

MATERIAL		Hardness: ≤ 28 Rc (≤ 271 HBn)															
		SFM	Chip Load (IPT) by Dia			Depth of Cut		Chip Load (IPT) by Cutter Dia							Depth of Cut		
			0.015	0.031	0.047	Radial	Axial	0.062	0.078	0.093	0.125	0.187	0.250	0.375	0.500	Radial	Axial
ALUMINUM ALLOYS	750	Slotting	.0017	.00035	.00054	1 x Dia	.08 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	1 x Dia	.20 x Dia
		Roughing	.00021	.00044	.00067	.30 x Dia	.35 x Dia	.00077	.00097	.00115	.00155	.00231	.00309	.00464	.00619	.60 x Dia	.35 x Dia
	1000	Finishing	.00032	.00067	.00101	.08 x Dia	1.5 x Dia	.00116	.00146	.00175	.00235	.00351	.00469	.00704	.00939	.15 x Dia	1.5 x Dia
		Slotting	.00015	.00032	.00048	1 x Dia	.08 x Dia	.00055	.00069	.00083	.00111	.00167	.00223	.00334	.00446	1 x Dia	.20 x Dia
	750	Slotting	.00015	.00032	.00048	1 x Dia	.08 x Dia	.00055	.00069	.00083	.00111	.00167	.00223	.00334	.00446	1 x Dia	.20 x Dia
		Roughing	.00019	.00040	.00060	.30 x Dia	.35 x Dia	.00069	.00087	.00104	.00139	.00208	.00278	.00418	.00557	.60 x Dia	.35 x Dia
	650	Slotting	.00019	.00040	.00060	.30 x Dia	.35 x Dia	.00069	.00087	.00104	.00139	.00208	.00278	.00418	.00557	.60 x Dia	.35 x Dia
		Roughing	.00019	.00040	.00060	.30 x Dia	.35 x Dia	.00069	.00087	.00104	.00139	.00208	.00278	.00418	.00557	.60 x Dia	.35 x Dia
	475	Slotting	.00019	.00040	.00060	.30 x Dia	.35 x Dia	.00069	.00087	.00104	.00139	.00208	.00278	.00418	.00557	.60 x Dia	.35 x Dia
		Roughing	.00019	.00040	.00060	.30 x Dia	.35 x Dia	.00069	.00087	.00104	.00139	.00208	.00278	.00418	.00557	.60 x Dia	.35 x Dia
1000	Finishing	.00029	.00060	.00091	.08 x Dia	1.5 x Dia	.00105	.00132	.00157	.00211	.00316	.00422	.00634	.00845	.15 x Dia	1.5 x Dia	
	Slotting	.00017	.00035	.00054	1 x Dia	.08 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	1 x Dia	.20 x Dia	
800	Roughing	.00021	.00044	.00067	.30 x Dia	.35 x Dia	.00077	.00097	.00115	.00155	.00231	.00309	.00464	.00619	.60 x Dia	.35 x Dia	
	Finishing	.00032	.00067	.00101	.08 x Dia	1.5 x Dia	.00116	.00146	.00175	.00235	.00351	.00469	.00704	.00939	.15 x Dia	1.5 x Dia	
MAGNESIUM ALLOYS	1500	Slotting	.00017	.00035	.00054	1 x Dia	.08 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	1 x Dia	.20 x Dia
		Roughing	.00021	.00044	.00067	.30 x Dia	.35 x Dia	.00077	.00097	.00115	.00155	.00231	.00309	.00464	.00619	.60 x Dia	.35 x Dia
	800	Finishing	.00032	.00067	.00101	.08 x Dia	1.5 x Dia	.00116	.00146	.00175	.00235	.00351	.00469	.00704	.00939	.15 x Dia	1.5 x Dia
		Slotting	.00014	.00028	.00043	1 x Dia	.08 x Dia	.00049	.00062	.00074	.00099	.00148	.00198	.00297	.00396	1 x Dia	.20 x Dia
	225	Slotting	.00014	.00028	.00043	1 x Dia	.08 x Dia	.00049	.00062	.00074	.00099	.00148	.00198	.00297	.00396	1 x Dia	.20 x Dia
		Roughing	.00017	.00035	.00054	.30 x Dia	.35 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	.60 x Dia	.35 x Dia
	500	Slotting	.00017	.00035	.00054	.30 x Dia	.35 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	.60 x Dia	.35 x Dia
		Roughing	.00017	.00035	.00054	.30 x Dia	.35 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	.60 x Dia	.35 x Dia
	225	Slotting	.00017	.00035	.00054	.30 x Dia	.35 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	.60 x Dia	.35 x Dia
		Roughing	.00017	.00035	.00054	.30 x Dia	.35 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	.60 x Dia	.35 x Dia
550	Slotting	.00017	.00035	.00054	.30 x Dia	.35 x Dia	.00061	.00077	.00092	.00124	.00185	.00248	.00371	.00495	.60 x Dia	.35 x Dia	
	Finishing	.00026	.00054	.00081	.08 x Dia	1.5 x Dia	.00093	.00117	.00140	.00188	.00281	.00375	.00563	.00751	.15 x Dia	1.5 x Dia	



Product Table: Miniature End Mills - Corner Radius - Long Reach, Stub Flute
Characteristics: 5x Reach Multiple
Series: 371xx, 372xx, 415xx, 416xx, 421xx, 422xx, 427xx, 428xx, 8399xx, 9019xx, 9127xx, 9128xx, 9302xx, 9491xx, 9535xx, 9536xx, 9682xx, 9788xx

Please note:
All posted speed and feed parameters are suggested starting values that may be increased given optimal setup conditions. Chip loads reflect uncoated cutters and may be increased 10%-20% if coated. For ferrous materials with hardness ≤ 28 Rc, chip loads can be increased 10%-20%.

If you require additional information, Harvey Tool has a team of technical experts available to assist you through even the most challenging applications. Please contact us at **800-645-5609** or Harveytech@harveyperformance.com.

WARNING: Cutting tools may shatter under improper use. Government regulations require use of safety glasses and other appropriate safety equipment in the vicinity of use.

MATERIAL		Hardness: 29-37 Rc (279-344 HBn)																
		SFM	Chip Load (IPT) by Dia			Depth of Cut		Chip Load (IPT) by Cutter Dia							Depth of Cut			
			0.015	0.031	0.047	Radial	Axial	0.062	0.078	0.093	0.125	0.187	0.250	0.375	0.500	Radial	Axial	
CARBON STEELS	600	Slotting	.00006	.00012	.00018	1 x Dia	.08 x Dia	.00021	.00027	.00032	.00043	.00064	.00085	.00128	.00170	1 x Dia	.20 x Dia	
		Roughing	.00007	.00014	.00021	.30 x Dia	.35 x Dia	.00024	.00030	.00036	.00048	.00072	.00096	.00144	.00191	.60 x Dia	.35 x Dia	
	200	Finishing	.00010	.00021	.00032	.08 x Dia	1.5 x Dia	.00036	.00046	.00055	.00073	.00110	.00147	.00220	.00293	.15 x Dia	1.5 x Dia	
		Slotting	.00005	.00011	.00017	1 x Dia	.08 x Dia	.00019	.00024	.00029	.00039	.00058	.00078	.00117	.00156	1 x Dia	.20 x Dia	
	200	Roughing	.00006	.00012	.00019	.30 x Dia	.35 x Dia	.00022	.00027	.00033	.00044	.00065	.00087	.00131	.00175	.60 x Dia	.35 x Dia	
		Finishing	.00009	.00019	.00029	.08 x Dia	1.5 x Dia	.00033	.00042	.00050	.00067	.00100	.00134	.00201	.00268	.15 x Dia	1.5 x Dia	
	STAINLESS STEELS	450	Slotting	.00006	.00012	.00018	1 x Dia	.08 x Dia	.00021	.00027	.00032	.00043	.00064	.00085	.00128	.00170	1 x Dia	.20 x Dia
			Roughing	.00007	.00014	.00021	.30 x Dia	.35 x Dia	.00024	.00030	.00036	.00048	.00072	.00096	.00144	.00191	.60 x Dia	.35 x Dia
		200	Finishing	.00010	.00021	.00032	.08 x Dia	1.5 x Dia	.00036	.00046	.00055	.00073	.00110	.00147	.00220	.00293	.15 x Dia	1.5 x Dia
			Slotting	.00005	.00011	.00017	1 x Dia	.08 x Dia	.00019	.00024	.00029	.00039	.00058	.00078	.00117	.00156	1 x Dia	.20 x Dia
200		Roughing	.00006	.00012	.00019	.30 x Dia	.35 x Dia	.00022	.00027	.00033	.00044	.00065	.00087	.00131	.00175	.60 x Dia	.35 x Dia	
		Finishing	.00009	.00019	.00029	.08 x Dia	1.5 x Dia	.00033	.00042	.00050	.00067	.00100	.00134	.00201	.00268	.15 x Dia	1.5 x Dia	
150		Slotting	.00003	.00007	.00011	1 x Dia	.08 x Dia	.00012	.00015	.00018	.00024	.00036	.00049	.00073	.00097	1 x Dia	.20 x Dia	
		Roughing	.00004	.00008	.00012	.30 x Dia	.35 x Dia	.00014	.00017	.00020	.00027	.00041	.00055	.00082	.00109	.60 x Dia	.35 x Dia	
150		Finishing	.00006	.00012	.00018	.08 x Dia	1.5 x Dia	.00021	.00026	.00031	.00042	.00063	.00084	.00126	.00168	.15 x Dia	1.5 x Dia	
		Slotting	.00005	.00011	.00017	1 x Dia	.08 x Dia	.00019	.00024	.00029	.00039	.00058	.00078	.00117	.00156	1 x Dia	.20 x Dia	
200	Roughing	.00006	.00012	.00019	.30 x Dia	.35 x Dia	.00022	.00027	.00033	.00044	.00065	.00087	.00131	.00175	.60 x Dia	.35 x Dia		
	Finishing	.00009	.00019	.00029	.08 x Dia	1.5 x Dia	.00033	.00042	.00050	.00067	.00100	.00134	.00201	.00268	.15 x Dia	1.5 x Dia		
TOOL STEELS	150	Slotting	.00003	.00007	.00011	1 x Dia	.08 x Dia	.00012	.00015	.00018	.00024	.00036	.00049	.00073	.00097	1 x Dia	.20 x Dia	
		Roughing	.00004	.00008	.00012	.30 x Dia	.35 x Dia	.00014	.00017	.00020	.00027	.00041	.00055	.00082	.00109	.60 x Dia	.35 x Dia	
	150	Finishing	.00006	.00012	.00018	.08 x Dia	1.5 x Dia	.00021	.00026	.00031	.00042	.00063	.00084	.00126	.00168	.15 x Dia	1.5 x Dia	
		Slotting	.00003	.00007	.00011	1 x Dia	.08 x Dia	.00012	.00015	.00018	.00024	.00036	.00049	.00073	.00097	1 x Dia	.20 x Dia	
	150	Roughing	.00004	.00008	.00012	.30 x Dia	.35 x Dia	.00014	.00017	.00020	.00027	.00041	.00055	.00082	.00109	.60 x Dia	.35 x Dia	
		Finishing	.00006	.00012	.00018	.08 x Dia	1.5 x Dia	.00021	.00026	.00031	.00042	.00063	.00084	.00126	.00168	.15 x Dia	1.5 x Dia	
	75	Slotting	.00002	.00003	.00005	1 x Dia	.08 x Dia	.00006	.00008	.00009	.00012	.00018	.00024	.00036	.00049	1 x Dia	.20 x Dia	
		Roughing	.00002	.00003	.00005	.30 x Dia	.35 x Dia	.00007	.00009	.00010	.00014	.00020	.00027	.00041	.00055	.60 x Dia	.35 x Dia	
	50	Finishing	.00003	.00006	.00009	.08 x Dia	1.5 x Dia	.00010	.00013	.00016	.00021	.00032	.00042	.00063	.00085	.15 x Dia	1.5 x Dia	
		Slotting	.00002	.00003	.00005	1 x Dia	.08 x Dia	.00006	.00008	.00009	.00012	.00018	.00024	.00036	.00049	1 x Dia	.20 x Dia	
50	Roughing	.00002	.00003	.00005	.30 x Dia	.35 x Dia	.00007	.00009	.00010	.00014	.00020	.00027	.00041	.00055	.60 x Dia	.35 x Dia		
	Finishing	.00003	.00006	.00009	.08 x Dia	1.5 x Dia	.00010	.00013	.00016	.00021	.00032	.00042	.00063	.00085	.15 x Dia	1.5 x Dia		

MATERIAL		Hardness: 38-45 Rc (353-421 HBn)															
		SFM	Chip Load (IPT) by Dia			Depth of Cut		Chip Load (IPT) by Cutter Dia							Depth of Cut		
			0.015	0.031	0.047	Radial	Axial	0.062	0.078	0.093	0.125	0.187	0.250	0.375	0.500	Radial	Axial
CARBON STEELS	600	Slotting	.00006	.00012	.00018	1 x Dia	.08 x Dia	.00021	.00027	.00032	.00043	.00064	.00085	.00128	.00170	1 x Dia	.20 x Dia
		Roughing	.00007	.00014	.00021	.30 x Dia	.35 x Dia	.00024	.00030	.00036	.00048	.00072	.00096	.00144	.00191	.60 x Dia	.35 x Dia
	200	Finishing	.00010	.00021	.00032	.08 x Dia	1.5 x Dia	.00036	.00046	.00055	.00073	.00110	.00147	.00220	.00293	.15 x Dia	1.5 x Dia