GARR TOOL Application Guide for Alumastar Coated End Mills in Aircraft Grade Aluminum

Fractional

	SLOTTING		SIDE MILLING
	Axial = .5xD	Axial = 1xD	Axial ≤ 1xD Radial ≤ .5xD
	SFM = 1500 - 2000	SFM = 750 - 1500	SFM = 1500 - 2000
Diameter	CPT = 1.5% - 3% of diameter	CPT = 1% - 2% of diameter	CPT = 2% - 3% of diameter
1/8"	.0019" - .0038"	.0013" - .0025"	.0025" - .0038"
3/16"	.0028" - .0056"	.0018" - .0037"	.0037" - .0056"
1/4"	.0037" - .0074"	.0025" - .0050"	.0050" - .0075"
5/16"	.0052" - .0104"	.0031" - .0062"	.0062" - .0094"
3/8"	.0055" - .0110"	.0037" - .0074"	.0075" - .0112"
1/2"	.0075" - .0150"	.0050" - .0100"	.0100" - .0150"
5/8"	.0093" - .0186"	.0062" - .0125"	.0125" - .0187"
3/4"	.0112" - .0224"	.0075" - .0150"	.0150" - .0225"
1"	.0150" - .0300"	.0100" - .0200"	.0200" - .0300"

Metric

	SLOTTING		SIDE MILLING
	Axial = .5xD	Axial = 1xD	Axial ≤ 1xD Radial ≤ 0.5xD
	M/Min. = 450 - 760	M/Min. = 225 - 450	M/Min. = 450 - 760
Diameter	CPT = 1.5% - 3% of diameter	CPT = 1% - 2% of diameter	CPT = 2% - 3% of diameter
3.0	.045 - .090	.030 - .060	.060 - .090
4.0	.060 - .120	.040 - .080	.080 - .120
6.0	.090 - .180	.060 - .120	.120 - .180
8.0	.120 - .240	.080 - .160	.160 - .240
10.0	.150 - .300	.100 - .200	.200 - .300
12.0	.180 - .360	.120 - .240	.240 - .360
16.0	.240 - .480	.160 - .320	.320 - .480
20.0	.300 - .600	.200 - .400	.400 - .600
25.0	.375 - .750	.250 - .500	.500 - .750

CPT = Chipload per flute (Fz)

For CAT 40 machines using tools over 5/8" diameter, speeds and feeds may need to be reduced by as much as 50%

END MILL NOTES:

- Climb milling recommended for best finish
- Figures shown are based on 6061 / 7075
- CAT 50 Taper holders are recommended for 3/4" and 1" diameter end mills
- In controlled slotting tests, 4000 SFM, 1% diameter Chipload Per Flute, and 50% of Dia. axial depth were obtained
- In cases for tools with slower SFM (M/Min.), reference Series 242M/842M, page 127

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