

GARR TOOL Milling Guide for Aluminum (Machining Centers with Mid-Range HP/Torque)

Series 142M/143M/A3 End Mills

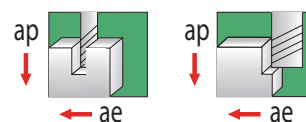
TECHNICAL

- NOTES:** Climb milling recommended for best finish
 Contact your OEM for your machine's optimal running parameters
 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 Tooth and 50% of Dia. axial depth were obtained
 In cases for tools with slower SFM (M/Min.), reference Series 242M/842M
 For CAT 40 machines using tools over 5/8" diameter, speeds and feeds may need to be reduced by as much as 50%

Diameter	SLOTTING		PROFILING
	Axial = .5xD	Axial = 1xD	Axial ≤ 1xD Radial ≤ .5xD
	SFM = 1500 - 2000	SFM = 750 - 1500	SFM = 1500 - 2000
	CPT (Fz) = 1.5% - 2.5% of diameter	CPT (Fz) = 1% - 2% of diameter	CPT (Fz) = 1.5% - 2.5% of diameter
1/8"	.0019" - .0031"	.0013" - .0025"	.0019" - .0031"
3/16"	.0028" - .0047"	.0018" - .0037"	.0028" - .0047"
1/4"	.0037" - .0062"	.0025" - .0050"	.0037" - .0062"
5/16"	.0052" - .0078"	.0031" - .0062"	.0052" - .0078"
3/8"	.0055" - .0094"	.0037" - .0074"	.0055" - .0094"
1/2"	.0075" - .0125"	.0050" - .0100"	.0075" - .0125"
5/8"	.0093" - .0156"	.0062" - .0125"	.0093" - .0156"
3/4"	.0112" - .0188"	.0075" - .0150"	.0112" - .0188"
1"	.0150" - .0250"	.0100" - .0200"	.0150" - .0250"

Diameter	SLOTTING		PROFILING
	Axial = .5xD	Axial = 1xD	Axial ≤ 1xD Radial ≤ 0.5xD
	M/Min. = 450 - 760	M/Min. = 225 - 450	M/Min. = 450 - 760
	CPT (Fz) = 1.5% - 2.5% of diameter	CPT (Fz) = 1% - 2% of diameter	CPT (Fz) = 1.5% - 2.5% of diameter
3.0mm	.045 - .075	.030 - .060	.045 - .075
4.0mm	.060 - .100	.040 - .080	.060 - .100
6.0mm	.090 - .150	.060 - .120	.090 - .150
8.0mm	.120 - .200	.080 - .160	.120 - .200
10.0mm	.150 - .250	.100 - .200	.150 - .250
12.0mm	.180 - .300	.120 - .240	.180 - .300
16.0mm	.240 - .400	.160 - .320	.240 - .400
20.0mm	.300 - .500	.200 - .400	.300 - .500
25.0mm	.375 - .625	.250 - .500	.375 - .625

	Slotting Pocket Milling	Profiling Side Milling
Axial (ap)	up to 1xD	up to 1xD
Radial (ae)	1xD	up to 50% of Dia.



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