

Recommended Feed and Cutting Speed

M5C-Submicron Carbide grade PVD coated (TiANL)

ISO	Material		HARDNESS HB	CUTTING SPEED (m/min)			FEED (mm/tooth)			
				HELICAL FLUTE	STRAIGHT FLUTE	MINIATURE	CUTTING DIAMETER (mm)			
							1-5	5-10	10-15	15-20
P	non alloy steel and cast steel	annealed	150	80-110	60-90	90-120	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
		tempered	250	60-90	40-70	90-120	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
	high alloy steel	annealed	200	70-100	50-80	100-130	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
		hardened	325	60-100	40-80	80-120	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
	low alloy steel	no hardened	200	90-120	70-100	100-150	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
		hardened	280	60-90	40-70	80-120	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
M	Stainless steel Cast steel	Ferritic	200	70-100	50-80	90-130	0.02-0.04	0.04-0.05	0.05-0.07	0.07-0.09
		Martensitic	240	90-120	70-100	100-140	0.02-0.04	0.04-0.05	0.05-0.07	0.07-0.09
		Austenitic	180	90-120	70-100	100-150	0.02-0.04	0.04-0.05	0.05-0.07	0.07-0.09
K	Cast iron	Ferritic	180	70-100	50-80	90-140	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
		Pearlitic	260	50-80	30-60	70-120	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
	Grey cast iron	Ferritic	160	60-90	40-70	80-150	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
		Pearlitic	250	50-80	50-90	70-120	0.02-0.04	0.04-0.06	0.06-0.08	0.08-0.10
	Malleable cast iron	Ferritic	130	70-100	50-80	90-140	0.02-0.04	0.04-0.05	0.05-0.07	0.07-0.09
		Pearlitic	230	60-90	40-70	80-150	0.02-0.04	0.04-0.05	0.05-0.07	0.07-0.09
N	Aluminum alloys	not aging	60	50-80	30-60	70-120	0.03-0.05	0.05-0.08	0.08-0.10	0.10-0.12
		aged	100	90-150	70-120	100-150	0.03-0.05	0.05-0.08	0.08-0.10	0.10-0.12
	Aluminum alloys	cust	80	100-200	80-160	120-200	0.03-0.05	0.05-0.08	0.08-0.10	0.10-0.12
		cust & aged	90	90-150	70-120	120-170	0.03-0.05	0.05-0.08	0.08-0.10	0.10-0.12
	copper alloys	free cutting	110	80-120	60-100	90-150	0.03-0.05	0.05-0.08	0.08-0.10	0.10-0.12
		brass	90	50-120	40-70	70-140	0.03-0.05	0.05-0.08	0.08-0.10	0.10-0.12
S	Titanium Alloys	pure 99.5Ti	400 RM	40-70	30-60	60-100	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
		alpha+beta alloys	1050 RM	30-70	20-60	50-100	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
	high temp. alloys	annealed	200	40-80	20-60	60-120	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
		cured	280	30-80	20-50	50-100	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
	high temp alloys Ni or Co	annealed	250	30-80	20-50	50-100	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
		cured	350	20-60	15-50	40-80	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
H	Hardened steel	hardened	55Hrc	20-50	15-40	40-80	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
		hardened	60Hrc	15-50	15-40	40-80	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05
	cast iron	hardened	55Hrc	20-50	15-40	30-70	0.01-0.02	0.02-0.03	0.03-0.04	0.04-0.05