

Plunge feed rates

- first choice
- alternate choice

P Steel	K Cast Iron	S High-Temp Alloys
M Stainless Steel	N Non-Ferrous	H Hardened Materials

Chip Control	Description	Insert Geometry	Seat Size (SSC)	Corner Radius	Starting Conditions	Plunge Feed Rates inch/rev (mm/rev)							
				in (mm)	in (mm)	.0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)	.0100 (0,25)	.0120 (0,30)	.0140 (0,35)	
-PT	Positive rake angle for lower cutting forces.		1F	.008 (0,2)	.0024 (0,06)	◊							
			2	.008 (0,2)	.0031 (0,08)		◊						
			3	.008 (0,2)	.0035 (0,09)			◊					
				.016 (0,4)	.0043 (0,11)				◊				
			4	.016 (0,4)	.0047 (0,12)				◊				
				.031 (0,8)	.0059 (0,15)					◊			
			5	.016 (0,4)	.0059 (0,15)					◊			
				.031 (0,8)	.0059 (0,16)						◊		
			6	.016 (0,4)	.0059 (0,15)						◊		
				.031 (0,8)	.0071 (0,18)							◊	
8	.031 (0,8)	.0079 (0,20)							◊				
	.047 (1,2)	.0087 (0,22)								◊			
10	.047 (1,2)	.0094 (0,24)								◊			
-PN	Stable negative cutting edge allowing for more aggressive applications.		1F	.008 (0,2)	.0024 (0,06)	◊							
			2	.008 (0,2)	.0031 (0,08)		◊						
			3	.008 (0,2)	.0035 (0,09)			◊					
				.016 (0,4)	.0043 (0,11)				◊				
			4	.016 (0,4)	.0047 (0,12)				◊				
				.031 (0,8)	.0059 (0,15)					◊			
			5	.016 (0,4)	.0059 (0,15)					◊			
				.031 (0,8)	.0059 (0,16)						◊		
			6	.016 (0,4)	.0059 (0,15)						◊		
				.031 (0,8)	.0071 (0,18)							◊	
8	.031 (0,8)	.0079 (0,20)							◊				
	.047 (1,2)	.0087 (0,22)								◊			
10	.047 (1,2)	.0094 (0,24)								◊			

Cut-Off Feed Rates

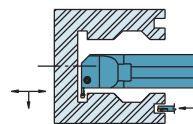
Geometry	Description	Insert Geometry	Seat Size (SSC)	Starting Conditions	Cut-Off Feed Rates inch/rev (mm/rev)							
				in (mm)	.0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)	.0100 (0,25)	.0120 (0,30)	.0140 (0,35)	.0160 (0,40)
-F	Positive geometry for reduced cutting forces.		1B	.0024 (0,06)	◊							
			2	.0028 (0,07)		◊						
			3	.0035 (0,09)			◊					
			4	.0043 (0,11)				◊				
			5	.0051 (0,13)					◊			
-M	Stable cutting edge for aggressive feed rates. Primarily in cast iron.		1B	.0024 (0,06)	◊							
			2	.0028 (0,07)		◊						
			3	.0035 (0,09)			◊					
			4	.0043 (0,11)				◊				
			5	.0055 (0,14)					◊			
			6	.0063 (0,16)						◊		
8	.0067 (0,17)							◊				
									◊			
-R	Most stable cutting edge for steel.		2	.0039 (0,10)			◊					
			3	.0055 (0,14)				◊				
			4	.0063 (0,16)					◊			
			5	.0075 (0,19)						◊		
			6	.0083 (0,21)							◊	
			8	.0090 (0,23)								◊

NOTE: For cut-off inserts with a lead angle, maximum feed rate should be reduced by up to 40%.

Maximum Feed Rate Values

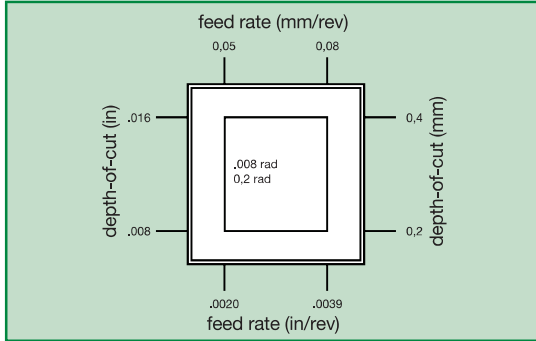
Data above is for P and K material groups. Maximum feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.	Material Group	Feed Factor
	M	0.8
	N	1.2
	S	0.8
	H	0.5

I.D. and Face Grooving
For I.D. and face grooving applications, reduce feed rate by 20%.

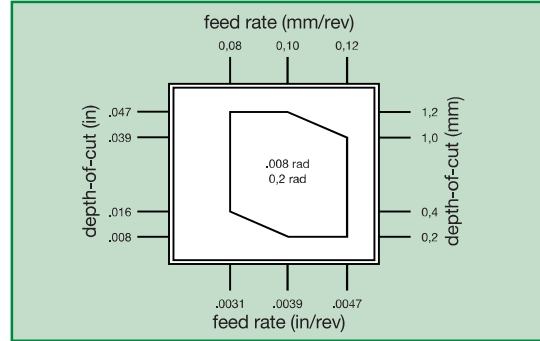


Turn and profile feed rates

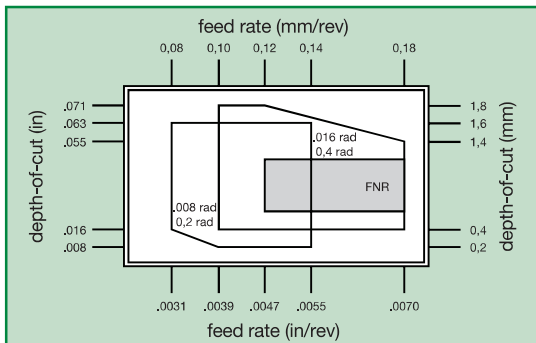
Seat Size 1F



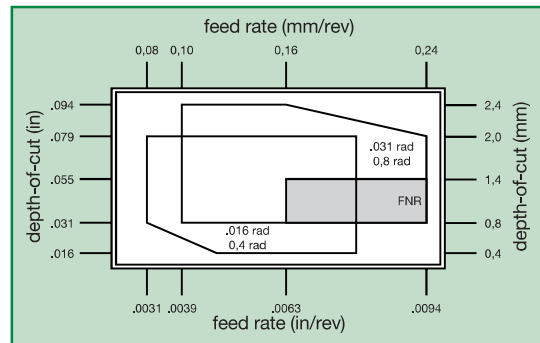
Seat Size 2



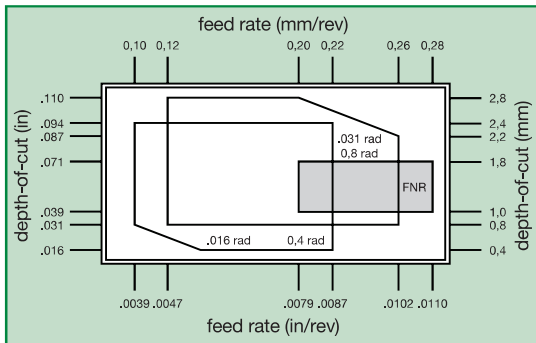
Seat Size 3



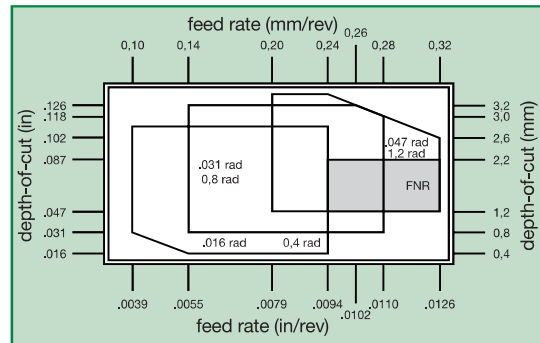
Seat Size 4



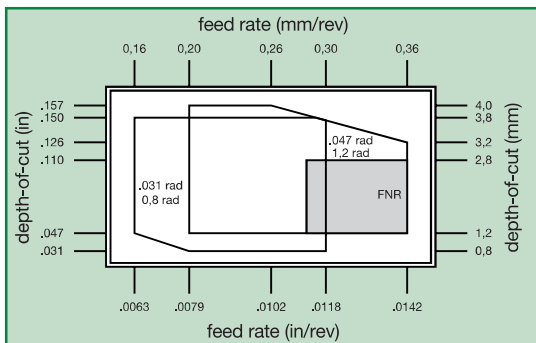
Seat Size 5



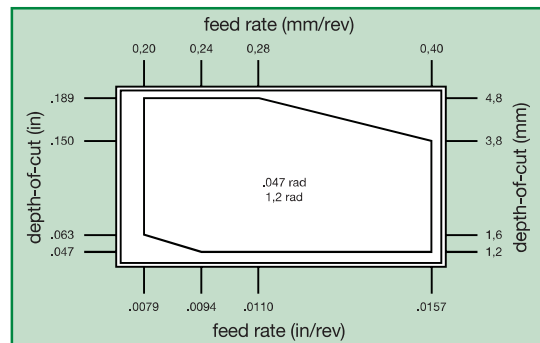
Seat Size 6



Seat Size 8



Seat Size 10



* FNR = Full Nose Radius

Recommended Starting Speeds [SFM]

Material Group		WU10PT			WU25PT			WU35PT		
P	0-1	450	450	450	360	740	880	290	590	700
	2	450	450	450	360	520	880	290	420	510
	3	450	450	450	360	410	800	290	330	510
	4	250	250	250	200	290	540	160	230	350
	5	400	400	400	320	530	680	260	420	540
	6	350	350	350	280	400	600	220	320	480
M	1	450	450	450	300	550	800	250	400	450
	2	400	400	400	300	500	800	250	350	450
	3	400	400	400	300	450	700	250	300	450
K	1	400	400	400	320	480	760	-	-	-
	2	300	300	300	240	400	560	-	-	-
	3	200	200	200	160	280	400	-	-	-
N	1-2	500	500	500	400	1440	2560	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	400	400	400	320	960	1600	-	-	-
	5	300	300	300	240	440	640	-	-	-
	6	400	400	400	320	560	800	-	-	-
	7	400	400	400	320	560	800	-	-	-
S	1	50	50	50	25	125	200	25	125	200
	2	50	50	50	25	100	250	25	100	200
	3	50	50	50	50	125	250	50	125	200
	4	50	50	50	25	175	350	50	150	300
H	1	100	100	100	-	-	-	-	-	-
	2	50	50	50	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.