

# CNMG 120404 NN LT 10 & 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	0.2	3.0	0.11	0.23	0.60	180	330	2.0	0.18	300			
				190 HB		2.5		0.22			0.52			280	260		
				250 HB		2.5		0.20			0.48			250	240		
	Low alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.2	2.5	0.10	0.20	0.50	120	280	2.0	0.15	260			
				230 HB		2.5		0.20			0.48			250	240		
				280 HB		2.0		0.18			0.40			210	200		
				350 HB		2.0		0.18			0.36			180	180		
	High alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.2	2.5	0.09	0.18	0.40	70	190	2.0	0.12	180			
				280 HB		2.5		0.16			0.40			150	140		
				320 HB		2.0		0.14			0.32			130	120		
				350 HB		2.0		0.14			0.26			110	110		
Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.2	2.5	0.10	0.18	0.32	170	2.0	0.12	260				
				240 HB		2.5		0.18		0.26			160	210			
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.2	2.0	0.09	0.14	0.20	80	2.0	0.12	140				
				310 HB		2.0		0.14		70			140				
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.2	2.5	0.10	0.18	0.32	170	2.0	0.15	240				
				42 HRC		2.0		0.16		0.26			120	180			
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.2	3.0	0.08	0.20	0.64	170	2.0	0.18	240				
				200 HB		3.0		0.20		0.60			160	230			
				250 HB		3.0		0.20		0.60			150	210			
	Malleable & Nodular	8	17,19, 17,19, 18,20	150 HB	0.2	2.5	0.08	0.18	0.48	120	2.0	0.15	240				
				200 HB		2.5		0.18		0.40			230	220			
250 HB	2.5	0.18	0.40	190	180												
High Temp. Alloys	Fe, Ni & Co based	9	Incoloy 800, Inconel 700, Stellite 21	240 HB	0.2	2.0	0.09	0.15	0.26	25	2.0	0.12	40				
				250 HB		2.0		0.15		25			50	40			
				350 HB		2.0		0.15		23			45	35			
	Ti based	10	36, 37	TiAl6V4, T40	-	0.2	2.0	0.09	0.16	0.32	45	2.0	0.15	60			
-					2.0		0.14		0.26		35			60	50		
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRC	0.2	1.8	0.05	0.12	0.20	50	1.5	0.11	90				
				50 HRC		1.5		0.10		0.17			40	90	1.2	0.09	80
				55 HRC		1.4		0.09		0.13			40	80	1.0	0.07	70
	Chilled Cast Iron	40	1.6	0.05	0.12	0.17	40	60	1.2	0.11	50						
	White Cast Iron	41	1.4	0.05	0.09	0.13	30	50	1.0	0.07	40						
NF	Al (>8%Si)	12	25	AISI12	130 HB	0.2	4.0	0.10	0.30	0.70	200	400	2.0	0.20	350		