



MACHINING CONDITIONS

MGMN 400 M LT 10

T0003911

Material Group	SAPPHIRE TOOLS	Material Example	Hardness	D.O.C		Feed		Amax [mm ²]	Vc		Advised D.O.C [mm]	Advised Feed [mm/t]	Advised Vc [m/min]	
				min[mm]	max[mm]	min[mm/t]	max [mm/t]		min [m/min]	max [m/min]				
Steel	Non Aligned	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.6	0.13	0.35	0.84	110	220	2	0.2	160
				190 HB	0.3	3	0.13	0.33	0.73	110	180	2	0.2	150
				250 HB	0.3	3	0.13	0.3	0.67	110	170	2	0.2	140
	Low Aligned	2	42CrMo4, S150, Ck60, 4140, 4340, 100Cr6	230 HB	0.3	3	0.12	0.3	0.67	70	170	2	0.17	120
				280 HB	0.3	2.4	0.12	0.27	0.56	70	140	2	0.17	110
				180 HB	0.3	3	0.12	0.3	0.7	70	180	2	0.17	130
				350 HB	0.3	2.4	0.12	0.27	0.5	70	120	2	0.17	100
	High Aligned	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	3	0.11	0.27	0.56	40	130	2	0.13	80
				280 HB	0.3	3	0.11	0.24	0.56	40	100	2	0.13	70
				320 HB	0.3	2.4	0.11	0.21	0.45	40	90	2	0.13	60
				350 HB	0.3	2.4	0.11	0.21	0.36	40	70	2	0.13	60
	Stainless Steel	Austentic	4	304, 316, X5CrNi18-9	180 HB	0.3	3	0.12	0.27	0.45	100	180	2	0.13
240 HB					0.3	3	0.12	0.27	0.36	100	150	2	0.13	120
Duplex		5	X2CrNiN23-4, S31500	290 HB	0.3	2.4	0.11	0.21	0.28	50	100	2	0.13	80
				310 HB	0.3	2.4	0.11	0.21	0.28	40	90	2	0.13	70
Ferritic & Martensitic		6	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	3	0.12	0.27	0.45	100	170	2	0.15	110
				42 HRc	0.3	2.4	0.12	0.24	0.36	70	130	2	0.13	70
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, N030B	150 HB	0.3	3.6	0.1	0.3	0.9	100	170	2	0.2	130
				200 HB	0.3	3.6	0.1	0.3	0.84	100	150	2	0.2	130
				250 HB	0.3	3.6	0.1	0.3	0.84	90	140	2	0.2	120
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.3	3	0.1	0.27	0.67	70	170	2	0.17	120
				200 HB	0.3	3	0.1	0.27	0.56	70	150	2	0.17	110
				250 HB	0.3	3	0.1	0.27	0.56	70	130	2	0.17	100
NITI Alloy	Fe, Ni & Co Based	9	Incoloy 800	240 HB	0.3	2.4	0.11	0.23	0.36	20	40	2	0.13	20
			Inconel 700	250 HB	0.3	2.4	0.11	0.23	0.36	20	40	2	0.13	20
			Stellite 21	350 HB	0.3	2.4	0.11	0.23	0.36	20	30	2	0.13	20
	Ti Based	10	T40	-	0.3	2.4	0.11	0.21	0.36	20	40	2	0.13	30
TiAl6V4			-	0.3	2.4	0.11	0.24	0.45	30	40	2	0.17	30	
Hardened Materials	Steel Chilled Cast Iron White Cast Iron	11	G-X300CrMo15	55 HRc	0.3	1.7	0.06	0.14	0.18	20	40	1	0.08	30
			Ni-Hard 2	400 HB	0.3	1.9	0.06	0.18	0.24	30	40	1.2	0.12	30
			X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	2.2	0.06	0.18	0.28	30	70	1.5	0.12	50
				50 HRc	0.3	1.8	0.06	0.15	0.24	30	60	1.2	0.1	40
				55 HRc	0.3	1.7	0.06	0.14	0.18	30	50	1	0.08	40
Aluminium	Al (>8%Si)	12	AlSi12	130 HB	0.3	4.8	0.12	0.45	0.98	120	260	2	0.22	190