

	Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	profiling		slotting	fz[mm/tooth]			V <sub>c</sub> [m/min]	
						ap	ae	ap	Ø3.0	Ø4.0	Ø5.0	min	max
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.024	0.030	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.024	0.030	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.024	0.030	120	160
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.016	0.025	0.030	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.016	0.025	0.030	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.014	0.020	0.024	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.014	0.020	0.024	60	90
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.015	0.021	0.026	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.015	0.021	0.026	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.011	0.016	0.020	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.011	0.016	0.020	50	80
	Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.017	0.022	80	120
240 HB					1.5xØ	0.5xØ	1.0xØ	0.012	0.017	0.022	70	115	
Duplex		5	X2CrNi23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	60	100	
				310 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	60	90	
Ferritic & Martensitic		6	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	50	90	
				42 HRc	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	30	55	
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	140	200	
				200 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	150	190	
				250 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	120	160	
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	130	180	
				200 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	110	150	
				250 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	90	130	
HTA	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	25	45
			34	Stellite 21	350 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	20	50
	Ti based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.010	0.015	0.018	30	60
37			T40	-	1.5xØ	0.5xØ	1.0xØ	0.010	0.015	0.018	40	70	
Hardened	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.007	0.011	0.013	40	60	
				50 HRc	1.5xØ	0.3xØ	0.2xØ	0.007	0.011	0.013	35	55	
				55 HRc	1.5xØ	0.2xØ	0.1xØ	0.005	0.008	0.010	30	50	
	Chilled Cast Iron	40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.005	0.008	0.010	35	55	
White Cast Iron	41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.005	0.008	0.010	30	50		
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5xØ	1.0xØ	0.018	0.027	0.033	160	250