



Speeds and Feeds

Product: Non-Ferrous Square V-Helix End Mills, 1.5x LOC
Series: 9687xx, 9688xx
 9687xx-C8, 9688xx-C8
 9687xx-C4, 9688-C4

Cutter Series	MATERIAL	SFM	Chip Load (IPT) By Cutter Diameter												Depth of Cut		
			0.015	0.031	0.047	0.062	0.078	0.093	0.125	0.187	0.250	0.312	0.375	0.500	Radial	Axial	
Uncoated	ALUMINUM ALLOYS																
	Casting (2xx, 5xx, 7xx, 8xx)	750	Slotting	.00023	.00047	.00071	.00094	.00118	.00141	.00190	.00284	.00380	.00497	.00598	.00797	1x Dia	.5x Dia
	Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000	Roughing	.00027	.00055	.00083	.00110	.00138	.00165	.00221	.00331	.00443	.00580	.00697	.00930	.5x Dia	.5x - 1x Dia
	MAGNESIUM ALLOYS	1500	Finishing	.00028	.00059	.00089	.00118	.00148	.00176	.00237	.00355	.00474	.00622	.00747	.00996	.1x Dia	.5x - 1x Dia
	ZINC ALLOYS	800	Max	.00030	.00063	.00095	.00125	.00158	.00188	.00253	.00378	.00506	.00663	.00797	.01063	-	-
	COPPER ALLOYS																
	High Coppers - 90%+ (C1xxxx)	225	Slotting	.00018	.00038	.00057	.00075	.00095	.00113	.00152	.00227	.00304	.00398	.00478	.00638	1x Dia	.5x Dia
	Brass (Copper Zinc alloys, C2xxxx, C3xxxx, C4xxxx, C66400-C69800)	500	Roughing	.00021	.00044	.00067	.00088	.00111	.00132	.00177	.00265	.00354	.00464	.00558	.00744	.5x Dia	.5x - 1x Dia
	Phosphor Bronzes (Copper Tin alloys, C5xxxx)	225		.00021	.00044	.00067	.00088	.00111	.00132	.00177	.00265	.00354	.00464	.00558	.00744	.5x Dia	.5x - 1x Dia
	Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	500	Finishing	.00023	.00047	.00071	.00094	.00118	.00141	.00190	.00284	.00380	.00497	.00598	.00797	.1x Dia	.5x - 1x Dia
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	500	.00023		.00047	.00071	.00094	.00118	.00141	.00190	.00284	.00380	.00497	.00598	.00797	.1x Dia	.5x - 1x Dia	
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	225	Max	.00024	.00050	.00076	.00100	.00126	.00151	.00202	.00303	.00405	.00530	.00638	.00850	-	-	
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	550		.00024	.00050	.00076	.00100	.00126	.00151	.00202	.00303	.00405	.00530	.00638	.00850	-	-	
TiB2	ALUMINUM ALLOYS																
	Casting (2xx, 5xx, 7xx, 8xx)	1000	Slotting	.00030	.00061	.00093	.00122	.00154	.00184	.00247	.00369	.00493	.00646	.00777	.01036	1x Dia	.5x Dia
	Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1400	Roughing	.00035	.00071	.00108	.00143	.00180	.00214	.00288	.00431	.00576	.00754	.00907	.01209	.5x Dia	.5x - 1x Dia
	MAGNESIUM ALLOYS	2000	Finishing	.00037	.00076	.00116	.00153	.00192	.00229	.00308	.00461	.00617	.00808	.00971	.01295	.1x Dia	.5x - 1x Dia
ZINC ALLOYS	1100	Max	.00039	.00082	.00124	.00163	.00205	.00245	.00329	.00492	.00658	.00862	.01036	.01381			
Amorphous Diamond	ALUMINUM (High Silicon)																
	Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	2500	Slotting	.00025	.00052	.00078	.00104	.00130	.00155	.00209	.00312	.00417	.00547	.00657	.00877	1x Dia	.4x Dia
	Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	2000	Roughing	.00029	.00060	.00092	.00121	.00152	.00181	.00244	.00364	.00487	.00638	.00767	.01023	.4x Dia	.3x - .8x Dia
	Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	1500		.00029	.00060	.00092	.00121	.00152	.00181	.00244	.00364	.00487	.00638	.00767	.01023	.4x Dia	.3x - .8x Dia
	Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	1000	Finishing	.00031	.00065	.00098	.00129	.00163	.00194	.00261	.00390	.00522	.00684	.00822	.01096	.1x Dia	.5x - 1x Dia
	Wrought - 5%-8% Si (4xxx)	2200	Max	.00033	.00069	.00105	.00138	.00174	.00207	.00278	.00416	.00557	.00729	.00877	.01169	-	-
	Wrought - 8%-12% Si (4xxx)	1700		.00033	.00069	.00105	.00138	.00174	.00207	.00278	.00416	.00557	.00729	.00877	.01169	-	-
	COPPER ALLOYS																
	High Coppers - 90%+ (C1xxxx)	800	Slotting	.00020	.00041	.00063	.00083	.00104	.00124	.00167	.00250	.00334	.00438	.00526	.00701	1x Dia	.4x Dia
	Brass (Copper Zinc alloys, C2xxxx, C3xxxx, C4xxxx, C66400-C69800)	1500		.00020	.00041	.00063	.00083	.00104	.00124	.00167	.00250	.00334	.00438	.00526	.00701	1x Dia	.4x Dia
	Phosphor Bronzes (Copper Tin alloys, C5xxxx)	800	Roughing	.00023	.00048	.00073	.00097	.00122	.00145	.00195	.00291	.00390	.00511	.00614	.00818	.4x Dia	.3x - .8x Dia
	Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	1000		.00023	.00048	.00073	.00097	.00122	.00145	.00195	.00291	.00390	.00511	.00614	.00818	.4x Dia	.3x - .8x Dia
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	1000	Finishing	.00025	.00052	.00078	.00104	.00130	.00155	.00209	.00312	.00417	.00547	.00657	.00877	.1x Dia	.5x - 1x Dia	
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	800		.00025	.00052	.00078	.00104	.00130	.00155	.00209	.00312	.00417	.00547	.00657	.00877	.1x Dia	.5x - 1x Dia	
Cast Copper Alloys (C80100-C82800, C86300, C90200-C91700, C96200-C96600, C99300)	150	Max	.00027	.00055	.00084	.00110	.00139	.00166	.00223	.00333	.00445	.00583	.00701	.00935	-	-	
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	750		.00027	.00055	.00084	.00110	.00139	.00166	.00223	.00333	.00445	.00583	.00701	.00935	-	-	

Please note:

All posted speed and feed parameters are suggested starting values that may be increased given optimal setup conditions. If less than minimum Axial or Radial DOC values are used, increased feed rates are possible. If greater than maximum Axial or Radial DOC values are used, decreased feed rates may be needed.

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 tech@harveytool.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.