

MACHINING CONDITIONS - TURNING - DEPTH OF CUT AND FEED

CNMM 120408 NR

Material Group	Lamina Gr. N°	Material Examples	Hardness	DOC [mm]		Feed [mm/rev]		Amax [mm²]	Suggested Starting Parameters						
				min	max	min	max		DOC	Feed					
P Non Alloyed Low Alloyed High Alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.50	7.00	0.21	0.60	2.88	4.20	0.46					
			190 HB							0.42					
			250 HB							0.40					
	2	42CrMo4, S150, Ck60, 4140, 4340, 100Cr6	180 HB	0.50	7.00	0.21	0.54	1.92	4.20	0.38					
			230 HB							5.60	0.18	0.48	1.60	3.80	
			280 HB		4.90	0.18	0.48	1.60	3.80						
			350 HB							4.90	0.18	0.48	1.60	3.80	
	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.50	5.60	0.18	0.48	1.92	3.50						0.36
			280 HB							4.20	0.42	1.28	3.10	0.34	
			320 HB		4.20		0.42	1.28	3.10						0.34
			350 HB							4.20	0.42	1.28	3.10	0.34	
	M Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.50	7.00	0.20	0.48	1.92						4.20
240 HB				1.60					0.26						
290 HB				0.50					5.60	0.18	0.42	1.28	3.50	0.29	
310 HB	0.50	5.60	0.18		0.48	1.12	3.50	0.24							
M Ferritic & Martensitic				6					410, X6Cr17, 17-4PH, 430	200 HB	0.50	7.00	0.18	0.48	1.12
	42 HRc	5.60													
K Grey Malleable & Nodular	7	GG20, GG40, EN-GJL-250, N030B	150 HB	0.50	7.00	0.15	0.72	3.20	4.20	0.42					
			200 HB					0.66			2.88				
			250 HB												
S Fe, Ni & Co based Ti based	9	Incoloy 800	0.50	4.20	0.20	0.42	1.12	2.80	2.80	0.34					
		Inconel 700													
		Stellite 21													
10	T40	0.50	4.90	0.20	0.48	1.28	2.80	2.80	0.40						
	TiAl6V4									4.20	0.42	1.12	2.80	0.36	
H Steel Chilled Cast Iron White Cast Iron	11	X100 CrMo13, 440C, G-X260NiCr42	45 HRc	0.50	2.10	0.11	0.36	0.96	2.80	0.30					
			50 HRc								2.80	0.30	0.64	2.10	0.24
			55 HRc								2.80	0.30	0.64	2.10	0.22
			400 HB								2.80	0.30	0.64	2.10	0.18
			55 HRc								2.10	0.24	0.48	1.40	0.18
NF Aluminium	12	AlSi12	130 HB	0.50	8.40	0.20	0.72	2.88	4.20	0.48					

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.