TINY TOOLS

Carbide Grades:

BXC (P30, K25 - K40)

PVD TiN coated grade for low cutting speed.
Works well with a wide range of stainless steels.

BMK (K10 - K20)

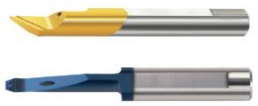
Sub-micron grade with advanced PVD triple coating. Extremely high heat resistant smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

K20 (K10 - K30)

Uncoated Carbide grade for non ferrous metals, aluminum and cast iron

TNX

New advanced carbide grade TNX for higher feeds and high performance, at medium to high cutting speed. Extra fine grain size with high hardness and toughness combined with triple layer reddish coating, provides high edge stability and better chip flow. Avaliable only for CBR bars.



Cutting speed for Tiny Tools

ISO Standard	Material		Condition	Cutting Speed m / min			
				BXC	BMK	K20	TNX
P	Non-Alloy steel and cast steel, free cutting steel	<%0.25C	Annealed	25 - 70	30 - 80		36 - 80
		≥%0.25C	Annealed				
		<%0.55C	Quenched and tempered				
		≥%0.55C	Annealed				
		≥%0.55C	Quenched and tempered				
	Low alloy steel and cast steel (less than 5% alloying elements)		Annealed	20 - 40	25 - 50		30 - 50
			Quenched and tempered				
	High Alloy steel, cast steel, and tool steel		Annealed	20 - 40	25 - 50		30 - 50
			Quenched and tempered				
M	Stainless steel and cast steel		Ferritic / martensitic	25 - 40	30 - 60		36 - 60
			Martensitic				
			Austenitic				
K	Cast iron nodular (GGG)		Ferritic/pearlitic	25 - 60	30 - 80		36 - 80
			Pearlitic				
	Grey cast iron (GG)		Ferritic	30 - 70	30 - 80		36 - 80
			Pearlitic				
	Malleable cast iron		Ferritic	20 - 40	20 - 50		24 - 50
			Pearlitic				
N	Aluminum-wrought alloy		Not cureable	50 - 100	60 - 120	30 - 50	72 - 120
			Cured				
	Aluminum-cast alloyed	≥%12 Si	Not cureable	40 - 80	50 - 90	20 - 40	60 - 90
			Cured				
		>%12 Si	High temperature				
	Copper alloys	>%1 Pb	Free cutting	30 - 60	30 - 70	20 - 40	36 - 70
			Brass				
			Electrolytic copper				
	Non metalic		Duroplastics, fiber plastics	40 - 80		20 - 40	
			Hard Rubber				

S	High temp. Alloys, Super Alloys	Fe based	Annealed	15 - 30	15 - 40		18 - 40
			Cured				
		Ni or Co based	Annealed				
			Cured				
			Cast				
	Titanium, Titanium alloys		Alpha+beta alloys cured	10 - 30	10 - 30		12 - 30
H	Hardened steel		Hardened 45-50 HRc	10 - 30	14 - 40		18 - 40
			Hardened 51-55 HRc				
			Hardened 56-62 HRc				
	Chilled cast iron		Cast	10 - 30	10 - 30		12 - 30
	Cast iron		Hardened	10 - 20	10 - 20		12 - 20

Recommended Feed Rate: 0.01 - 0.03 mm/rev