


**FOR
UNCOATED
TOOLS**

Speed and Feed Guide

NONFERROUS MATERIALS		Speed SFM	Feed (Inch / Tooth) End Mill							
			1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
Aluminum + Aluminum Alloys 6061-T6, 7075-T6		800 - 2000	.001	.002	.002	.003	.004	.005	.006	.007
Copper / Copper Alloys Yellow Brass, High Lead Brass, Red Brass		800 - 1000	.001	.001	.002	.0025	.003	.004	.004	.005
Magnesium DieCast, Extruded		1000 - 1500	.001	.002	.002	.003	.004	.006	.008	.009
Plastic, Acrylics, Phenolics Polysulfone		300 - 600	.001	.002	.003	.004	.006	.008	.010	.015
Carbon, Graphites Carbon Graphites		200 - 400	.003	.004	.006	.008	.010	.012	.015	.020
STEELS		Speed SFM	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
Tool Steels A2, O1, D2, H-13, P20	<32 Rc	230	.0003	.0005	.001	.0015	.002	.003	.0035	.004
	<45 Rc	175	.0003	.0005	.001	.0015	.002	.003	.0035	.004
	>45 Rc	100	.0003	.0005	.001	.0015	.002	.003	.0035	.004
"Chrome-Nickel" Moly Steels 4330, 4340		225	.0003	.0005	.001	.0015	.002	.003	.0035	.004
"Chrome-Nickel" Alloy Steels 4130, 4140, 4150		250	.0003	.0005	.001	.0015	.002	.003	.0035	.004
Carbon Steels 1010, 1018, 1020, 1045		300	.0003	.0005	.001	.0015	.002	.003	.0035	.004
STAINLESS STEEL		Speed SFM	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
Precipitation 13-8 PH, 15-5 PH, 17-4 PH, 304L, 316L		200	.0002	.0003	.0005	.001	.002	.0025	.003	.0035
Austenitic (difficult to machine) 304L, 316L		200	.0002	.0003	.0005	.001	.002	.0025	.003	.0035
Austenitic (easy to machine) 302, 303, 304		250	.0003	.0004	.0005	.001	.002	.0025	.003	.0035
Martensitic 403, 410, 416		250	.0003	.0004	.0005	.001	.002	.0025	.003	.0035
CAST IRON		Speed SFM	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
Ductile Iron Ductile Cast iron		250	.0005	.001	.0015	.002	.002	.003	.0035	.004
Cast Iron Grey Cast Iron		300	.0005	.001	.0015	.002	.002	.003	.0035	.004
HIGH TEMP ALLOYS		Speed SFM	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
Cobalt, Nickel, Iron-Based Alloys Haynes 25, Inconel 625, 718, Hastelloy, Waspalloy, A-286		60	.0002	.0003	.0005	.0008	.0012	.0017	.0022	.0027
Titanium Alloys Commercially Pure, 6AL-4V		180	.00025	.0005	.001	.0015	.002	.0025	.003	.0035

NOTE: The above suggested cutting speeds are for uncoated tools. Please refer to our Tool Coating Guide (page 24) for selecting the appropriate SFM addition for your selected tool coating. Example: Machining "Carbon Steel" (1010, 1018...) with TiCN coating. Use 300 SFM x 1.40 (40% add-on) = 420 SFM.