

Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [mm]		Feed [mm/tooth]		V _c [m/min]		Suggested Starting Parameters			
					min	max	min	max	min	max	D.O.C.	Feed	V _c	
Steel	Non-alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.22	0.54	190	330	2.5	0.39	250	
		2		190 HB	0.5	4.0	0.22	0.54	190	300	2.5	0.39	220	
		3		250 HB	0.5	4.0	0.22	0.54	190	250	2.5	0.39	200	
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.18	0.43	150	240	2.5	0.34	200
			4,6		230 HB	0.5	4.0	0.18	0.43	150	210	2.5	0.34	180
			5,7		280 HB	0.5	4.0	0.18	0.37	130	190	2.5	0.31	150
			8		350 HB	0.5	4.0	0.18	0.37	130	170	2.5	0.31	140
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.9	0.14	0.37	90	150	1.9	0.31	130
			10		280 HB	0.5	2.9	0.14	0.37	90	130	1.9	0.31	120
			11		320 HB	0.5	2.9	0.14	0.31	60	110	1.9	0.27	100
			11		350 HB	0.5	2.9	0.14	0.31	60	90	1.9	0.27	80
	Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.18	0.37	190	250	2.5	0.31	220
240 HB					0.5	4.0	0.14	0.34	160	210	2.5	0.31	190	
Duplex		5	X2CrNiN23-4, S31500	290 HB	0.5	2.9	0.14	0.31	70	130	1.9	0.27	100	
				310 HB	0.5	2.9	0.14	0.31	70	120	1.9	0.27	90	
Ferritic & Martensitic		6	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.18	0.37	150	210	2.5	0.31	190	
				42 HRc	0.5	2.9	0.18	0.34	90	150	1.9	0.27	130	
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.22	0.54	150	240	2.5	0.39	200	
				200 HB	0.5	4.0	0.22	0.54	150	220	2.5	0.39	180	
				250 HB	0.5	4.0	0.22	0.54	150	190	2.5	0.39	160	
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.18	0.48	100	200	2.5	0.34	180	
				200 HB	0.5	4.0	0.18	0.48	100	180	2.5	0.34	150	
				250 HB	0.5	4.0	0.18	0.48	100	150	2.5	0.34	130	
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	2.9	0.14	0.31	25	45	1.9	0.27	32
			33	Inconel 700	250 HB	0.5	2.9	0.14	0.31	25	45	1.9	0.27	30
			34	Stellite 21	350 HB	0.5	2.9	0.14	0.31	25	45	1.9	0.27	30
	Ti based	10	36	TiAl6V4	-	0.5	2.9	0.14	0.34	40	65	1.9	0.31	55
37			T40	-	0.5	2.9	0.14	0.31	30	55	1.9	0.27	40	
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.4	0.12	0.31	40	80	1.3	0.24	60	
				50 HRc	0.4	1.1	0.12	0.27	40	70	0.9	0.22	55	
				55 HRc	0.4	0.9	0.12	0.24	40	60	0.6	0.20	50	
	Chilled Cast Iron	40	Ni-Hard 2	400 HB	0.4	1.1	0.12	0.31	40	80	0.9	0.24	50	
White Cast Iron	41	G-X300CrMo15	55 HRc	0.4	0.9	0.12	0.24	30	60	0.6	0.20	40		
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.0	0.22	0.54	200	400	2.5	0.43	280