



MACHINING CONDITIONS

SPMG 07T308 NN LT 30

M3002914

Material Group	SAPPHIRE CUTTING TOOLS Group	Material Example	Hardness	Feed		Vc		Advised Feed [mm/t]	Advised Vc [m/min]
				min[mm/t]	max [mm/t]	min [m/min]	max [m/min]		
Non Alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.05	0.1	180	270	0.08	225
			190 HB	0.05	0.1	180	230	0.08	205
			250 HB	0.05	0.1	180	200	0.08	190
Low Alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	230 HB	0.05	0.1	120	190	0.08	155
			280 HB	0.05	0.1	100	170	0.07	135
			180 HB	0.05	0.1	120	230	0.08	175
			350 HB	0.05	0.1	100	150	0.07	125
High Alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.07	0.1	70	170	0.09	120
			280 HB	0.07	0.1	70	150	0.09	110
			320 HB	0.07	0.09	60	130	0.08	95
			350 HB	0.07	0.09	60	100	0.08	80
Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.05	0.1	170	230	0.07	200
			240 HB	0.07	0.1	120	210	0.08	165
Duplex	5	X2CrNiN23-4, S31500	290 HB	0.07	0.09	70	120	0.08	95
			310 HB	0.07	0.09	70	120	0.08	95
Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.07	0.09	100	150	0.08	125
			42 HRc	0.05	0.08	60	100	0.07	80
Grey	7	GG20, GG40, EN-GJL-250, N030B	150 HB	0.1	0.11	150	230	0.11	190
			200 HB	0.1	0.11	150	210	0.11	180
			250 HB	0.1	0.11	150	170	0.11	160
Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.1	0.11	120	200	0.11	160
			200 HB	0.1	0.11	120	170	0.11	145
			250 HB	0.1	0.11	120	150	0.11	135
Fe, Ni & Co Based	9	Incoloy 800	240 HB	0.05	0.08	30	40	0.07	30
		Inconel 700	250 HB	0.05	0.08	30	40	0.07	30
		Stellite 21	350 HB	0.05	0.08	20	40	0.07	29
Ti Based	10	T40	-	0.05	0.08	30	40	0.07	34
		TiAl6V4	-	0.05	0.08	40	60	0.07	45
Steel Chilled Cast Iron White Cast Iron	11	G-X300CrMo15	55 HRc	0.05	0.08	30	50	0.07	40
		Ni-Hard 2	400 HB	0.05	0.08	40	60	0.07	50
		X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.05	0.08	50	90	0.07	70
			50 HRc	0.05	0.08	40	70	0.07	55
			55 HRc	0.05	0.08	30	60	0.07	45
Al (>8%Si)	12	AlSi12	130 HB	0.05	0.1	200	400	0.08	300