

MATERIAL	SFM	Hardness: ≤ 28 Rc (≤ 271 HBn)														
		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	.00010	.00021	.00032	1 x Dia	.06 x Dia	.00037	.00046	.00055	.00074	.00111	.00149	.00223	.00297	1 x Dia	.15 x Dia
750	Roughing	.00013	.00026	.00040	23 x Dia	.25 x Dia	.00046	.00058	.00069	.00093	.00139	.00186	.00278	.00371	45 x Dia	.25 x Dia
1000	Finishing	.00024	.00050	.00076	.05 x Dia	1.5 x Dia	.00087	.00110	.00131	.00176	.00263	.00352	.00528	.00704	.10 x Dia	1.5 x Dia
750	Slotting	.00009	.00019	.00029	1 x Dia	.06 x Dia	.00033	.00042	.00050	.00067	.00100	.00134	.00200	.00267	1 x Dia	.15 x Dia
700	Roughing	.00012	.00024	.00036	23 x Dia	.25 x Dia	.00041	.00052	.00062	.00084	.00125	.00167	.00251	.00334	45 x Dia	.25 x Dia
650	Finishing	.00022	.00045	.00068	.05 x Dia	1.5 x Dia	.00079	.00099	.00118	.00158	.00237	.00317	.00475	.00634	.10 x Dia	1.5 x Dia
800	Slotting	.00010	.00021	.00032	1 x Dia	.06 x Dia	.00037	.00046	.00055	.00074	.00111	.00149	.00223	.00297	1 x Dia	.15 x Dia
800	Roughing	.00013	.00026	.00040	23 x Dia	.25 x Dia	.00046	.00058	.00069	.00093	.00139	.00186	.00278	.00371	45 x Dia	.25 x Dia
800	Finishing	.00024	.00050	.00076	.05 x Dia	1.5 x Dia	.00087	.00110	.00131	.00176	.00263	.00352	.00528	.00704	.10 x Dia	1.5 x Dia
MAGNESIUM ALLOYS																
1500	Slotting	.00010	.00021	.00032	1 x Dia	.06 x Dia	.00037	.00046	.00055	.00074	.00111	.00149	.00223	.00297	1 x Dia	.15 x Dia
800	Roughing	.00013	.00026	.00040	23 x Dia	.25 x Dia	.00046	.00058	.00069	.00093	.00139	.00186	.00278	.00371	45 x Dia	.25 x Dia
800	Finishing	.00024	.00050	.00076	.05 x Dia	1.5 x Dia	.00087	.00110	.00131	.00176	.00263	.00352	.00528	.00704	.10 x Dia	1.5 x Dia
ZINC ALLOYS																
225	Slotting	.00008	.00017	.00026	1 x Dia	.06 x Dia	.00029	.00037	.00044	.00059	.00089	.00119	.00178	.00238	1 x Dia	.15 x Dia
225	Roughing	.00010	.00021	.00032	23 x Dia	.25 x Dia	.00037	.00046	.00055	.00074	.00111	.00149	.00223	.00297	45 x Dia	.25 x Dia
500	Finishing	.00010	.00021	.00032	23 x Dia	.25 x Dia	.00037	.00046	.00055	.00074	.00111	.00149	.00223	.00297	45 x Dia	.25 x Dia
500	Slotting	.00019	.00040	.00061	.05 x Dia	1.5 x Dia	.00070	.00088	.00105	.00141	.00211	.00282	.00422	.00563	.10 x Dia	1.5 x Dia
550	Finishing	.00019	.00040	.00061	.05 x Dia	1.5 x Dia	.00070	.00088	.00105	.00141	.00211	.00282	.00422	.00563	.10 x Dia	1.5 x Dia



Speeds & Feeds

Product Table: Miniature End Mills - Square - Long Reach, Stub Flute
Characteristics: 12x Reach Multiple
Series: 354xx, 355xx

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	SFM	Hardness: 29-37 Rc (279-344 HBn)														
		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	.00004	.00007	.00011	1 x Dia	.06 x Dia	.00013	.00016	.00019	.00026	.00038	.00051	.00077	.00102	1 x Dia	.15 x Dia
600	Roughing	.00004	.00008	.00012	23 x Dia	.25 x Dia	.00014	.00018	.00021	.00029	.00043	.00057	.00086	.00115	45 x Dia	.25 x Dia
600	Finishing	.00008	.00016	.00024	.05 x Dia	1.5 x Dia	.00027	.00034	.00041	.00055	.00082	.00110	.00165	.00220	.10 x Dia	1.5 x Dia
200	Slotting	.00003	.00007	.00010	1 x Dia	.06 x Dia	.00012	.00015	.00017	.00023	.00035	.00047	.00070	.00093	1 x Dia	.15 x Dia
200	Roughing	.00004	.00007	.00011	23 x Dia	.25 x Dia	.00013	.00016	.00020	.00026	.00039	.00052	.00079	.00105	45 x Dia	.25 x Dia
200	Finishing	.00007	.00014	.00022	.05 x Dia	1.5 x Dia	.00025	.00031	.00037	.00050	.00075	.00101	.00151	.00201	.10 x Dia	1.5 x Dia
450	Slotting	.00004	.00007	.00011	1 x Dia	.06 x Dia	.00013	.00016	.00019	.00026	.00038	.00051	.00077	.00102	1 x Dia	.15 x Dia
450	Roughing	.00004	.00008	.00012	23 x Dia	.25 x Dia	.00014	.00018	.00021	.00029	.00043	.00057	.00086	.00115	45 x Dia	.25 x Dia
450	Finishing	.00008	.00016	.00024	.05 x Dia	1.5 x Dia	.00027	.00034	.00041	.00055	.00082	.00110	.00165	.00220	.10 x Dia	1.5 x Dia
200	Slotting	.00003	.00007	.00010	1 x Dia	.06 x Dia	.00012	.00015	.00017	.00023	.00035	.00047	.00070	.00093	1 x Dia	.15 x Dia
200	Roughing	.00004	.00007	.00011	23 x Dia	.25 x Dia	.00013	.00016	.00020	.00026	.00039	.00052	.00079	.00105	45 x Dia	.25 x Dia
200	Finishing	.00007	.00014	.00022	.05 x Dia	1.5 x Dia	.00025	.00031	.00037	.00050	.00075	.00101	.00151	.00201	.10 x Dia	1.5 x Dia
150	Slotting	.00002	.00004	.00006	1 x Dia	.06 x Dia	.00007	.00009	.00011	.00015	.00022	.00029	.00044	.00058	1 x Dia	.15 x Dia
150	Roughing	.00002	.00005	.00007	23 x Dia	.25 x Dia	.00008	.00010	.00012	.00016	.00025	.00033	.00049	.00066	45 x Dia	.25 x Dia
150	Finishing	.00004	.00009	.00014	.05 x Dia	1.5 x Dia	.00016	.00020	.00023	.00031	.00047	.00063	.00094	.00126	.10 x Dia	1.5 x Dia
200	Slotting	.00003	.00007	.00010	1 x Dia	.06 x Dia	.00012	.00015	.00017	.00023	.00035	.00047	.00070	.00093	1 x Dia	.15 x Dia
200	Roughing	.00004	.00007	.00011	23 x Dia	.25 x Dia	.00013	.00016	.00020	.00026	.00039	.00052	.00079	.00105	45 x Dia	.25 x Dia
200	Finishing	.00007	.00014	.00022	.05 x Dia	1.5 x Dia	.00025	.00031	.00037	.00050	.00075	.00101	.00151	.00201	.10 x Dia	1.5 x Dia
150	Slotting	.00002	.00004	.00006	1 x Dia	.06 x Dia	.00007	.00009	.00011	.00015	.00022	.00029	.00044	.00058	1 x Dia	.15 x Dia
150	Roughing	.00002	.00005	.00007	23 x Dia	.25 x Dia	.00008	.00010	.00012	.00016	.00025	.00033	.00049	.00066	45 x Dia	.25 x Dia
150	Finishing	.00004	.00009	.00014	.05 x Dia	1.5 x Dia	.00016	.00020	.00023	.00031	.00047	.00063	.00094	.00126	.10 x Dia	1.5 x Dia
70	Slotting	.00002	.00004	.00006	1 x Dia	.06 x Dia	.00007	.00009	.00011	.00015	.00022	.00029	.00044	.00058	1 x Dia	.15 x Dia
70	Roughing	.00002	.00005	.00007	23 x Dia	.25 x Dia	.00008	.00010	.00012	.00016	.00025	.00033	.00049	.00066	45 x Dia	.25 x Dia
70	Finishing	.00004	.00009	.00014	.05 x Dia	1.5 x Dia	.00016	.00020	.00023	.00031	.00047	.00063	.00094	.00126	.10 x Dia	1.5 x Dia

MATERIAL	SFM	Hardness: 38-45 Rc (353-421 HBn)														
		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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	Slotting	.00002	.00003	.00005	1 x Dia	.06 x Dia	.00006	.00007	.00009	.00012	.00017	.00023	.00035	.00047	1 x Dia	.15 x Dia
100	Roughing	.00002	.00004	.00006	23 x Dia	.25 x Dia	.00007	.00008	.00010	.00013	.00020	.00026	.00039	.00052	45 x Dia	.25 x Dia
100	Finishing	.00004	.00007	.00011	.05 x Dia	1.5 x Dia	.00013	.00016	.00019	.00025	.00038	.00051	.00076	.00101	.10 x Dia	1.5 x Dia
90	Slotting	.00001	.00002	.00003	1 x Dia	.06 x Dia	.00004	.00005	.00005	.00007	.00011	.00015	.00022	.00029	1 x Dia	.15 x Dia
90	Roughing	.00001	.00002	.00004	23 x Dia	.25 x Dia	.00004	.00005	.00006	.00008	.00012	.00016	.00025	.00033	45 x Dia	.25 x Dia
90	Finishing	.00002	.00005	.00007	.05 x Dia	1.5 x Dia	.00008	.00010	.00012	.00016	.00024	.00032	.00048	.00063	.10 x Dia	1.5 x Dia
100	Slotting	.00002	.00003	.00005	1 x Dia	.06 x Dia	.00006	.00007	.00009	.00012	.00017	.00023	.00035	.00047	1 x Dia	.15 x Dia
100	Roughing	.00002	.00004	.00006	23 x Dia	.25 x Dia	.00007	.00008	.00010	.00013	.00020	.00026	.00039	.00052	45 x Dia	.25 x Dia
100	Finishing	.00004	.00007	.00011	.05 x Dia	1.5 x Dia	.00013	.00016	.00019	.00025	.00038	.00051	.00076	.00101	.10 x Dia	1.5 x Dia
90	Slotting	.00001	.00002	.00003	1 x Dia	.06 x Dia	.00004	.00005	.00005	.00007	.00011	.00015	.00022	.00029	1 x Dia	.15 x Dia
90	Roughing	.00001	.00002	.00004	23 x Dia	.25 x Dia	.00004	.00005	.00006	.00008	.00012	.00016	.00025	.00033	45 x Dia	.25 x Dia
90	Finishing	.00002	.00005	.00007	.05 x Dia	1.5 x Dia	.00008	.00010	.00012	.00016	.00024	.00032	.00048	.00063	.10 x Dia	1.5 x Dia
75	Slotting	.00001														