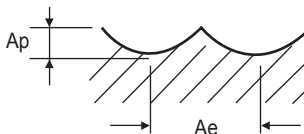
SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)



SEMD98 SERIES**2FLUTE BALL NOSE - PLANE**

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	8.5	9.0	10.0
P	1-8	Non-alloy steel	0.08D	0.05D	SFM(Vc)	615	615	615	605	575	555	515	520	520	550	550	550	575
					IPM(fz)	.0036	.0042	.0048	.0053	.0061	.0065	.0069	.0070	.0072	.0074	.0076	.0077	.0078
					RPM	19860	17000	14900	13030	11160	9750	8340	7780	7220	6660	6300	5940	5580
					IPM(FEED)	142	142	142	139	137	126	115	109	104	99	95	91	87
	9	Low alloy steel	0.08D	0.05D	SFM(Vc)	590	590	590	580	550	530	495	500	500	530	530	530	550
					IPM(fz)	.0033	.0038	.0044	.0048	.0054	.0057	.0060	.0061	.0063	.0064	.0066	.0067	.0069
					RPM	19080	16400	14340	12510	10680	9360	8040	7500	6960	6420	6060	5700	5340
					IPM(FEED)	125	125	125	120	116	106	97	92	87	83	80	76	73
	10-11.1	High alloyed steel, and tool steel	0.08D	0.05D	SFM(Vc)	615	615	615	605	575	555	515	520	520	550	550	550	575
					IPM(fz)	.0036	.0042	.0048	.0053	.0061	.0065	.0069	.0070	.0072	.0074	.0076	.0077	.0078
					RPM	19860	17000	14900	13030	11160	9750	8340	7780	7220	6660	6300	5940	5580
					IPM(FEED)	142	142	142	139	137	126	115	109	104	99	95	91	87
	11.2	High alloyed steel, and tool steel	0.08D	0.05D	SFM(Vc)	590	590	590	580	550	530	495	500	500	530	530	530	550
					IPM(fz)	.0033	.0038	.0044	.0048	.0054	.0057	.0060	.0061	.0063	.0064	.0066	.0067	.0069
					RPM	19080	16400	14340	12510	10680	9360	8040	7500	6960	6420	6060	5700	5340
					IPM(FEED)	125	125	125	120	116	106	97	92	87	83	80	76	73
K	15	Grey cast iron Nodular cast iron Malleable cast iron	0.08D	0.05D	SFM(Vc)	615	615	615	605	575	555	515	520	520	550	550	550	575
					IPM(fz)	.0036	.0042	.0048	.0053	.0061	.0065	.0069	.0070	.0072	.0074	.0076	.0077	.0078
					RPM	19860	17000	14900	13030	11160	9750	8340	7780	7220	6660	6300	5940	5580
					IPM(FEED)	142	142	142	139	137	126	115	109	104	99	95	91	87
H	38.1-38.2	Hardened steel	0.08D	0.05D	SFM(Vc)	495	495	495	485	465	440	410	415	420	445	445	445	465
					IPM(fz)	.0030	.0034	.0039	.0044	.0049	.0052	.0055	.0057	.0058	.0059	.0060	.0062	.0063
					RPM	16000	13700	12000	10500	9000	7800	6600	6200	5800	5400	5100	4800	4500
					IPM(FEED)	94	94	94	92	89	81	73	70	67	64	61	59	57
	40	Chilled Cast Iron	0.08D	0.05D	SFM(Vc)	590	590	590	580	550	530	495	500	500	530	530	530	550
					IPM(fz)	.0033	.0038	.0044	.0048	.0054	.0057	.0060	.0061	.0063	.0064	.0066	.0067	.0069
					RPM	19080	16400	14340	12510	10680	9360	8040	7500	6960	6420	6060	5700	5340
					IPM(FEED)	125	125	125	120	116	106	97	92	87	83	80	76	73
	41	Hardened Cast Iron	0.08D	0.05D	SFM(Vc)	495	495	495	485	465	440	410	415	420	445	445	445	465
					IPM(fz)	.0030	.0034	.0039	.0044	.0049	.0052	.0055	.0057	.0058	.0059	.0060	.0062	.0063
					RPM	16000	13700	12000	10500	9000	7800	6600	6200	5800	5400	5100	4800	4500
					IPM(FEED)	94	94	94	92	89	81	73	70	67	64	61	59	57

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)



HSS

CBN
END MILLSi-Xmill
END MILLSi-SMART
MODULAR
END MILLSX5070
END MILLS**4G MILL
END MILLS**X-POWER
PRO
END MILLSTitaNox-
POWER
END MILLSJET-POWER
END MILLS

V7 PLUS A

END MILLS

V7 MILL
INOXALU-POWER
HPC
END MILLSALU-
POWER
END MILLSD-POWER
GRAPHITE
END MILLSSTANDARD
CARBIDEONLY ONE
COATED PM60
END MILLSSINE-
POWERTANK-
POWER
END MILLSSTANDARD
COBALT &
HSSTECHNICAL
DATA



SEMD98 SERIES

2FLUTE BALL NOSE - PLANE

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
						11.0	12.0	13.0	14.0	15.0	16.0	18.0	20.0	25.0
P	1-8	Non-alloy steel	0.08D	0.05D	SFM(Vc)	555	515	530	540	550	550	555	550	550
					IPM(fz)	.0081	.0084	.0086	.0088	.0091	.0094	.0098	.0104	.0106
					RPM	4875	4170	3960	3750	3550	3340	3005	2670	2130
					IPM(FEED)	79	70	68	66	64	63	59	56	45
	9	Low alloy steel	0.08D	0.05D	SFM(Vc)	530	495	510	520	525	530	535	530	530
					IPM(fz)	.0071	.0074	.0078	.0082	.0087	.0081	.0085	.0089	.0091
					RPM	4670	4000	3800	3600	3400	3210	2895	2580	2060
					IPM(FEED)	66	59	59	59	59	52	49	46	37
	10-11.1	High alloyed steel, and tool steel	0.08D	0.05D	SFM(Vc)	555	515	530	540	550	550	555	550	550
					IPM(fz)	.0081	.0084	.0086	.0088	.0091	.0094	.0098	.0104	.0106
					RPM	4875	4170	3960	3750	3550	3340	3005	2670	2130
					IPM(FEED)	79	70	68	66	64	63	59	56	45
	11.2	High alloyed steel, and tool steel	0.08D	0.05D	SFM(Vc)	530	495	510	520	525	530	535	530	530
					IPM(fz)	.0071	.0074	.0078	.0082	.0087	.0081	.0085	.0089	.0091
					RPM	4670	4000	3800	3600	3400	3210	2895	2580	2060
					IPM(FEED)	66	59	59	59	59	52	49	46	37
K	15	Grey cast iron Nodular cast iron Malleable cast iron	0.08D	0.05D	SFM(Vc)	555	515	530	540	550	550	555	550	550
					IPM(fz)	.0081	.0084	.0086	.0088	.0091	.0094	.0098	.0104	.0106
					RPM	4875	4170	3960	3750	3550	3340	3005	2670	2130
					IPM(FEED)	79	70	68	66	64	63	59	56	45
H	38.1-38.2	Hardened steel	0.08D	0.05D	SFM(Vc)	445	415	430	435	445	445	450	445	445
					IPM(fz)	.0065	.0067	.0068	.0070	.0072	.0074	.0078	.0082	.0083
					RPM	3930	3360	3200	3030	2870	2700	2430	2160	1730
					IPM(FEED)	51	45	44	43	41	40	38	35	29
	40	Chilled Cast Iron	0.08D	0.05D	SFM(Vc)	530	495	510	520	525	530	535	530	530
					IPM(fz)	.0071	.0074	.0078	.0082	.0087	.0081	.0085	.0089	.0091
					RPM	4670	4000	3800	3600	3400	3210	2895	2580	2060
					IPM(FEED)	66	59	59	59	59	52	49	46	37
	41	Hardened Cast Iron	0.08D	0.05D	SFM(Vc)	445	415	430	435	445	445	450	445	445
					IPM(fz)	.0065	.0067	.0068	.0070	.0072	.0074	.0078	.0082	.0083
					RPM	3930	3360	3200	3030	2870	2700	2430	2160	1730
					IPM(FEED)	51	45	44	43	41	40	38	35	29

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

