

MARI TOOL

Speeds and Feeds for **1053** and **1054** style end mills. Solid carbide 4 flute variable helix and indexing with TiAlN coating. End Mills are made in the USA.

Material	Hardness		Feed Per Tooth					
	Bhn	SFM	1/8" dia	1/4"	3/8"	1/2"	3/4"	1"
Aluminum 2011,2024,6061,7075	--	800	.001	.0018	.003	.004	.006	.0065
Free Machining 12L14, 1215,11L17	80-150	550	.0006	.0015	.0022	.004	.005	.0055
Low Carbon Steel 1008, 1018, 1020	125-175	500	.0006	.0014	.002	.003	.004	.0045
Medium Carbon Steel 4140, 8620	200-280	400	.0005	.0012	.0018	.0025	.0035	.004
Tool Steel, H.S.S A2,D2,M2,M42	300-400	240	.0004	.001	.0016	.0022	.0032	.0035
Cast Iron	120-175	500	.0005	.0014	.002	.0035	.005	.0052
Stainless Steel 300 Series	160-200	375	.0005	.0014	.002	.0035	.005	.0052
Stainless Steel 400 Series	180-260	200	.0004	.0013	.0018	.0032	.0045	.0046
Stainless Steel 15-5, 17-4	160-200	230	.0005	.0015	.002	.0035	.005	.0052
Titanium 6AL-4V	320-380	300	.0005	.001	.0016	.0022	.0035	.004
Inconel 625, 718	280-320	60	.0002	.0006	.0014	.0018	.0028	.0032
Copper, Bronze	120-160	400	.0006	.0015	.0022	.004	.005	.0055
Brass (360 half hard)	--	550	.0009	.0017	.0025	.0035	.0055	.006

Feed Per Tooth is based on.....

slotting depth of .5 x Cutting Diameter, for deeper slotting reduce feed and speed

profiling with Axial depth up to 2x Cutting Diameter and Radial Depth of .25x Cutting Diameter, when profiling less than .25 cutting diameter increase feed and speed

Blue material box indicates coolant is required for proper operation

non colored materials can be run dry with air blast or with coolant, assuming all safety and ventilation guidelines are followed

6 guidelines for best cutting results

keep overall gage length short	keep tool concentricity low	climb milling is generally best
workpiece rigidity is important	avoid double cutting chips	avoid thermal shock

Note: Cutting speeds, feeds, and lubrication data are given as starting values only. Parameters should be varied to suite your particular conditions. MariTool is constantly improving products, tolerances, and reliability. As such, these speeds and feeds are subject to change without prior notice. Cutting tools may shatter and or produce dangerous fumes when being used. Appropriate protection is advised.