

Speeds & Feeds

Product Table: High Helix End Mills for Aluminum Alloys - Ball - Tapered Reach (Mold Cutters)

Characteristics: 5° Neck Angle Series: 9960xx

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		Hardness: ≤ 28 Rc (≤ 271 HBn)													
	SFM		Chip Load (IPT) by Cutter Diameter											Depth of Cut	
	0		.015	.031	.047	.062	.078	.093	.125	.187	.250	.312	.375	Radial	Axial
ALUMINUM ALLOYS	750	Profiling	.00047	.00097	.00148	.00195	.00245	.00292	.00393	.00588	.00786	.00981	.01179	.13 x Dia	.13 x Dia
Casting (2xx, 5xx, 7xx, 8xx)	750														
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000	Finishing	.00043	.00089	.00134	.00177	.00223	.00266	.00357	.00534	.00714	.00892	.01072	.10 x Dia	.10 x Dia
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	750	Profiling	.00042	.00088	.00133	.00175	.00221	.00263	.00354	.00529	.00707	.00883	.01061	.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														
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	475	Finishing	.00039	.00080	.00121	.00159	.00201	.00239	.00321	.00481	.00643	.00802	.00964	.10 x Dia	.10 x Dia
Wrought - 5%-8% Si (4xxx)	1000														
Wrought - 8%-12% Si (4xxx)	800														
MAGNESIUM ALLOYS	1500	Profiling	.00047	.00097	.00148	.00195	.00245	.00292	.00393	.00588	.00786	.00981	.01179	.13 x Dia	.13 x Dia
ZINC ALLOYS	800	Finishing	.00043	.00089	.00134	.00177	.00223	.00266	.00357	.00534	.00714	.00892	.01072	.10 x Dia	.10 x Dia
COPPER ALLOYS		Profiling	.00038	.00078	.00118	.00156	.00196	.00234	.00314	.00470	.00629	.00785	.00943	.13 x Dia	.13 x Dia
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	Finishing													
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	500		g .00034	.00071	.00107	.00142	.00178	.00213	.00286	.00427	.00571	.00713	.00857	.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														