

# MACHINING CONDITIONS - TURNING - DEPTH OF CUT AND FEED

CNMM 120412 NR

Material Group	Lamina Gr. N°	Material Examples	Hardness	DOC [mm]		Feed [mm/rev]		Amax [mm <sup>2</sup> ]	Suggested Starting Parameters							
				min	max	min	max		DOC	Feed						
P	Non Alloyed	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.70	7.00	0.21	0.60	3.24	5.00	0.46						
			190 HB							0.42						
			250 HB							0.40						
	Low Alloyed	2	42CrMo4, S150, Ck60, 4140, 4340, 100Cr6	180 HB	0.70	7.00	0.21	0.54	2.16	5.00	0.38					
				230 HB		5.60										
				280 HB		4.90	0.18	0.48	1.80	4.50	0.36					
				350 HB												
	High Alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.70	5.60	0.18	0.48	2.16	4.10	0.36					
				280 HB												
				320 HB		4.20		0.42	1.44	3.60	0.34					
				350 HB												
	M	Austenitic	4	304, 316, X5CrNi18-9	0.70	7.00	0.20	0.48	2.16	5.00	0.30					
180 HB									1.80		0.26					
Duplex		5	X2CrNiN23-4, S31500	290 HB	0.70	5.60	0.18	0.42	1.44	4.10	0.29					
				310 HB												
Ferritic & Martensitic		6	410, X6Cr17, 17-4PH, 430	200 HB	0.70	7.00	0.18	0.48	1.26	4.10	0.24					
				42 HRc		5.60				3.60						
K	Grey	7	GG20, GG40, EN-GJL-250, N030B	0.70	7.00	0.15	0.72	3.60	5.00	0.42						
								200 HB			0.66	3.24				
								250 HB								
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.70	7.00	0.15	0.60	2.70	5.00	0.36					
				200 HB					2.34							
				250 HB					2.16							
S	Fe, Ni & Co based	9	Incoloy 800	0.70	4.20	0.20	0.42	1.26	3.30	0.34						
			Inconel 700								250 HB					
			Stellite 21								350 HB					
	Ti based	10	T40	0.70	4.90	0.20	0.48	1.44	3.30	0.40						
			TiAl6V4		4.20					0.42	1.26	0.36				
H	Steel	11	X100 CrMo13, 440C, G-X260NiCr42	0.70	2.10	0.11	0.24	0.54	1.70	0.22						
											45 HRc	3.50	0.36	1.08	3.30	0.30
											50 HRc	2.80	0.30	0.72	2.50	0.24
											55 HRc	2.10	0.24	0.54	1.70	0.22
											400 HB	2.80	0.30	0.72	2.50	0.22
Chilled Cast Iron	White Cast Iron	11	Ni-Hard 2	0.70	2.10	0.11	0.24	0.54	1.70	0.18						
											400 HB	2.80	0.30	0.72	2.50	0.22
NF	Aluminium	12	AlSi12	0.70	8.40	0.20	0.72	3.24	5.00	0.48						
											130 HB					

The depth of cut and feed rate tables are for the geometry and corner radius specified above the table. Refer to cutting speed tables on pages 186 and 187 for recommended materials per grade.