MACHINING CONDITIONS

SEKN 1504 AFTN LT 30

M0000450

Material Group		SAPPHIRE CUTTING TOOLS Group	Material Example	Hardness	D.O.C		Feed		Vc		Advised D.O.C	Advised Feed	Advised Vc
					min[mm]	max[mm]	min[mm/t]	max [mm/t]	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	9	0.18	0.5	190	330	4	0.37	250
				190 HB	0.5	9	0.18	0.5	190	300	4	0.37	220
				250 HB	0.5	9	0.18	0.5	190	250	4	0.37	200
	Low Alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	230 HB	0.5	9	0.15	0.39	150	210	4	0.32	180
				280 HB	0.5	9	0.15	0.34	130	190	4	0.29	150
				180 HB	0.5	9	0.15	0.39	150	240	4	0.32	200
				350 HB	0.5	9	0.15	0.34	130	170	4	0.29	140
	High Alloyed	3	X40CrM0V5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.12	0.34	90	150	3	0.29	130
				280 HB	0.5	6.4	0.12	0.34	90	130	3	0.29	120
				320 HB	0.5	6.4	0.12	0.28	60	110	3	0.26	100
				350 HB	0.5	6.4	0.12	0.28	60	90	3	0.26	80
Stainless Steel	Austentic	4	304, 316, X5CrNi18-9	180 HB	0.5	9	0.15	0.34	190	250	4	0.29	220
				240 HB	0.5	9	0.12	0.31	160	210	4	0.29	190
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.12	0.28	70	130	3	0.26	100
				310 HB	0.5	6.4	0.12	0.28	70	120	3	0.26	90
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9	0.15	0.34	150	210	4	0.29	190
				42 HRc	0.5	6.4	0.15	0.28	90	150	3	0.26	130
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, N030B	150 HB	0.5	9	0.18	0.5	150	240	4	0.37	200
				200 HB	0.5	9	0.18	0.5	150	220	4	0.37	180
				250 HB	0.5	9	0.18	0.5	150	190	4	0.37	160
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.5	9	0.15	0.43	100	200	4	0.32	180
				200 HB	0.5	9	0.15	0.43	100	180	4	0.32	150
				250 HB	0.5	9	0.15	0.43	100	150	4	0.32	130
NiTi Alloy	Fe, Ni & Co Based	9	Incoloy 800	240 HB	0.5	6.4	0.12	0.28	30	50	3	0.26	32
			Inconel 700	250 HB	0.5	6.4	0.12	0.28	30	50	3	0.26	30
			Stellite 21	350 HB	0.5	6.4	0.12	0.28	30	50	3	0.26	30
	Ti Based	10	T40	-	0.5	6.4	0.12	0.28	30	60	3	0.26	40
			TiAl6V4	-	0.5	6.4	0.12	0.31	40	70	3	0.29	55
Hardened Materials	Steel Chilled Cast Iron White Cast Iron	11	G-X300CrMo15	55 HRc	0.5	1.6	0.1	0.22	30	60	1	0.19	40
			Ni-Hard 2	400 HB	0.5	2.6	0.1	0.28	40	80	1.5	0.22	50
			X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.1	0.28	40	80	2	0.22	60
				50 HRc	0.5	1.9	0.1	0.25	40	70	1.5	0.21	55
				55 HRc	0.5	1.6	0.1	0.22	40	60	1	0.19	50
Aluminium	Al (>8%Si)	12	AlSi12	130 HB	0.5	9	0.18	0.5	200	400	4	0.4	280