









KOMET JEL® F.line









Guideline values for milling

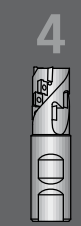
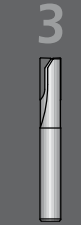
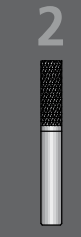
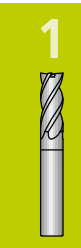


			<i>F.line</i>		F044 UNI	F064 UNI	F054 D	F054 F	HPC	F072 XH	F041 XH	F544					
Material Group	Strength Rm (N/mm ²)	Hardness HB	Diameter (mm)		∅ 3 - 20	∅ 1 - 20	∅ 2 - 25	∅ 6 - 25	∅ 6 - 20	∅ 2 - 20	∅ 6 - 16	∅ 6 - 20					
			No. of teeth		2 3 4	2 4	4	6	4	4 6 8	6 - 16	4					
			Shank		HA HB	HA HB	HA HB	HA HB	HB	HA HB	HA HB	HB					
			Coating		TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	AlTiN	AlTiN	TiAlN					
			Page		10	11	12	13	14	15	16	17					
			Material														
					v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf			
P	1.1	≤400	≤120	Magnetic soft iron	165	2	165	2	165	2	180	2			165	2	
	1.2	≤700	≤200	Structural, case hardened steel	135	2	135	2	150	2	150	2	160	2		150	2
	1.3	≤850	≤250	Carbon steel	125	2	125	2	145	2	145	2	140	2		140	2
	1.4	≤850	≤250	Alloy steel	125	2	125	2	145	2	145	2	140	2		140	2
	1.5	≤850 ≤1200	>250 ≤350	Alloy/heat treated steel	100	1	100	1	120	1	120	1	120	1		120	1
	1.6	>1200	>350	Alloy/heat treated steel	90	1	90	1	90	1	90	1	100	1		100	1
H	1.7	≤1400	≤400	Hardened steel to 56 HRC							80	4	80	4			
	1.8	≤2200	≤600	Hardened steel to 65 HRC							60	4	60	4			
M	2.1	≤850	≤250	Stainless steel, sulphuretted	75	1	75	1	105	1	105	1	110	1			
	2.2	≤850	≤250	Austenitic	65	1	65	1	75	1	75	1	110	1			
	2.3	≤1000	≤300	Ferritic, ferritic & austenitic, mart.	70	1	70	1	100	1	100	1	110	1			
K	3.1	≤500	≤150	Grey cast iron	150	2	150	2	120	2	120	2	150	2		160	2
	3.2	≤500 ≤1000	>150 ≤300	Grey cast iron, heat treated	130	2	130	2	100	2	100	2	130	2		140	2
	3.3	400-500	200-250	Vermicular cast iron	130	2	130	2	100	2	100	2	130	2		140	2
	3.4	≤700	≤200	Spher. graph. cast iron	130	2	130	2	120	2	120	2	130	2		140	2
	3.5	≤700 ≤1000	>200 ≤300	Spher. graph. cast iron, heat treated	110	2	110	2	100	2	100	2	110	2		120	2
	3.6	≤700	≤200	Malleable iron	110	2	110	2	100	2	100	2	110	2		120	2
	3.7	≤700 ≤1000	>200 ≤300	Malleable iron, heat treated	110	2	110	2					110	2		120	2
S	4.1	≤700	≤200	Pure titanium	60	1	60	1	60	1	60	1	60	1		65	1
	4.2	≤900	≤270	Titanium alloys	60	1	60	1	60	1	60	1	60	1		65	1
	4.3	≤900 ≤1250	>270 ≤300	Titanium alloys	55	1	55	1	55	1	55	1	55	1		60	1
	5.1	≤500	≤150	Pure nickel	45	1	45	1	45	1	45	1	45	1			
	5.2	≤900	<270	Nickel alloys, heat resistant	35	1	35	1	45	1	45	1	35	1			
	5.3	≤900 ≤1200	>270 ≤350	Nickel alloys, high heat resistant	30	1	30	1					30	1			
N	6.1	≤350	≤100	Non-alloy copper	175	3	175	3							190	3	
	6.2	≤700	≤200	short chip, brass, bronze, red brass	160	3	160	3							180	3	
	6.3	≤700	≤200	long chip brass	175	3	175	3							190	3	
	6.4	≤500	≤470	Cu-Al-Fe alloy (Ampco)	100	3	100	3							110	3	
	7.1	≤350	≤100	Alu, Mg non-alloy	280	3	280	3							310	3	
	7.2	≤600	≤180	Alu wrought all., break. strain (A5) <14 %	260	3	260	3							285	3	
	7.3	≤600	≤180	Alu wrought all., break. strain (A5) ≥14 %	260	3	260	3							285	3	
	7.4	≤600	≤180	Alu cast alloy, Si <10 %	240	3	240	3							270	3	
	7.5	≤600	≤180	Alu cast alloy, Si ≥10 %	200	3	200	3							220	3	
				Fibre reinforced plastics		145	3	145	3						160	3	
				Graphite		175	3	175	3						190	3	

v_c = Cutting speed; Kf = Correction factor for feed f_z (page 35)

Guideline values for milling

	F344		F322 XH		F942 XH		F642 XH		F144		F142 XH		F170 XH		F742 XH		FK02		FZ02		F066 HF		F044 D		F344 D		F944 D				
	∅ 1 - 20 2 4 HA HB TiAlN 18	∅ 2 - 16 2 HA HB AlTiN 19	∅ 6 - 16 2 4 HA HB AlTiN 20	∅ 6 - 16 2 4 HA HB AlTiN 21	∅ 2 - 20 2 4 HA HB TiAlN 22	∅ 4 - 10 2 4 HA HB AlTiN 23	∅ 6 - 10 6 HA HB AlTiN 24	∅ 6 - 12 2 HA HB AlTiN 25	∅ 6 - 12 3 4 HA HB TiAlN 26	∅ 6 - 8 4 HA HB TiAlN 27	∅ 6 - 25 2 HA TiB2 28	∅ 3 - 16 2 HA HB Diamond 29	∅ 3 - 16 2 HA HB Diamond 30	∅ 4 - 16 2 HA HB Diamond 31																	
	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	v _c	Kf	
	170	p4	235	p4	225	p4	225	p4	165	2					225	p4	165	165													
	160	p4	220	p4	210	p4	210	p4	135	2					210	p4	135	135													
	150	p4	205	p4	200	p4	200	p4	125	2					200	p4	125	125													
	150	p4	205	p4	200	p4	200	p4	125	2					200	p4	125	125													
	130	p4	180	p4	175	p4	175	p4	100	1					175	p4	100	100													
	95	p3	135	p3	125	p3	125	p3	90	1					125	p3	90	90													
			145	p1	140	p1	140	p1			80	p4	80	4	140	p1															
			125	p1	120	p1	120	p1			60	p4	60	4	120	p1															
	95	p3							75	1							75	75													
	85	p2							65	1							65	65													
	75	p3							70	1							70	70													
	225	p4	305	p4	300	p4	300	p4	150	2					300	p4	150	150													
	210	p4	280	p4	275	p4	275	p4	130	2					275	p4	130	130													
	210	p4	280	p4	275	p4	275	p4	130	2					275	p4	130	130													
	190	p4	260	p4	250	p4	250	p4	130	2					250	p4	130	130													
	160	p4	220	p4	210	p4	210	p4	110	2					210	p4	110	110													
	145	p4	200	p4	190	p4	190	p4	110	2					190	p4	110	110													
	145	p4	200	p4	190	p4	190	p4	110	2					190	p4	110	110													
									60	1							60	60													
									60	1							60	60													
									55	1							55	55													
	55	p2							45	1							45	45													
	55	p2							35	1							35	35													
	45	p2							30	1							30	30													
	145	p5							175	3							175	175													
	140	p5							160	3							160	160					175	3	230	p5	230	p5			
	145	p5							175	3							175	175													
	80	p5							100	3							100	100													
	520	p5							280	3							280	280					300 - 600	3							
	460	p5							260	3							260	260					300 - 600	3							
	460	p5							260	3							260	260					300 - 600	3							
	270	p5							240	3							240	240					200 - 500	3							
	220	p5							200	3							200	200					100 - 300	3	160	3	220	p5	220	p5	
	190	p5							145	3							145	145							145	3	190	p5	190	p5	
	225	p5							175	3							175	175							265	3	340	p5	340	p5	



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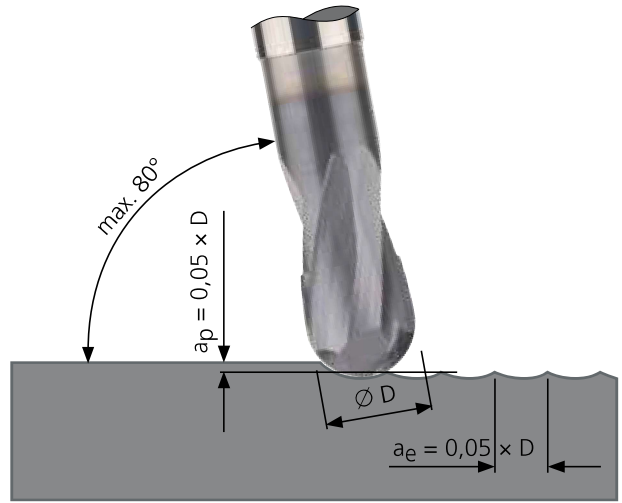
Technical notes

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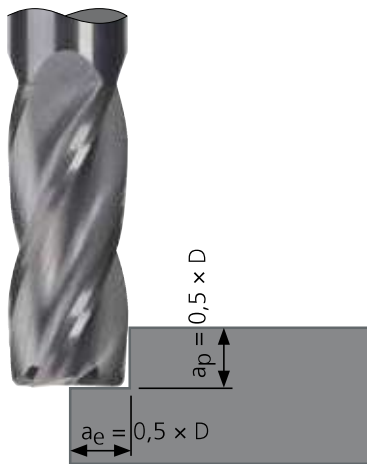
Slot milling

$$v_C \text{ slot} = 0,7 \times v_C$$



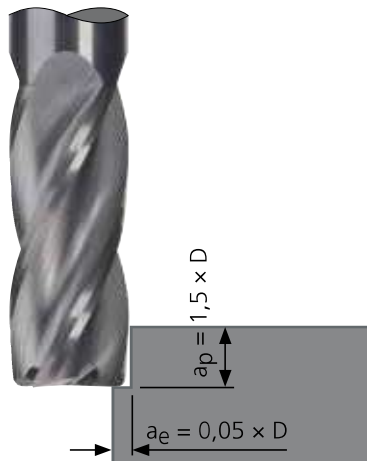
Rough milling

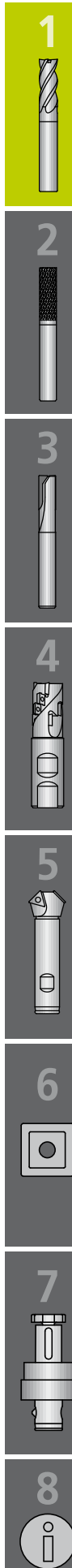
$$v_C \text{ rough} = v_C$$



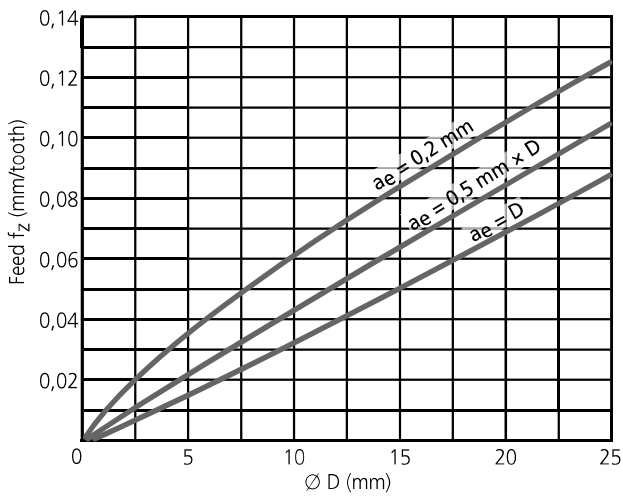
Finish milling

$$v_C \text{ finish} = 1,5 \times v_C$$

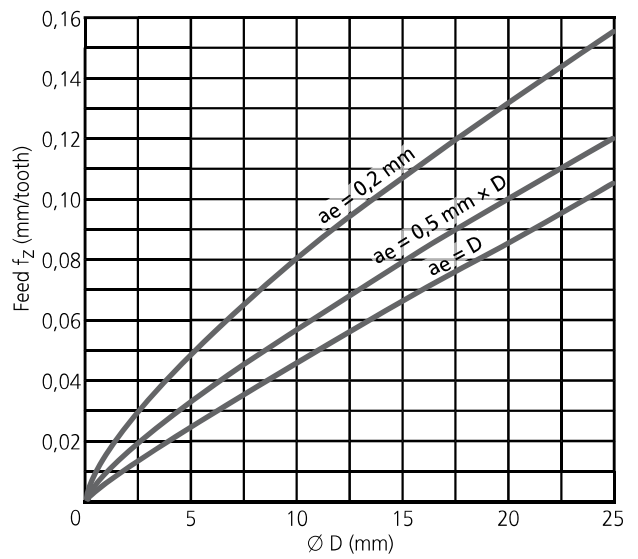




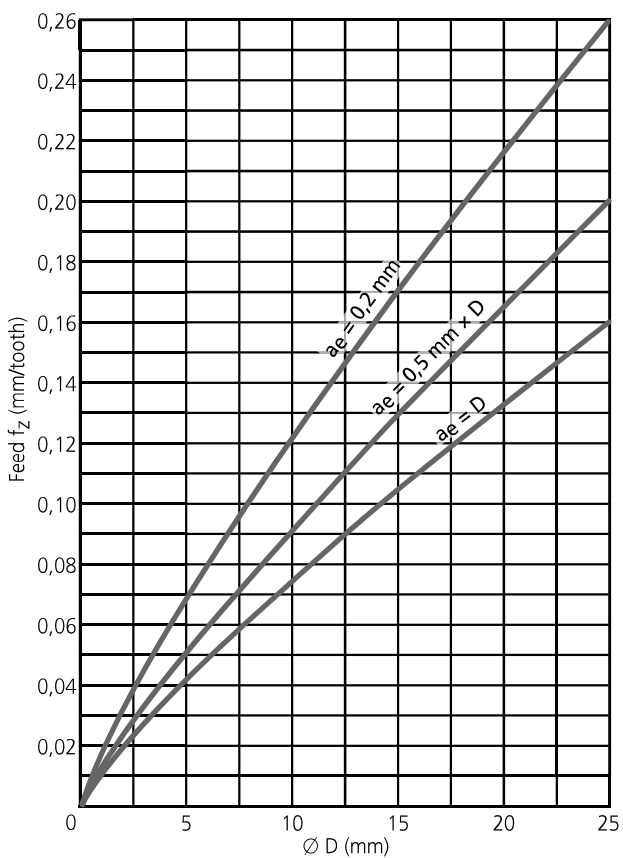
Kf 1



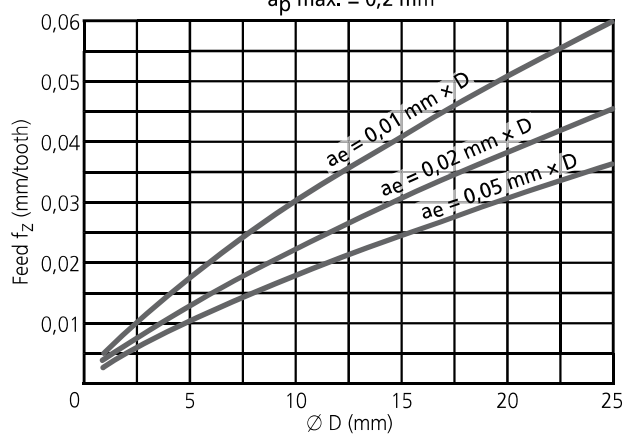
Kf 2



Kf 3



Kf 4 – hardened steel
 $a_p \text{ max.} = 0,2 \text{ mm}$



Kf p1-p5

