

## WNMG 060408 NN/NX LT 10 &amp; LT 1000

Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [mm]		Feed [mm/rev]		Amax [mm <sup>2</sup> ]	V <sub>c</sub> [m/min]		Optimal cutting conditions					
					min	max	min	max		min	max	D.O.C.	Feed	V <sub>c</sub>			
Steel	Non-alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.21	0.50	1.17	180	330	2.2	0.35	240			
				190 HB				0.50	1.17					220			
				250 HB				0.45	0.98					200			
	Low alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.21	0.45	0.78	120	280	2.2	0.32	200			
				230 HB				0.45	0.78					180			
				280 HB				0.40	0.78					150			
				350 HB				0.18	0.40					0.65	180	1.6	0.30
	High alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.18	0.40	0.78	70	190	1.8	0.30	140			
				280 HB				0.40	0.78					120			
				320 HB				0.35	0.52					130	1.5	0.28	100
				350 HB				0.35	0.52					110	1.5	0.28	90
Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.20	0.40	0.78	170	270	2.2	0.25	190			
				240 HB				0.40	0.65					160	0.22	170	
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.18	0.35	0.52	80	150	1.8	0.28	100			
				310 HB				0.35	0.52					70	140	90	
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.22	0.40	0.65	170	250	2.2	0.32	190			
				42 HRC				0.40	0.65					120	190	2.0	130
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.15	0.60	1.30	170	250	2.2	0.35	200			
				200 HB				0.60	1.17					160	230	180	
				250 HB				0.55	1.17					150	210	160	
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.50	0.98	120	230	2.2	0.30	180			
				200 HB				0.50	0.85					190	160		
250 HB	0.50	0.78	190	140	140												
High Temp. Alloys	Fe, Ni & Co based	9	Incoloy 800, Inconel 700, Stellite 21	240 HB	0.5	1.5	0.20	0.35	0.46	25	45	1.5	0.28	32			
				250 HB				0.35	0.46					25	45	30	
				350 HB				0.35	0.46					23	40	28	
	Ti based	10	TiAl6V4, T40	-	0.5	2.0	0.20	0.40	0.52	45	65	1.5	0.33	55			
-				0.35				0.46	35					55	45		
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRC	0.5	1.6	0.11	0.30	0.39	50	100	1.5	0.25	80			
				50 HRC				0.25	0.26					40	90	70	
				55 HRC				0.20	0.20					40	80	60	
	Chilled Cast Iron	40	Ni-Hard 2	400 HB	0.5	1.3	0.11	0.25	0.26	40	60	1.0	0.18	50			
				55 HRC				0.25	0.26					40	50	50	
White Cast Iron	41	G-X300CrMo15	55 HRC	0.5	1.3	0.11	0.20	0.20	30	50	1.0	0.15	40				
NF	Al (>8%Si)	12	AISI12	130 HB	0.5	3.0	0.20	0.60	1.80	200	400	2.2	0.40	280			