

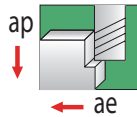
GARR TOOL Speeds and Feeds for TMS and TMR End Mills

Fractional

(CHIP THINNING CALCULATION ALREADY APPLIED)

Material Type	SFM (Vc)	CHIPLOAD PER FLUTE (Fz) at 2% RADIAL ENGAGEMENT (USING PROGRAMMED CALCULATION - PG. 280)						
		1/4" (.2500)	5/16" (.3125)	3/8" (.3750)	1/2" (.5000)	5/8" (.6250)	3/4" (.7500)	1.0" (1.000)
TITANIUM ALLOYS								
6Al - 4V	250 - 400	.0020" - .0042"	.0030" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"	.0080" - .0143"
5553	150 - 250	.0015" - .0028"	.0018" - .0035"	.0025" - .0043"	.0030" - .0055"	.0035" - .0065"	.0042" - .0080"	.0052" - .0095"
STAINLESS STEELS								
Free Machining (303)	300 - 400	.0020" - .0042"	.0027" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"	.0080" - .0143"
Austenitic (304 / 304L)	225 - 350	.0017" - .0035"	.0025" - .0043"	.0030" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"
Martensitic (17-4 / 416)	200 - 250	.0015" - .0028"	.0018" - .0035"	.0025" - .0043"	.0030" - .0055"	.0035" - .0065"	.0042" - .0080"	.0052" - .0095"
TOOL STEELS UNDER 40Rc								
8620	250 - 400	.0017" - .0035"	.0025" - .0043"	.0030" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"
4140, D2 & S7	250 - 350	.0015" - .0028"	.0018" - .0035"	.0025" - .0043"	.0030" - .0055"	.0035" - .0065"	.0042" - .0080"	.0052" - .0095"
CARBON STEELS								
1000 Series, A36 & 12L14	300 - 500	.0020" - .0042"	.0027" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"	.0080" - .0143"
CAST MATERIALS								
Steel & Iron	250 - 350	.0020" - .0042"	.0027" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"	.0080" - .0143"
Aluminum	300 - 400	.0017" - .0035"	.0025" - .0043"	.0030" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"
ALUMINUM								
6061 - T6	300 - 500	.0020" - .0042"	.0027" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"	.0080" - .0143"
COPPER & BRASS ALLOYS								
Short Chip	250 - 350	.0020" - .0042"	.0027" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"	.0080" - .0143"
Long Chip	175 - 300	.0017" - .0035"	.0025" - .0043"	.0030" - .0052"	.0035" - .0065"	.0043" - .0078"	.0052" - .0095"	.0065" - .0115"

SFM / RPM Conversion



ap = full flute length
ae = 2%

SFM (Vc)	DIAMETER (d)						
	.2500"	.3125"	.3750"	.5000"	.6250"	.7500"	1.000"
	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
RPM (n)							
100	1528	1222	1019	764	611	509	382
125	1910	1528	1273	955	764	637	478
150	2292	1834	1528	1146	917	764	573
175	2674	2139	1783	1337	1070	891	669
200	3056	2445	2037	1528	1222	1019	764
250	3820	3056	2547	1910	1528	1273	955
300	4584	3667	3056	2292	1834	1528	1146
350	5348	4278	3565	2674	2139	1783	1337
400	6112	4890	4075	3056	2445	2037	1528
450	6876	5501	4584	3438	2750	2292	1719
500	7640	6112	5093	3820	3056	2547	1910
550	8404	6723	5603	4202	3362	2801	2101
600	9168	7334	6112	4584	3667	3056	2292

NOTE - ABOVE ARE STARTING PARAMETERS ONLY. HIGHER RESULTS MAY BE ACHIEVED WITH OPTIMUM CONDITIONS.