MACHINING CONDITIONS

DNMG 110408 NN LT 10

FT000675

Material Group		Lamina Group	Material Example	Hardness	D.O.C		Feed		Amax	Vc		Advised D.O.C	Advised Feed	Advised Vc
					min[mm]	max[mm]	min[mm/t]	max[mm/t]	[mm^2]	min[m/min]	max [m/min]	[mm]	[mm/t]	[m/min]
Steel	Non Alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5	0.21	0.5	1.8	180	330	3	0.38	240
				190 HB	0.5	5	0.21	0.5	1.8	180	280	3	0.35	220
				250 HB	0.5	5	0.21	0.45	1.5	180	250	3	0.33	200
	Low Alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	230 HB	0.5	4	0.21	0.45	1.2	120	250	3	0.32	180
				280 HB	0.5	4	0.18	0.4	1.2	120	210	3	0.3	150
				180 HB	0.5	5	0.21	0.45	1.2	120	280	3	0.32	200
				350 HB	0.5	3.5	0.18	0.4	1	120	180	2.7	0.3	130
	High Alloyed	3	X40CrM0V5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4	0.18	0.4	1.2	70	190	2.5	0.3	140
				280 HB	0.5	4	0.18	0.4	1.2	70	150	2.5	0.3	120
				320 HB	0.5	3	0.18	0.35	0.8	70	130	2.5	0.28	100
				350 HB	0.5	3	0.18	0.35	0.8	70	110	2.5	0.28	90
Stainless Steel	Austentic	4	304, 316, X5CrNi18-9	180 HB	0.5	5	0.2	0.4	1.2	170	270	3	0.25	190
				240 HB	0.5	5	0.2	0.4	1	160	220	3	0.22	170
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.5	4	0.18	0.35	0.8	80	150	2.5	0.24	100
				310 HB	0.5	4	0.18	0.35	0.8	70	140	2.5	0.24	90
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5	0.18	0.4	0.7	170	250	2.5	0.2	190
				42 HRc	0.5	4	0.18	0.4	0.7	120	190	2.2	0.2	130
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, N030B	150 HB	0.5	5	0.15	0.6	2	170	250	3	0.35	200
				200 HB	0.5	5	0.15	0.6	1.8	160	230	3	0.35	180
				250 HB	0.5	5	0.15	0.55	1.8	150	210	3	0.35	160
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.5	5	0.15	0.5	1.5	120	250	3	0.3	180
				200 HB	0.5	5	0.15	0.5	1.3	120	230	3	0.3	160
				250 HB	0.5	5	0.15	0.5	1.2	120	190	3	0.3	140
NiTi Alloy	Fe, Ni & Co Based	9	Incoloy 800	240 HB	0.5	3	0.2	0.35	0.7	30	50	2	0.28	32
			Inconel 700	250 HB	0.5	3	0.2	0.35	0.7	30	50	2	0.28	30
			Stellite 21	350 HB	0.5	3	0.2	0.35	0.7	20	40	2	0.28	28
	Ti Based	10	T40	-	0.5	3	0.2	0.35	0.7	40	60	2	0.3	45
			TiAl6V4	-	0.5	3.5	0.2	0.4	0.8	50	70	2	0.33	55
Hardened Materials	Steel Chilled Cast Iron White Cast Iron	11	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.2	0.3	30	50	1	0.15	40
			Ni-Hard 2	400 HB	0.5	2	0.11	0.25	0.4	40	60	1.5	0.18	50
			X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.3	0.6	50	100	2	0.25	80
				50 HRc	0.5	2	0.11	0.25	0.4	40	90	1.5	0.2	70
				55 HRc	0.5	1.5	0.11	0.2	0.3	40	80	1	0.18	60
Aluminium	Al (>8%Si)	12	AlSi12	130 HB	0.5	6	0.2	0.6	1.8	200	400	3	0.4	280