HARVEY TOOL

Speeds & Feeds

Product Table: High Helix End Mills for Aluminum Alloys - Ball - Tapered Reach (Mold Cutters)
Characteristics: 1.5° Neck Angle
Series: 9978xx

Product Notes:

Posted values represent a 5x Reach. Use the table below to adjust Chip Load (IPT) and Depths of Cut for tools with longer reach.

Reach	Profiling			Finishing		
	IPT	Radial DOC*	Axial DOC	IPT	Radial DOC*	Axial DOC
5x	100%	100%	100%	100%	100%	100%
8x	83%	100%	100%	83%	100%	100%
10x	79%	100%	100%	79%	100%	100%
15x	66%	77%	77%	66%	80%	100%
20x	59%	77%	77%	59%	80%	100%
25x	52%	77%	62%	52%	80%	80%
30x	45%	62%	62%	45%	60%	60%
40x	45%	62%	38%	45%	60%	50%
50x	45%	46%	31%	45%	50%	40%
60x	45%	46%	23%	45%	50%	30%

* Radial DOC values represent typical starting parameters. For other finish options, consult a Cusp Height & Finish chart.

General Notes:

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: ≤ 28 Rc (≤ 271 HBn)												
		Chip Load (IPT) by Cutter Diameter											Depth of Cut	
			.015	.031	.047	.062	.078	.093	.125	.187	.250	.312	.375	Radial	Axial
ALUMINUM ALLOYS Casting (2xx, 5xx, 7xx, 8xx)	750	Profiling	.00044	.00091	.00138	.00182	.00229	.00273	.00366	.00548	.00733	.00915	.01099	.13 x Dia	.13 x Dia
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000	Finishing	.00040	.00083	.00125	.00165	.00208	.00248	.00333	.00498	.00666	.00832	.00999	.10 x Dia	.10 x Dia
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	750	Profiling	.00040	.00082	.00124	.00164	.00206	.00245	.00330	.00493	.00660	.00823	.00989	.13 x Dia	.13 x Dia
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	700														
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	650	Finishing	.00036	.00074	.00113	.00149	.00187	.00223	.00300	.00449	.00600	.00748	.00900	.10 x Dia	.10 x Dia
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	475														
Wrought - 5%-8% Si (4xxx)	1000														
Wrought - 8%-12% Si (4xxx)	800														
MAGNESIUM ALLOYS	1500	Profiling	.00044	.00091	.00138	.00182	.00229	.00273	.00366	.00548	.00733	.00915	.01099	.13 x Dia	.13 x Dia
ZINC ALLOYS	800	Finishing	.00040	.00083	.00125	.00165	.00208	.00248	.00333	.00498	.00666	.00832	.00999	.10 x Dia	.10 x Dia
COPPER ALLOYS High Coppers - 90%+ (C1xxxx)	225	Profiling	.00035	.00073	.00110	.00145	.00183	.00218	.00293	.00439	.00586	.00732	.00880	.13 x Dia	.13 x Dia
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	Finishing	.00032	.00066	.00100	.00132	.00166	.00198	.00267	.00399	.00533	.00665	.00800	.10 x Dia	.10 x Dia
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	225														
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	550														