

TPMR 160308 NN LT 10

Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [mm]		Feed [mm/rev]		Amax [mm ²]	V _c [m/min]		Optimal cutting conditions									
					min	max	min	max		min	max	D.O.C.	Feed	V _c							
Steel	Non-alloyed	1	1	C35, Ck45, 1020,	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	3.0	0.35	240						
		2	1045, 1060,	190 HB	5.0										0.50	1.80	280	220			
		3	28Mn6	250 HB	5.0										0.45	1.50	250	200			
	Low alloyed	2	6	42CrMo4, Si50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	3.0	0.32	200						
		4,6	230 HB		4.0										0.21	0.45	1.20	250	180		
		5,7	280 HB		4.0										0.18	0.40	1.20	210	150		
		8	350 HB		3.5										0.18	0.40	1.00	180	130		
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	2.5	0.30	140						
		10	280 HB		4.0										0.40	1.20	150	120			
		11	320 HB		3.0										0.35	0.80	130	100			
		11	350 HB		3.0										0.35	0.80	110	90			
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	3.0	0.35	190						
		14	240 HB	5.0	0.40										1.00	160	220	0.32	170		
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	2.5	0.28	100						
		14	310 HB	4.0	0.35										0.80	70	140	90			
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	3.0	0.32	190						
		13	42 HRc		4.0										0.40	1.00	120	190	2.5	130	
Cast Iron	Grey	7	15	GG20, GG40,	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	3.0	0.35	200						
		16	EN-GJL-250, No30B	200 HB	5.0										0.60	1.80	160	230	180		
		16	250 HB	5.0	0.55										1.80	150	210	160			
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	3.0	0.30	180						
		17,19	200 HB		5.0										0.50	1.30	230	160			
18,20	250 HB	5.0	0.50		1.20										190	140					
High Temp Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	2.0	0.28	32						
		33	Inconel 700	250 HB	3.0										0.35	0.70	25	45	30		
		34	Stellite 21	350 HB	3.0										0.35	0.70	23	40	28		
	Ti based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.40	0.80	45	65	2.0	0.33	55						
		37	T40	-	3.0										0.35	0.70	35	55	0.30	45	
Hardened Mat.	Steel	11	38	X100CrMo13,	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	2.0	0.25	80						
		38	440C,	50 HRc	2.0										0.25	0.40	40	90	1.5	0.20	70
		38	G-X260NiCr42	55 HRc	1.5										0.20	0.30	40	80	1.0	0.18	60
	Chilled Cast Iron White Cast Iron	40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	1.5	0.18	50							
		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	1.0	0.15	40							
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	3.0	0.40	280						