

HIGH SPEED TOOLS			
MATERIAL	SURFACE FEET/MINUTE	FEED PER TOOTH	
ALUMINUM	200-300	.001-.008	
BRONZE	50-100	.001-.005	
BRASS	150-300	.001-.005	
CAST IRON	100-150	.0005-.004	
CAST STEEL	30-60	.0005-.006	
COPPER	150-200	.001-.007	
MALLEABLE IRON	60-100	.0005-.008	
MONEL	30-50	.0005-.005	
NICKEL	60-100	.0005-.004	
PLASTIC THERMOSET	100-300	.001-.005	
PLASTIC THERMAPLASTIC	100-300	.001-.005	
RUBBER	100-300	.001-.006"	
SPRING STEEL	60-85	.001-.006"	
STAINLESS (FREE CUTTING)	60-100	.001-.006	
STAINLESS (TOUGH)	20-27	.0005-.004	
STEEL SAE 1000	60-100	.001-.005	
TOOL STEEL (O1,P20,ETC)	215-250	.001-.006	
TITANIUM	200-250	.0005-.004	
ZINC, ALLOY	200-250	.0005-.006	

SURFACE FEET BASED ON HIGH SPEED CUTTER. DOUBLE SURFACE FOOTAGE FOR CARBIDE CUTTERS FEEDS ARE ONLY

APPROXIMATE AND SHOULD BE ADJUSTED ACCORDING TO CUTTER DIAMETER (LARGER DIA = HIGHER FPT), RIDGIDITY OF SET UP AND SHARPNESS OF TOOL.

MILL FORMULAS	
SFM=	(RPM X DIA) / 3.82
RPM=	(3.82 X SFM) / DIA.
IPM=	FPT X NO. TEETH X RPM
FPT=	IPM / (NO. OF TEET X RPM)
IPR=	IPM / RPM
CUBIC IN. PER MIN =	FEED X WIDTH OF CUT X DEPTH OF CUT
HP=	CUBIC INCHES PER MINUTE X

MILL EXAMPLE	
CUTTER DIA =	0.5
NO. OF TEETH=	4
SFM=	80
FPT=	0.001

RPM=	611.2
IPM=	2.4448
IPR=	0.004