

Speeds & Feeds

Material Group		Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [inch]		Feed [inch/tooth]		V _c [sfm]		Suggested Starting Parameters				
						min	max	min	max	min	max	D.O.C.	Feed	V _c		
Steel	Non-alloyed	1	1	C35, Ck45,	125 HB	0.020	0.059	0.012	0.079	620	1080	0.059	0.071	820		
			2	1020, 1045,	190 HB		0.059		0.079		980			720		
			3	1060, 28Mn6	250 HB		0.059		0.079		820			650		
	Low alloyed	2	6	42CrMo4, St50,	180 HB	0.020	0.055	0.012	0.071	490	780	0.055	0.067	650		
			4,6	Ck60, 4140,	230 HB		0.055		0.071		680			590		
			5,7	4340, 100Cr6	280 HB		0.055		0.071		620			490		
			8		350 HB		0.055		0.071		420			550	0.067	450
	High alloyed	3	10	X40CrMoV5,	220 HB	0.020	0.051	0.012	0.063	290	490	0.051	0.059	420		
			10	H13, M42, D3,	280 HB		0.051		0.063		420			390		
			11	S6-5-2, 12Ni19	320 HB		0.051		0.063		190			360	0.059	320
			11		350 HB		0.051		0.063		190			290	0.059	260
	Stainless Steel	Austenitic	4	14	304, 316,	180 HB	0.020	0.047	0.012	0.055	620	820	0.047	0.047	720	
14				X5CrNi18-9	240 HB	0.047		0.055		520		680			620	
Duplex		5	14	X2CrNiN23-4,	290 HB	0.020	0.035	0.012	0.035	220	420	0.035	0.031	320		
			14	S31500	310 HB		0.035		0.035		390			290		
Ferritic & Martensitic		6	12	410, X6Cr17,	200 HB	0.020	0.047	0.012	0.039	490	680	0.047	0.035	620		
			13	17-4 PH, 430	42 HRc		0.039		0.031		290			490	0.039	0.028
Cast Iron	Grey	7	15	GG20, GG40,	150 HB	0.020	0.059	0.012	0.079	490	780	0.059	0.071	650		
			15	EN-GJL-250,	200 HB		0.059		0.079		720			590		
			16	No30B	250 HB		0.059		0.079		620			520		
	Malleable & Nodular	8	17,1	GGG40, GGG70,	150 HB	0.020	0.059	0.012	0.071	320	650	0.059	0.063	590		
			17,1	50005	200 HB		0.059		0.071		590			490		
			18,2		250 HB		0.059		0.071		490			420		
High Temp. Alloys	Fe, Ni & Co based	9	30,3	Incoloy 800	240 HB	0.020	0.051	0.012	0.031	80	140	0.051	0.024	100		
			33	Inconel 700	250 HB		0.051		0.031		140			90		
			34	Stellite 21	350 HB		0.051		0.031		140			90		
	Ti based	10	36	TiAl6V4	-	0.020	0.051	0.012	0.028	130	210	0.051	0.024	180		
			37	T40	-		0.051		0.028		90			180	130	
	Hardened Mat.	11	38	X100CrMo13,	45 HRc	0.012	0.047	0.012	0.047	130	260	0.047	0.039	190		
38			440C,	50 HRc	0.039		0.039		220		180					
38			G-X260NiCr42	55 HRc	0.035		0.031		190		160					
40			Ni-Hard 2	400 HB	0.012	0.039	0.012	0.031	130	260	0.039	0.031	160			
41			G-X300CrMo15	55 HRc	0.012	0.035	0.012	0.031	90	190	0.035	0.031	130			
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.020	0.059	0.012	0.071	650	1310	0.059	0.063	910		

