



Speeds & Feeds

Product Table: High Helix End Mills for Aluminum Alloys - 45° Helix - Square

Characteristics: 5x Length of Cut, 2 Flutes

Series: 9320xx, 9321xx, 9320xx-C8, 9321xx-C8

Cutter Series	MATERIAL	SFM	Chip Load Per Tooth (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	Radial	Axial	
Uncoated	ALUMINUM ALLOYS													
	Casting (2xx, 5xx, 7xx, 8xx)	750	Slotting	.00012	.00025	.00038	.00050	.00062	.00074	.00100	.00150	.00200	1x Dia	.4x Dia
	Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000												
	MAGNESIUM ALLOYS	1500												
	ZINC ALLOYS	800	Roughing	.00014	.00030	.00045	.00060	.00075	.00089	.00120	.00180	.00240	.4x Dia	.5x-1x Dia
	COPPER ALLOYS													
	High Coppers - 90%+ (C1xxxx)	225												
	Brass (Copper Zinc alloys, C2xxxx, C3xxxx, C4xxxx, C66400-C69800)	500												
	Phosphor Bronzes (Copper Tin alloys, C5xxxx)	225												
	Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	500												
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	500													
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	225	Finishing	.00010	.00020	.00030	.00040	.00050	.00060	.00080	.00120	.00160	.1x Dia	1x-5x Dia	
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	550													
TiB2	ALUMINUM ALLOYS													
	Casting (2xx, 5xx, 7xx, 8xx)	1000	Slotting	.00015	.00031	.00047	.00062	.00078	.00093	.00125	.00187	.00250	1x Dia	.4x Dia
	Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1400	Roughing	.00016	.00033	.00051	.00067	.00084	.00100	.00135	.00202	.00270	.4x Dia	.5x-1x Dia
	MAGNESIUM ALLOYS	2000												
ZINC ALLOYS	1100	Finishing	.00012	.00025	.00038	.00050	.00062	.00074	.00100	.00150	.00200	.1x Dia	1x-5x Dia	
ZrN	ALUMINUM (High Silicon)													
	Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	2500	Slotting	.00015	.00031	.00047	.00062	.00078	.00093	.00125	.00187	.00250	1x Dia	.4x Dia
	Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	2000												
	Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	1500												
	Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	1000												
	Wrought - 5%-8% Si (4xxx)	2200												
	Wrought - 8%-12% Si (4xxx)	1700												
	COPPER ALLOYS		Roughing	.00016	.00033	.00051	.00067	.00084	.00100	.00135	.00202	.00270	.4x Dia	.5x-1x Dia
	High Coppers - 90%+ (C1xxxx)	800												
	Brass (Copper Zinc alloys, C2xxxx, C3xxxx, C4xxxx, C66400-C69800)	1500												
	Phosphor Bronzes (Copper Tin alloys, C5xxxx)	800												
	Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	1000												
	Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	1000												
	Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	800												
Cast Copper Alloys (C80100-C82800, C86300, C90200, C91700, C96200-C96600, C99300)	150	Finishing												
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	750													

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 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.