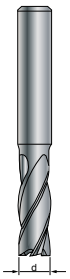
Uni-Pro end mills 2 / 3 / 4 flute



For finishing use WOC (ae) .01 up to .1xd, use SFM from .25xd column, do not increase IPT from table values

RPM = $\frac{SFM}{d_1}$ x 3.82

IPM = No. of teeth x IPT x RPM

Material	Hard-ness	TYPE	Surface feet per minute - SFM					Feed Rate Inch per Tooth - IPT							
			High Speed Milling			Rough	Slot	d1 End Mill Diameter							
			DOC 2xd			DOC 1xd									
			WOC .05xd	WOC .1xd	WOC .25xd	WOC .4 to .9xd	WOC 1xd	1/8 3.17mm	1/4 6.35mm	5/16 7.94mm	3/8 9.52mm	1/2 12.70mm	5/8 15.87mm	3/4 19.05mm	1 25.40mm
			2.5	2.3	1.5	1	1	Multiply IPT x this factor based on WOC							
Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels A283, 1151, 1215, L10, 10Lxx, 11Lxx, 12Lxx, 41Lxx, 51Lxx, 86Lxx, 86Lxx, 10xx	up to 28 HRc	2, 3, 4 Flute	840	760	640	460	400	.0005	.0010	.0013	.0016	.0021	.0027	.0030	.0044
Free-cutting steels, unalloyed case hardened steels, nitriding steels 1151, 1215, L10, 10Lxx, 11Lxx, 12Lxx, 41Lxx, 51Lxx, 86Lxx, 86Lxx, 10xx, 11xx	28 to 38 HRc	2, 3, 4 Flute	760	680	580	425	360	.0005	.0010	.0013	.0016	.0021	.0027	.0030	.0044
Alloyed heat-treatable, tool and high speed steels 13xx, 2340, 31xx, 32xx, 33xx, 34xx, 40xx, 41xx, 43xx, 4640, 50xx, 51xx, 61xx, 71xx, 86xx, 87xx, 92xx, 98xx, 98xx, Ax, Ox, Dx, Hxx, Lx, Wx, Mx, Tx	28 to 44 HRc	2, 3, 4 Flute	630	570	480	360	300	.0005	.0009	.0011	.0015	.0020	.0023	.0030	.0040
Hardened Steels Carbon and Alloy Steels, Tool & Die Steels	Up to 54 HRc	2, 3, 4 Flute	230	200	160	160	115	.0003	.0005	.0007	.0009	.0012	.0016	.0019	.0024
Stainless steel 303, 410, 420F, 430, 430F, 416	Up to 28 HRc	2, 3, 4 Flute	550	500	325	325	260	.0003	.0007	.0009	.0011	.0015	.0020	.0023	.0032
Stainless steel 304, 304L, 420, 17-4PH, 17-7PH, 15-5PH, 13-8PH	up tp 28 HRc	2, 3, 4 Flute	380	340	230	230	180	.0003	.0006	.0007	.0010	.0013	.0016	.0019	.0028
Stainless steel 310, 316, 316B, 316L, 317, Duplex	over 28 HRc	2, 3, 4 Flute	320	290	230	230	150	.0003	.0005	.0007	.0009	.0012	.0016	.0019	.0024
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2Sn-4Zr-6Mo, 3Ai-8V-6Cr4Mo-4Zr, 10V-2Fe-3Ai, 13V-11Cr-3Al	up to 42 HRc	2, 3, 4 Flute	270	250	165	165	130	.0002	.0004	.0005	.0007	.0009	.0012	.0015	.0020
High-Temperature Alloys Inconel, Nimonic, Monel, Hastelloy, Waspalloy, A286, Rene 41, Udimet, Stellite	up to 42 HRc	2, 3, 4 Flute	170	150	130	130	80	.0003	.0007	.0009	.0011	.0015	.0020	.0023	.0032
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron 0.6010 EN-GL100 (GG10), 0.6020 EN-GJL-200 (GG20), 0.7050 EN-GJS-500-7 (GGG50), 0.8535 EN-GJMW-350-4 (GTW35)	up to 240 HB 30	2, 3, 4 Flute	760	680	580	425	360	.0005	.0009	.0012	.0015	.0020	.0023	.0030	.0040
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron 0.6025 EN-GL250 (GG25), 0.6035 EN-GJL-350 (GG35), 0.7070 EN-GJS-700-2 (GGG70), 0.8170 EN-GJMB-700-2 (GTS70)	over 240 HB 30	2, 3, 4 Flute	650	590	500	360	310	.0004	.0008	.0010	.0012	.0017	.0020	.0026	.0032
Aluminum, Al-wrought alloys, Al-alloys 2024, 6061, 7075, 1050, 6351, 5005, 2017, 7075	up to 3% Si	2, 3, 4 Flute	2060	1860	1570	1150	980	.0008	.0015	.0020	.0024	.0033	.0039	.0049	.0064
Aluminium-cast alloys 3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9, 3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	over 3% Si	2, 3, 4 Flute	1100	1000	840	625	525	.0007	.0013	.0016	.0021	.0028	.0035	.0041	.0056
Magnesium-alloys MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	–	2, 3, 4 Flute	860	780	660	690	410	.0007	.0013	.0016	.0021	.0028	.0035	.0041	.0056
Non-ferrous metals (copper, short- or long-chipping brass or bronze)	up to 28 HRc	2, 3, 4 Flute	1210	1090	920	950	575	.0005	.0010	.0013	.0017	.0023	.0027	.0034	.0048