


Recommended Grades, Cutting Speeds Vc [m/min] and Feed f [mm/tooth]

Material Group	Vardex No.	Material	Hardness Brinell HB	Vc [m/min]		Feed f [mm/tooth]		
				VBX	VTX	f (Excluding MiTM 19)	f (for MiTM 19)	
P Steel	1	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	100-210	90-180	0.1-0.35	0.06-0.2
	2		Medium Carbon (C=0.25-0.55%)	150	100-180	90-170	0.1-0.4	0.06-0.25
	3		High Carbon (C=0.55-0.85%)	170	100-170	90-160	0.1-0.35	0.06-0.2
	4	Low Alloy Steel (alloying elements ≤5%)	Non Hardened	180	90-60	90-155	0.1-0.4	0.06-0.25
	5		Hardened	275	80-150	80-160	0.1-0.35	0.06-0.2
	6		Hardened	350	70-140	70-150	0.1-0.3	0.06-0.2
	7	High Alloy Steel (alloying elements >5%)	Annealed	200	60-130	70-115	0.1-0.35	0.06-0.2
	8		Hardened	325	70-110	60-100	0.1-0.2	0.06-0.1
	9	Cast Steel	Low Alloy (alloying elements <5%)	200	100-170	100-170	0.1-0.3	0.06-0.2
	10		High Alloy (alloying elements >5%)	225	70-120	70-130	0.1-0.2	0.06-0.1
M Stainless Steel	11	Stainless Steel Ferritic	Non Hardened	200	100-170	120-180	0.1-0.3	0.06-0.2
	12		Hardened	330	100-170	120-180	0.1-0.2	0.06-0.1
	13	Stainless Steel Austenitic	Austenitic	180	70-140	100-140	0.1-0.3	0.06-0.2
	14		Super Austenitic	200	70-140	100-140	0.1-0.2	0.06-0.1
	15	Stainless Steel Cast Ferritic	Non Hardened	200	70-140	100-140	0.1-0.3	0.06-0.2
	16		Hardened	330	70-140	100-140	0.1-0.2	0.06-0.1
	17	Stainless Steel Cast austenitic	Austenitic	200	70-120	100-120	0.1-0.3	0.06-0.2
	18		Hardened	330	70-120	100-120	0.1-0.2	0.06-0.1
K Cast Iron	28	Malleable Cast Iron	Ferritic (short chips)	130	60-130	100-120	0.05-0.16	0.03-0.1
	29		Pearlitic (long chips)	230	60-120	80-100	0.04-0.1	0.02-0.06
	30	Grey Cast Iron	Low Tensile Strength	180	60-130	80-100	0.1-0.3	0.06-0.2
	31		High Tensile Strength	260	60-100	80-100	0.1-0.2	0.06-0.1
	32	Nodular SG Iron	Ferritic	160	60-125	80-100	0.1-0.3	0.06-0.2
	33		Pearlitic	260	50-90	60-90	0.1-0.2	0.06-0.1
N_(K) Non-Ferrous Metals	34	Aluminium Alloys Wrought	Non Aging	60	100-250	-	0.15-0.55	0.09-0.3
	35		Aged	100	100-180	-	0.15-0.5	0.09-0.3
	36	Aluminium Alloys	Cast	75	150-400	-	0.15-0.5	0.09-0.3
	37		Cast & aged	90	150-280	-	0.1-0.4	0.06-0.25
	38	Aluminium Alloys	Cast Si 13-22%	130	80-150	-	0.15-0.5	0.09-0.3
	39	Copper and Copper Alloys	Brass	90	120-210	100-200	0.15-0.5	0.09-0.3
40	Bronze and non leaded copper		100	120-210	100-200	0.1-0.4	0.06-0.25	
S_(M) Heat Resistant Material	19	High Temperature Alloys	Annealed (Iron based)	200	20-45	20-40	0.1-0.2	0.06-0.1
	20		Aged (Iron based)	280	20-30	20-30	0.04-0.1	0.02-0.06
	21		Annealed (Nickel or Cobalt based)	250	15-20	15-20	0.04-0.1	0.02-0.06
	22		Aged (Nickel or Cobalt based)	350	10-15	10-15	0.04-0.1	0.02-0.06
	23	Titanium Alloys	Pure 99.5 Ti	400Rm	70-140	70-120	0.04-0.1	0.02-0.06
	24		α+β Alloys	1050Rm	20-50	20-50	0.04-0.1	0.02-0.06
H_(K) Hardened Material	25	Extra Hard Steel	Hardened & Tempered	45-50HRC	15-45	15-45	0.06-0.12	0.04-0.07
	26			51-55HRC	15-40	15-40	0.04-0.08	0.02-0.05

Grades

Grade	Application	Sample
VBX	TiCN coated carbide grade. Excellent grade for steels and general use.	
VTX	TiAlN coated carbide grade. Ideal for Stainless Steels.	