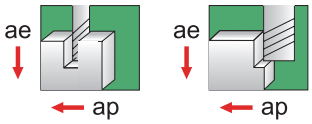
GARR TOOL Application Guide for VHM Series 4-Flute Roughers

Fractional

Material	SFM (Vc)	CHIPLOAD PER FLUTE (CPT) - Recommendations (Fz)								
		1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
Stainless Steel: 303	290-375	.0004" - .0008"	.0008" - .0010"	.0010" - .0015"	.0013" - .0020"	.0015" - .0020"	.0020" - .0030"	.0025" - .0035"	.0030" - .0040"	.0035" - .0045"
Stainless Steel: 304, 316, 400 Series, Kovar, Invar	250-300	.0003" - .0006"	.0006" - .0010"	.0008" - .0015"	.0010" - .0020"	.0012" - .0020"	.0015" - .0020"	.0020" - .0025"	.0025" - .0030"	.0025" - .0035"
Stainless Steel: 304L, 316L, 8620, 17/4, 15/5, 13/8, PH Mat'l	200-250	.0003" - .0006"	.0006" - .0008"	.0007" - .0010"	.0008" - .0010"	.0010" - .0015"	.0010" - .0020"	.0015" - .0025"	.0020" - .0030"	.0020" - .0030"
High Temperature Alloys: Inconel 625/718, A286	100-175	.0003" - .0006"	.0007" - .0010"	.0008" - .0010"	.0010" - .0015"	.0010" - .0015"	.0010" - .0015"	.0012" - .0020"	.0015" - .0025"	.0015" - .0025"
Titanium: 6AL4V, CP	150-200	.0004" - .0008"	.0008" - .0010"	.0010" - .0015"	.0010" - .0020"	.0015" - .0020"	.0020" - .0030"	.0025" - .0030"	.0030" - .0035"	.0030" - .0040"
Carbon Steels: 1000 Series	275-425	.0003" - .0006"	.0006" - .0008"	.0008" - .0012"	.0010" - .0015"	.0010" - .0020"	.0015" - .0025"	.0020" - .0025"	.0020" - .0030"	.0025" - .0035"
High Strength Tool Steel: 4130, 4140, A2, D2, P20, H13	250-400	.0003" - .0006"	.0006" - .0008"	.0007" - .0010"	.0008" - .0010"	.0010" - .0015"	.0010" - .0020"	.0015" - .0025"	.0020" - .0030"	.0020" - .0030"
Gray Cast Iron	400-500	.0005" - .0010"	.0010" - .0020"	.0010" - .0020"	.0015" - .0020"	.0015" - .0025"	.0020" - .0035"	.0025" - .0035"	.0030" - .0040"	.0040" - .0050"

	SLOTTING	PROFILING
Axial (ae)	0.5xD	2xD
Radial (ap)	1xD	0.2xD



Metric

Material	M/Min. (Vc)	CHIPLOAD PER FLUTE (CPT) - Metric Recommendations (Fz)								
		3.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
Stainless Steel: 303	90-115	.010 - .020	.020 - .025	.025 - .038	.033 - .050	.038 - .050	.050 - .076	.063 - .089	.076 - .102	.089 - .114
Stainless Steel: 304, 316, 400 Series, Kovar, Invar	75-90	.008 - .015	.015 - .025	.020 - .038	.025 - .050	.030 - .050	.038 - .050	.050 - .063	.063 - .076	.063 - .089
Stainless Steel: 304L, 316L, 17/4, 15/5, 13/8, PH Materials	60-75	.008 - .015	.015 - .020	.018 - .025	.020 - .025	.025 - .038	.025 - .050	.038 - .063	.050 - .076	.050 - .076
High Temperature Alloys: Inconel 625/718, A286	30-55	.008 - .015	.018 - .025	.020 - .025	.025 - .038	025 - .038	.025 - .038	.030 - .050	.038 - .063	.038 - .063
Titanium: 6AL4V, CP	45-60	.010 - .020	.020 - .025	.025 - .038	.025 - .050	.038 - .050	.050 - .076	.063 - .076	.076 - .089	.076 - .102
Carbon Steels: 1000 Series	85-130	.008 - .015	.015 - .020	.020 - .030	.025 - .038	.025 - .050	.038 - .063	.050 - .063	.050 - .076	.063 - .089
High Strength Tool Steel: 4130, 4140, A2, D2, P20, H13	75-125	.006 - .015	.015 - .020	.018 - .025	.020 - .025	.025 - .038	.025 - .050	.038 - .063	.050 - .076	.050 - .076
Gray Cast Iron	125-150	.013 - .025	.025 - .050	.025 - .050	.038 - .050	.038 - .063	.050 - .089	.063 - .089	.076 - .102	.102 - .127

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