

Hardness: ≤ 28 Rc (≤ 271 HBn)																	
MATERIAL	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	.00020	.00042	.00064	1 x Dia	.14 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	1 x Dia	.35 x Dia
		Roughing	.00026	.00053	.00080	.33 x Dia	.45 x Dia	.00092	.00116	.00138	.00186	.00278	.00371	.00557	.00743	.65 x Dia	.45 x Dia
		Finishing	.00038	.00078	.00118	.08 x Dia	1.5 x Dia	.00136	.00171	.00204	.00274	.00410	.00547	.00821	.01095	.15 x Dia	1.5 x Dia
	1000	Finishing	.00038	.00078	.00118	.08 x Dia	1.5 x Dia	.00136	.00171	.00204	.00274	.00410	.00547	.00821	.01095	.15 x Dia	1.5 x Dia
		Slotting	.00018	.00038	.00058	1 x Dia	.14 x Dia	.00066	.00083	.00099	.00134	.00200	.00267	.00401	.00535	1 x Dia	.35 x Dia
	750	Slotting	.00018	.00038	.00058	1 x Dia	.14 x Dia	.00066	.00083	.00099	.00134	.00200	.00267	.00401	.00535	1 x Dia	.35 x Dia
		Roughing	.00023	.00048	.00072	.33 x Dia	.45 x Dia	.00083	.00104	.00124	.00167	.00250	.00334	.00501	.00668	.65 x Dia	.45 x Dia
	650	Roughing	.00023	.00048	.00072	.33 x Dia	.45 x Dia	.00083	.00104	.00124	.00167	.00250	.00334	.00501	.00668	.65 x Dia	.45 x Dia
		Slotting	.00018	.00038	.00058	1 x Dia	.14 x Dia	.00066	.00083	.00099	.00134	.00200	.00267	.00401	.00535	1 x Dia	.35 x Dia
	475	Slotting	.00018	.00038	.00058	1 x Dia	.14 x Dia	.00066	.00083	.00099	.00134	.00200	.00267	.00401	.00535	1 x Dia	.35 x Dia
Finishing		.00034	.00070	.00107	.08 x Dia	1.5 x Dia	.00122	.00154	.00183	.00246	.00369	.00493	.00739	.00985	.15 x Dia	1.5 x Dia	
1000	Finishing	.00034	.00070	.00107	.08 x Dia	1.5 x Dia	.00122	.00154	.00183	.00246	.00369	.00493	.00739	.00985	.15 x Dia	1.5 x Dia	
	Slotting	.00020	.00042	.00064	1 x Dia	.14 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	1 x Dia	.35 x Dia	
800	Roughing	.00026	.00053	.00080	.33 x Dia	.45 x Dia	.00092	.00116	.00138	.00186	.00278	.00371	.00557	.00743	.65 x Dia	.45 x Dia	
	Finishing	.00038	.00078	.00118	.08 x Dia	1.5 x Dia	.00136	.00171	.00204	.00274	.00410	.00547	.00821	.01095	.15 x Dia	1.5 x Dia	
MAGNESIUM ALLOYS																	
1500	Slotting	.00020	.00042	.00064	1 x Dia	.14 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	1 x Dia	.35 x Dia	
	Roughing	.00026	.00053	.00080	.33 x Dia	.45 x Dia	.00092	.00116	.00138	.00186	.00278	.00371	.00557	.00743	.65 x Dia	.45 x Dia	
ZINC ALLOYS																	
800	Finishing	.00038	.00078	.00118	.08 x Dia	1.5 x Dia	.00136	.00171	.00204	.00274	.00410	.00547	.00821	.01095	.15 x Dia	1.5 x Dia	
	Slotting	.00016	.00034	.00051	1 x Dia	.14 x Dia	.00059	.00074	.00088	.00119	.00178	.00238	.00356	.00475	1 x Dia	.35 x Dia	
COPPER ALLOYS																	
High Coppers - 90%+ (C1xxx)																	
225	Slotting	.00016	.00034	.00051	1 x Dia	.14 x Dia	.00059	.00074	.00088	.00119	.00178	.00238	.00356	.00475	1 x Dia	.35 x Dia	
	Roughing	.00020	.00042	.00064	.33 x Dia	.45 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	.65 x Dia	.45 x Dia	
Brass (Copper Zinc alloys, C2xxx, C3xxx, C4xxx, C66400-C69800)																	
225	Slotting	.00016	.00034	.00051	1 x Dia	.14 x Dia	.00059	.00074	.00088	.00119	.00178	.00238	.00356	.00475	1 x Dia	.35 x Dia	
	Roughing	.00020	.00042	.00064	.33 x Dia	.45 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	.65 x Dia	.45 x Dia	
Phosphor Bronzes (Copper Tin alloys, C5xxx)																	
500	Slotting	.00016	.00034	.00051	1 x Dia	.14 x Dia	.00059	.00074	.00088	.00119	.00178	.00238	.00356	.00475	1 x Dia	.35 x Dia	
	Roughing	.00020	.00042	.00064	.33 x Dia	.45 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	.65 x Dia	.45 x Dia	
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)																	
500	Slotting	.00016	.00034	.00051	1 x Dia	.14 x Dia	.00059	.00074	.00088	.00119	.00178	.00238	.00356	.00475	1 x Dia	.35 x Dia	
	Roughing	.00020	.00042	.00064	.33 x Dia	.45 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	.65 x Dia	.45 x Dia	
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)																	
500	Slotting	.00016	.00034	.00051	1 x Dia	.14 x Dia	.00059	.00074	.00088	.00119	.00178	.00238	.00356	.00475	1 x Dia	.35 x Dia	
	Roughing	.00020	.00042	.00064	.33 x Dia	.45 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	.65 x Dia	.45 x Dia	
Copper Nicksels, Nickel Silvers (Copper Nickel alloys, C7xxx)																	
225	Slotting	.00016	.00034	.00051	1 x Dia	.14 x Dia	.00059	.00074	.00088	.00119	.00178	.00238	.00356	.00475	1 x Dia	.35 x Dia	
	Roughing	.00020	.00042	.00064	.33 x Dia	.45 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	.65 x Dia	.45 x Dia	
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)																	
550	Slotting	.00020	.00042	.00064	1 x Dia	.14 x Dia	.00074	.00093	.00110	.00149	.00222	.00297	.00446	.00594	1 x Dia	.35 x Dia	
	Finishing	.00030	.00062	.00095	.08 x Dia	1.5 x Dia	.00109	.00137	.00163	.00219	.00328	.00438	.00657	.00876	.15 x Dia	1.5 x Dia	



Product Table: Miniature End Mills - Corner Radius - Long Reach, Stub Flute
Characteristics: 3x Reach Multiple
Series: 8270xx, 8271xx, 9256xx, 9257xx, 9449xx

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.

Hardness: 29-37 Rc (279-344 HBn)																	
MATERIAL	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	.00007	.00015	.00022	1 x Dia	.14 x Dia	.00025	.00032	.00038	.00051	.00076	.00102	.00153	.00204	1 x Dia	.35 x Dia
		Roughing	.00008	.00016	.00025	.33 x Dia	.45 x Dia	.00028	.00036	.00043	.00057	.00086	.00115	.00172	.00230	.65 x Dia	.45 x Dia
		Finishing	.00012	.00024	.00037	.08 x Dia	1.5 x Dia	.00042	.00053	.00064	.00086	.00128	.00171	.00257	.00342	.15 x Dia	1.5 x Dia
	200	Slotting	.00006	.00013	.00020	1 x Dia	.14 x Dia	.00023	.00029	.00035	.00047	.00070	.00093	.00140	.00187	1 x Dia	.35 x Dia
		Roughing	.00007	.00015	.00023	.33 x Dia	.45 x Dia	.00026	.00033	.00039	.00052	.00079	.00105	.00157	.00210	.65 x Dia	.45 x Dia
		Finishing	.00011	.00022	.00034	.08 x Dia	1.5 x Dia	.00039	.00049	.00058	.00078	.00117	.00156	.00235	.00313	.15 x Dia	1.5 x Dia
STAINLESS STEELS																	
450	Slotting	.00007	.00015	.00022	1 x Dia	.14 x Dia	.00025	.00032	.00038	.00051	.00076	.00102	.00153	.00204	1 x Dia	.35 x Dia	
	Roughing	.00008	.00016	.00025	.33 x Dia	.45 x Dia	.00028	.00036	.00043	.00057	.00086	.00115	.00172	.00230	.65 x Dia	.45 x Dia	
	Finishing	.00012	.00024	.00037	.08 x Dia	1.5 x Dia	.00042	.00053	.00064	.00086	.00128	.00171	.00257	.00342	.15 x Dia	1.5 x Dia	
200	Slotting	.00006	.00013	.00020	1 x Dia	.14 x Dia	.00023	.00029	.00035	.00047	.00070	.00093	.00140	.00187	1 x Dia	.35 x Dia	
	Roughing	.00007	.00015	.00023	.33 x Dia	.45 x Dia	.00026	.00033	.00039	.00052	.00079	.00105	.00157	.00210	.65 x Dia	.45 x Dia	
	Finishing	.00011	.00022	.00034	.08 x Dia	1.5 x Dia	.00039	.00049	.00058	.00078	.00117	.00156	.00235	.00313	.15 x Dia	1.5 x Dia	
TOOL STEELS																	
200	Slotting	.00006	.00013	.00020	1 x Dia	.14 x Dia	.00023	.00029	.00035	.00047	.00070	.00093	.00140	.00187	1 x Dia	.35 x Dia	
	Roughing	.00007	.00015	.00023	.33 x Dia	.45 x Dia	.00026	.00033	.00039	.00052	.00079	.00105	.00157	.00210	.65 x Dia	.45 x Dia	
	Finishing	.00011	.00022	.00034	.08 x Dia	1.5 x Dia	.00039	.00049	.00058	.00078	.00117	.00156	.00235	.00313	.15 x Dia	1.5 x Dia	
D, H, M, T, S series																	
150	Slotting	.00004	.00008	.00013	1 x Dia	.14 x Dia	.00014	.00018	.00022	.00029	.00044	.00058	.00087	.00117	1 x Dia	.35 x Dia	
	Roughing	.00005	.00009	.00014	.33 x Dia	.45 x Dia	.00016	.00020	.00024	.00033	.00049	.00066	.00098	.00131	.65 x Dia	.45 x Dia	
	Finishing	.00007	.00014	.00021	.08 x Dia	1.5 x Dia	.00024	.00031	.00036	.00049	.00073	.00098	.00147	.00196	.15 x Dia	1.5 x Dia	
TITANIUM ALLOYS																	
150	Slotting	.00004	.00008	.00013	1 x Dia	.14 x Dia	.00014	.00018	.00022	.00029	.00044	.00058	.00087	.00117	1 x Dia	.35 x Dia	
	Roughing	.00005	.00009	.00014	.33 x Dia	.45 x Dia	.00016	.00020	.00024	.00033	.00049	.00066	.00098	.00131	.65 x Dia	.45 x Dia	
	Finishing	.00007	.00014	.00021	.08 x Dia	1.5 x Dia	.00024	.00031	.00036	.00049	.00073	.00098	.00147	.00196	.15 x Dia	1.5 x Dia	
HIGH TEMP ALLOYS																	
70	Slotting	.00004	.00008	.00013	1 x Dia	.14 x Dia	.00014	.00018	.00022	.00029	.00044	.00058	.00087	.00117	1 x Dia	.35 x Dia	
	Roughing	.00005	.00009	.00014	.33 x Dia	.45 x Dia	.00016	.00020	.00024	.00033	.00049	.00066	.00098	.00131	.65 x Dia	.45 x Dia	
	Finishing	.00007	.00014	.00021	.08 x Dia	1.5 x Dia	.00024	.00031	.00036	.00049	.00073	.00098	.00147	.00196	.15 x Dia	1.5 x Dia	

Hardness: 38-45 Rc (353-421 HBn)														
MATERIAL	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
CARBON STEELS	600	Slotting	-	-	-	1 x Dia	.14 x Dia	-	-	-	-	-</		