

# Recommended Speeds and Feeds Information for Aluminum

High Performance Zirconium Coated Aluminum End Mills									
Type of Cut	Aluminum Alloys 6061-T6,7075-T6, 440, 356, 380, C61300	Depth of Cut (vs. Dia of tool)	SFM Speed	End Mill Diameter Chip Load Per Tooth					
				1/4"	3/8"	1/2"	5/8"	3/4"	1"
Shallow Slotting	< 10% Silicone	< 50% of Dia.	1200+	0.0045	0.0071	0.0100	0.0123	0.0149	0.0200
	> 10% Silicone		600+	0.0036	0.0057	0.0080	0.0098	0.0119	0.0160
Deep Slotting	< 10% Silicone	75 -100% of Dia.	1200+	0.0036	0.0057	0.0080	0.0098	0.0119	0.0160
	> 10% Silicone		600+	0.0027	0.0043	0.0060	0.0074	0.0089	0.0120
Medium Radial 1.0 X Dia Depth	< 10% Silicone	30% x Dia. Radial	1200+	0.0045	0.0071	0.0100	0.0123	0.0149	0.0200
	> 10% Silicone		600+	0.0036	0.0057	0.0080	0.0098	0.0119	0.0160
Heavy Radial 1.0 X Dia Depth	< 10% Silicone	50% x Dia. Radial	1200+	0.0036	0.0057	0.008	0.0098	0.01188	0.016
Medium Radial 2.0 X Dia Depth	< 10% Silicone	30% x Dia. Radial	1200+	0.0045	0.0071	0.0100	0.0123	0.0149	0.0200
	> 10% Silicone		600+	0.0036	0.0057	0.0080	0.0098	0.0119	0.0160
Heavy Radial 2.0 X Dia Depth	< 10% Silicone	50% x Dia. Radial	1200+	0.0036	0.0057	0.008	0.0098	0.01188	0.016
Finishing Medium Radial	< 10% Silicone	< 25% of Dia.	1200+	0.0045	0.0071	0.0100	0.0123	0.0149	0.0200
	> 10% Silicone		600+	0.0036	0.0057	0.0080	0.0098	0.0119	0.0160
Finishing Light Radial	< 10% Silicone	< 10% of Dia.	1200+	0.0045	0.00713	0.01	0.01225	0.01485	0.02
Finishing	< 10% Silicone	< .010 Radial Depth	1200+	0.0054	0.0086	0.0120	0.0147	0.0178	0.0240
	> 10% Silicone		600+	0.0045	0.0071	0.0100	0.0123	0.0149	0.0200
<b>Formulas</b>									
<b>RPM= (SFM x 3.82)/tool diameter</b>									
<b>IPM= number of flutes x RPM x chip load per tooth</b>									
The chart is a starting point based on a coated tool. Reduce rates up to 50% using an uncoated tool.									
Important Disclaimer: The speed and feed rates are suggested as a general guideline. Machine type, horsepower, spindle speed limitations, toolholding & workholding devices all may impact a cutting tool's ability to perform properly. As a result BENCHMARK is not responsible for tool fail part damage or injury that may be caused as a result.									

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