Amana Tool®

INDUSTRIAL

2 & 4 Flute Solid Carbide AlTiN Coated Miniature CNC Steel, Stainless Steel & Composite Cutting Router End Mills

Depth of Cut: 1 x Tool Diameter †

Material	Surface Feet Per Minute (SFM)	Chip Load Per Tooth									
		Ø0.010"	Ø0.015"	Ø0.020"	Ø0.025"	Ø0.030"	Ø0.035"	Ø0.040"	Ø0.045"	Ø0.050"	Ø0.055"	Ø0.060"
Steel: < 16 Rc	400 - 600	0.000045"	0.000055"	0.000065"	0.00008"	0.00011"	0.00013"	0.00015"	0.0002"	0.00025"	0.0003"	0.00035"
Steel: < 24 Rc (C)	300 - 470	0.00004"	0.00005"	0.00006"	0.00007"	0.00008"	0.00009"	0.0001"	0.00015"	0.0002"	0.00025"	0.0003"
Steel: 24 - 37 Rc	200 - 350	0.00003"	0.00004"	0.00005"	0.00006"	0.00007"	0.00008"	0.00009"	0.0001"	0.00015"	0.0002"	0.00025"
Steel: 37 - 45 Rc	150 - 220	0.00002"	0.00003"	0.00004"	0.00005"	0.00006"	0.00007"	0.00008"	0.00009"	0.0001"	0.00015"	0.0002"
Stainless Steel (400 Series)	375 - 500	0.00004"	0.00005"	0.000065"	0.000085"	0.00010"	0.00012"	0.000135"	0.00015"	0.000165"	0.00018"	0.00019"
Stainless Steel (300 Series)	150 - 225	0.000035"	0.000045"	0.00006"	0.00008"	0.0009"	0.0001"	0.00013"	0.00014"	0.00015"	0.00016"	0.00017"
Inconel/Nimonic/Waspaloy	65 - 95	0.00002"	0.00003"	0.00004"	0.00005"	0.00006"	0.00007"	0.00008"	0.00009"	0.0001"	0.00015"	0.0002"
Thermoplastics	1,500 - 2,000	0.00015"	0.0002"	0.00025"	0.0003"	0.00035"	0.0004"	0.00045"	0.00050"	0.00055"	0.0006"	0.00065"
Titanium	100 - 175	0.00002"	0.00003"	0.00004"	0.00005"	0.00006"	0.00007"	0.00008"	0.00009"	0.0001"	0.00015"	0.0002"

Tool Reference #'s				
2-Flute Square End	4-Flute Square End	2-Flute Ball End	4-Flute Ball End	Diameter
51660	51719	51739	51750	0.010"
51661	51720	51740	51751	0.015"
51662	51721	51741	51752	0.020"
51663	51722	51742	51753	0.025"
51664	51723	51743	51754	0.030"
51665	51724	51744	51755	0.035"
51666	51725	51745	51756	0.040"
51667	51726	51746	51757	0.045"
51668	51727	51747	51758	0.050"
51669	51728	51748	51759	0.055"
51679	51729	51749	51760	0.060"

† Depth of Cut: 1 x D Use recommended feed rate
2 x D Reduce feed rate by 25%
3 x D Reduce feed rate by 50%

Simple Machining Calculations:
To find **RPM:** (SFM x 3.82) / diameter of tool
To find **SFM:** 0.262 x diameter of tool x RPM
To find **Feed Rate IPM:** RPM x # of flutes x chip load
To find **Chip Load:** Feed Rate IPM / (RPM x # of flutes)
To find **Ramp Down:** Feed Rate IPM / # of flutes

Disclaimer: It is important to understand that these values are only recommendations.