






Speed & Feed Recommendations

51M, 51MCR, 51ML, 51MLC Metric	CUT		Vc (m/mm)								FEED (mm/flute)			
	Type	a _p x D1	a _e x D1			6	8	10	12	16	20			
 NICKEL, COBALT AND IRON BASED SUPERALLOYS Inconel 601, 617 625, Incoloy 800, Monel 400	Profile	≤ 1	≤ 0.1	32	rpm	1696	1272	1018	848	636	509			
				(26-38)	Fz	0,03400	0,05700	0,07100	0,08500	0,10000	0,11000			
					Feed (mm/min)	346	435	434	433	382	336			
	HSC	≤ 2	≤ 0.05	40	rpm	2100	1575	1260	1050	788	630			
				(32-48)	Fz	0,04600	0,07700	0,09700	0,12000	0,14000	0,15000			
					Feed (mm/min)	580	728	733	756	662	567			
 NICKEL, COBALT AND IRON BASED SUPERALLOYS (DIFFICULT) Inconel 718, 750X, Incoloy 925, Waspaloy, hastelloy, Rene	Profile	≤ 1	≤ 0.1	24	rpm	1293	969	776	646	485	388			
				(20-29)	Fz	0,02300	0,03900	0,04900	0,05900	0,06800	0,07700			
					Feed (mm/min)	178	227	228	229	198	179			
	HSC	≤ 2	≤ 0.05	30	rpm	1616	1212	969	808	606	485			
				(24-37)	Fz	0,03200	0,05400	0,06800	0,08100	0,09500	0,11000			
					Feed (mm/min)	310	393	396	393	345	320			
 TITANIUM BASE ALLOY Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	Profile	≤ 1	≤ 0.1	85	rpm	4524	3393	2714	2262	1696	1357			
				(68-102)	Fz	0,02300	0,03900	0,04900	0,05900	0,06800	0,07700			
					Feed (mm/min)	624	794	798	801	692	627			
	HSC	≤ 2	≤ 0.05	108	rpm	5736	4302	3441	2868	2151	1721			
				(87-130)	Fz	0,03200	0,05400	0,06800	0,08100	0,09500	0,11000			
					Feed (mm/min)	1101	1394	1404	1394	1226	1136			
 TITANIUM BASE ALLOY (DIFFICULT) Ti10Al2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al	Profile	≤ 1	≤ 0.1	47	rpm	2504	1878	1503	1252	939	751			
				(38-57)	Fz	0,02300	0,03900	0,04900	0,05900	0,06800	0,07700			
					Feed (mm/min)	346	440	442	443	383	347			
	HSC	≤ 2	≤ 0.05	61	rpm	3231	2424	1939	1616	1212	969			
				(49-73)	Fz	0,03200	0,05400	0,06800	0,08100	0,09500	0,11000			
					Feed (mm/min)	620	785	791	785	691	640			

- Maximum recommended depth shown
- Finish cuts typically require reduced Feed and Cutting Speeds; also the Radial Width of Cut recommended is not more than 2% x D1
- Reduce Speed & Feed for materials harder than listed
- Above recommendations are based on ideal conditions; For smaller taper machining centers or less rigid conditions please adjust parameters accordingly
- A - Air, E - Emulsion, M - Mist, HSC - High Speed Cutting
- Ramp angle = 2° (feed rate = 100%)
Max. ramp angle = 1xD