

	Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [inch]		Feed [inch/rev]		Amax [mm²]	V <sub>c</sub> [sfm]		Suggested Starting Parameters								
						min	max	min	max		min	max	D.O.C.	Feed	V <sub>c</sub>						
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.020	0.197	0.012	0.028	0.0039	590	1080	0.118	0.020	780						
			2		190 HB											0.028	0.0039	910	720		
			3		250 HB											0.197	0.025	0.0033	820	650	
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.020	0.197	0.012	0.025	0.0026	390	910	0.118	0.018	650						
			4,6		230 HB											0.025	0.0026	820	590		
			5,7		280 HB											0.010	0.022	0.0026	680	490	
			8		350 HB											0.138	0.010	0.022	0.0022	590	420
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.020	0.157	0.010	0.022	0.0026	220	620	0.098	0.017	450						
			10		280 HB											0.022	0.0026	490	390		
			11		320 HB											0.118	0.019	0.0017	420	320	
			11		350 HB											0.118	0.019	0.0017	360	290	
	Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.020	0.197	0.011	0.022	0.0026	550	880	0.118	0.020	620					
240 HB						0.022											0.0022	720	550		
Duplex		5	14	X2CrNiN23-4, S31500	290 HB	0.020	0.157	0.010	0.019	0.0017	260	490	0.098	0.016	320						
					310 HB											0.157	0.019	0.0017	220	450	290
Ferritic & Martensitic		6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.020	0.197	0.012	0.022	0.0022	550	820	0.118	0.018	620						
					42 HRc											0.157	0.022	0.0022	390	620	420
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.020	0.197	0.008	0.033	0.0044	550	820	0.118	0.020	590						
					200 HB											0.033	0.0039	520	750		
					250 HB											0.197	0.030	0.0039	490	680	520
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.020	0.197	0.008	0.028	0.0033	390	820	0.118	0.017	520						
					200 HB											0.028	0.0028	750	520		
					250 HB											0.197	0.028	0.0026	620	450	
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	0.020	0.118	0.011	0.019	0.0015	80	140	0.079	0.016	100							
				Inconel 700											250 HB	0.019	0.0015	80	140	90	
				Stellite 21											350 HB	0.118	0.019	0.0015	70	130	90
	Ti based	10	36	TiAl6V4	0.020	0.157	0.011	0.022	0.0017	140	210	0.079	0.018	180							
				T40											-	0.118	0.019	0.0015	110	180	140
	Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.020	0.079	0.006	0.014	0.0009	130	290	0.059	0.011	220					
50 HRc						0.059											0.011	0.0007	130	260	190
55 HRc						0.059											0.011	0.0007	130	260	190
Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.020	0.079	0.006	0.014	0.0009	130	190	0.059	0.010	160							
White Cast Iron		41	G-X300CrMo15	55 HRc	0.020	0.059	0.006	0.011	0.0007	90	160	0.039	0.008	130							
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.020	0.236	0.011	0.031	0.0039	650	1310	0.118	0.022	910						

