

RECOMMENDED CUTTING CONDITIONS INCH



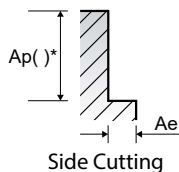
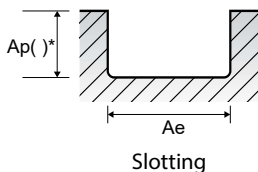
4 FLUTE - SIDE & SLOTTING



SFM = ft./min. fz = in./tooth
RPM = rev./min. FEED = in./min.

ISO	VDI 3323	Material Description	Ae		Ap		Parameter	Diameter (Ø)													
			Side	Slotting	Side	Slotting		1/8	5/32	3/16	7/32	1/4	9/32	5/16	11/32	3/8	7/16	1/2	5/8	3/4	1
P	1-4	Non-alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	SFM(Vc)	500	500	500	500	500	500	500	525	550	550	550	550	550	550
							fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0026	.0025
							RPM	15249	12200	10166	8714	7625	6778	6100	5834	5616	4811	4210	3368	2806	2105
	5	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	FEED	12.01	15.37	17.61	18.53	19.21	22.95	25.94	29.86	33.59	32.20	31.16	28.11	28.73	21.21
							SFM(Vc)	350	350	350	350	350	350	350	370	385	385	385	385	385	385
							fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0026	.0025
	6-7	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	RPM	10727	8581	7151	6129	5363	4767	4291	4089	3912	3353	2934	2347	1956	1467
							FEED	8.45	10.81	12.39	13.03	13.51	16.14	18.24	20.93	23.41	22.44	21.71	19.59	20.02	14.78
							SFM(Vc)	500	500	500	500	500	500	500	525	550	550	550	550	550	550
	8-9	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0026	.0025
							RPM	15249	12200	10166	8714	7625	6778	6100	5834	5616	4811	4210	3368	2806	2105
							FEED	12.01	15.37	17.61	18.53	19.21	22.95	25.94	29.86	33.59	32.20	31.16	28.11	28.73	21.21
M	10-11.1	High alloyed steel, and tool steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	SFM(Vc)	350	350	350	350	350	350	350	370	385	385	385	385	385	385
							fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0018	.0021	.0026	.0025
							RPM	10727	8581	7151	6129	5363	4767	4291	4089	3912	3353	2934	2347	1956	1467
	12-13	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	FEED	8.45	10.81	12.39	13.03	13.51	16.14	18.24	20.93	23.41	22.44	21.71	19.59	20.02	14.78
							SFM(Vc)	210	210	210	210	210	210	210	220	230	230	230	230	230	230
							fz	.0001	.0002	.0003	.0004	.0004	.0006	.0007	.0009	.0011	.0012	.0013	.0015	.0018	.0018
	14.1	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	RPM	6418	5134	4278	3667	3209	2852	2567	2445	2343	2008	1757	1406	1171	879
							FEED	3.03	4.85	5.39	5.49	5.56	6.74	7.68	8.86	9.96	9.33	8.86	8.19	8.30	6.23
							SFM(Vc)	485	485	485	485	485	485	485	485	485	485	485	485	485	485
	14.2	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	fz	.0002	.0002	.0004	.0004	.0005	.0007	.0009	.0011	.0013	.0014	.0015	.0018	.0022	.0022
							RPM	14852	11882	9901	8487	7426	6601	5941	5401	4951	4243	3713	2970	2475	1857
							FEED	9.36	11.23	14.03	14.7	15.2	18.48	20.58	23.81	26.51	24.39	22.8	21.05	21.44	16.08
K	15-20	Grey cast iron	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	SFM(Vc)	350	350	350	350	350	350	350	350	350	350	350	350	350	350
							fz	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0024	.0030	.0030
							RPM	10635	8508	7090	6077	5317	4727	4254	3867	3545	3039	2659	2127	1772	1329
	31-35	Heat Resistant Super Alloys	0.25D	1.0D	1.0D	0.5D	FEED	8.37	10.72	14.51	14.83	15.07	17.12	18.76	23.14	26.8	24.64	23.03	20.77	21.49	16.12
							SFM(Vc)	310	310	310	310	310	310	310	310	310	310	310	310	310	310
							fz	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0024	.0030	.0030
	36-37	Titanium Alloys	0.35D	1.0D	1.0D	0.5D	RPM	9535	7628	6356	5448	4767	4238	3814	3467	3178	2724	2384	1907	1589	1192
							FEED	7.51	9.61	13.01	13.30	13.51	15.35	16.82	20.75	24.02	22.09	20.65	18.62	19.02	14.26
							SFM(Vc)	365	365	365	365	365	365	365	385	405	405	405	405	405	405
	15-20	Grey cast iron	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	fz	.0002	.0004	.0006	.0007	.0008	.0011	.0013	.0016	.0019	.0021	.0023	.0026	.0032	.0031
							RPM	11216	8972	7477	6409	5608	4985	4486	4290	4115	3527	3087	2469	2058	1543
							FEED	10.60	14.13	16.48	17.16	17.66	21.19	24.02	27.70	31.11	29.44	28.19	25.28	26.25	19.20
S	31-35	Heat Resistant Super Alloys	0.25D	1.0D	1.0D	0.5D	SFM(Vc)	85	85	85	85	85	85	85	85	85	85	85	85	85	85
							fz	.0002	.0003	.0003	.0004	.0005	.0006	.0007	.0010	.0013	.0014	.0015	.0017	.0021	.0020
							RPM	2598	2078	1732	1484	1299	1154	1039	945	866	742	649	520	433	325
	36-37	Titanium Alloys	0.35D	1.0D	1.0D	0.5D	FEED	2.05	2.29	2.18	2.34	2.45	2.82	3.11	3.87	4.5	4.15	3.89	3.52	3.68	2.66
							SFM(Vc)	190	190	190	190	190	190	190	190	190	190	190	190	190	190
							fz	.0002	.0003	.0004	.0005	.0006	.0008	.0010	.0013	.0017	.0018	.0020	.0022	.0027	.0027
							RPM	5806	4645	3871	3318	2903	2581	2323	2111	1935	1659	1452	1161	968	726
							FEED	3.66	5.12	6.71	7.05	7.32	8.33	9.14	11.14	12.80	12.02	11.43	10.06	10.36	7.89

*() : Short length & Neck type



NOTES: ▶ Feed to be reduced by approximately 50% if L.O.C. (Length Of Cut) is over 3xD

- ▶ The above recommendations are based on ideal conditions; for smaller taper machining centers or less rigid conditions please adjust parameters accordingly on diameters greater than 1/2"
- ▶ In profile operations, engaging more than 2xD, reduce the radial depth of cut by 50%-60%
- ▶ Finish cuts typically require reduced cutting feeds and speeds; also, it is recommended the radial width of cut (AE) should not exceed 2%xD1