



7-Flute, Extra High Performance, Finisher Endmills, Square, Corner Radius & Chip Control, 40 Degree Helix



- More Flutes in the cut means greater production. For added tool life select tools with a Corner Radius
- Use with High Efficiency Machining Technology for best results. See pages 208-212.
- These Extra High Performance tools can be found on pages 86-90.

7-Flute Finishers Speeds & Feeds

Material	Grades	Cut Type	Axial DOC	Radial DOC	# of Flutes	SFM	Feed by Endmill Diameter (IPT)									
							3/16 (.1875)	1/4 (.2500)	3/8 (.3750)	1/2 (.5000)	5/8 (.6250)	3/4 (.7500)	1 (1.0000)			
Low Carbon Steels <= 38 Rc	1018, 1020, 12L14, 5120, 8620	Peripheral - HEM	<=3 x D	.08 x D	7	485	.0028	.0038	.0056	.0075	.0094	.0113	.0150			
			>3xD-4xD	.08 x D	7	485	.0025	.0034	.0051	.0068	.0084	.0101	.0135			
			>4xD-5xD	.08 x D	7	465	.0023	.0030	.0045	.0060	.0075	.0090	.0120			
Medium Carbon Steels <= 48 HRC	1045, 4140, 4340, 5140	Peripheral - HEM	<=3 x D	.08 x D	7	450	.0027	.0036	.0053	.0071	.0089	.0107	.0142			
			>3xD-4xD	.08 x D	7	450	.0024	.0032	.0048	.0064	.0080	.0096	.0128			
			>4xD-5xD	.08 x D	7	425	.0021	.0028	.0043	.0057	.0071	.0085	.0114			
Tool and Die Steels <= 48 Rc	A2, D2, 01, S7, P20, H13	Peripheral - HEM	<=3 x D	.08 x D	7	420	.0024	.0032	.0048	.0064	.0080	.0096	.0128			
			>3xD-4xD	.08 x D	7	420	.0022	.0029	.0043	.0058	.0072	.0086	.0115			
			>4xD-5xD	.08 x D	7	395	.0019	.0026	.0038	.0051	.0064	.0077	.0102			
Finish			3 x D	.015 x D	7	365	.0008	.0011	.0016	.0021	.0026	.0032	.0042			
			M - Stainless Steels													
			Austenitic Stainless Steels, FeNi Alloys	303, 304, 316, Invar, Kovar	Peripheral - HEM	<=3 x D	.08 x D	7	450	.0024	.0032	.0048	.0064	.0080	.0096	.0128
>3xD-4xD	.08 x D	7				440	.0022	.0029	.0043	.0058	.0072	.0086	.0115			
>4xD-5xD	.07 x D	7				425	.0019	.0026	.0038	.0051	.0064	.0077	.0102			
Finish			3 x D	.015 x D	7	390	.0009	.0012	.0018	.0024	.0030	.0036	.0048			
			Martensitic & Ferritic Stainless Steels	410, 416, 440	Peripheral - HEM	<=3 x D	.08 x D	7	450	.0028	.0038	.0056	.0075	.0094	.0113	.0150
						>3xD-4xD	.08 x D	7	450	.0025	.0034	.0051	.0068	.0084	.0101	.0135
>4xD-5xD	.08 x D	7				425	.0023	.0030	.0045	.0060	.0075	.0090	.0120			
Finish			3 x D	.015 x D	7	390	.0009	.0013	.0019	.0025	.0031	.0038	.0050			
			Precipitation Hardening	17-4, 15-5, 13-8	Peripheral - HEM	<=3 x D	.08 x D	7	440	.0023	.0031	.0047	.0062	.0078	.0093	.0124
						>3xD-4xD	.08 x D	7	440	.0021	.0028	.0042	.0056	.0070	.0084	.0112
>4xD-5xD	.07 x D	7				415	.0019	.0025	.0037	.0050	.0062	.0074	.0099			
Finish			3 x D	.015 x D	7	380	.0008	.0010	.0015	.0020	.0025	.0030	.0040			
			K - Cast Irons													
			Gray	ASTM-A48 Class 20, 25, 30, 35 & 40	Peripheral - HEM	<=3 x D	.1 x D	7	400	.0027	.0036	.0054	.0072	.0090	.0108	.0144
>3xD-4xD	.08 x D	7				400	.0024	.0032	.0049	.0065	.0081	.0097	.0130			
>4xD-5xD	.08 x D	7				390	.0022	.0029	.0043	.0058	.0072	.0086	.0115			
Finish			3 x D	.015 x D	7	450	.0010	.0013	.0020	.0026	.0033	.0039	.0052			
			Cast Iron	Malleable	Peripheral - HEM	<=3 x D	.08 x D	7	390	.0022	.0029	.0044	.0058	.0073	.0087	.0116
						>3xD-4xD	.08 x D	7	390	.0020	.0026	.0039	.0052	.0065	.0078	.0104
>4xD-5xD	.08 x D	7				375	.0017	.0023	.0035	.0046	.0058	.0070	.0093			
Finish			3 x D	.015 x D	7	350	.0008	.0011	.0016	.0021	.0026	.0032	.0042			
			S - High Temp Alloys													
			Titanium Alloys	6Al-4V, 6-2-4	Peripheral - HEM	<=3 x D	.1 x D	7	405	.0015	.0021	.0031	.0041	.0051	.0062	.0082
>3xD-4xD	.08 x D	7				405	.0014	.0018	.0028	.0037	.0046	.0055	.0074			
>4xD-5xD	.08 x D	7				390	.0012	.0016	.0025	.0033	.0041	.0049	.0066			
Finish			3 x D	.015 x D	7	350	.0006	.0008	.0012	.0016	.0020	.0024	.0032			
			Difficult to Machine Titanium Alloys	10-2-3	Peripheral - HEM	<=2.5 x D	.08 x D	7	335	.0015	.0020	.0030	.0040	.0050	.0060	.0080
						>2.5xD-3.5xD	.07 x D	7	325	.0014	.0018	.0027	.0036	.0045	.0054	.0072
>3.5xD-4xD	.06 x D	7				305	.0012	.0016	.0024	.0032	.0040	.0048	.0064			
Finish			3 x D	.01 x D	7	290	.0005	.0007	.0011	.0014	.0018	.0021	.0028			
			Hastalloy, Waspalloy		Peripheral - HEM	<=1.5 x D	.08 x D	7	100	.0035	.0047	.0071	.0094	.0118	.0141	.0188
						>1.5xD-2.5xD	.08 x D	7	95	.0032	.0042	.0063	.0085	.0106	.0127	.0169
>2.5xD-3.5xD	.06 x D	7				85	.0028	.0038	.0056	.0075	.0094	.0113	.0150			
Finish			2 x D	.01 x D	7	90	.0019	.0025	.0038	.0050	.0063	.0075	.0100			
			Inconel 718, Rene 88		Peripheral - HEM	<=1.5 x D	.07 x D	7	95	.0035	.0047	.0070	.0093	.0116	.0140	.0186
						>1.5xD-2.5xD	.06 x D	7	90	.0031	.0042	.0063	.0084	.0105	.0126	.0167
>2.5xD-3xD	.06 x D	7				85	.0028	.0037	.0056	.0074	.0093	.0112	.0149			
Finish			2 x D	.01 x D	7	85	.0018	.0024	.0036	.0048	.0060	.0072	.0096			

D = Tool Diameter
HEM = High Efficiency Machining