

Speeds & Feeds

Product Table: High Helix End Mills for Aluminum Alloys - Ball - Tapered Reach (Mold Cutters) Characteristics: 3° Neck Angle Series: 9966xx

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					
Reach	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%			
40×	45%	62%	38%	45%	60%	50%			
50x	45%	46%	31%	45%	50%	40%			
60×	45%	46%	23%	45%	50%	30%			

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 \leq 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	SFM Chip Load (IPT) by Cutter Diameter									Depth of Cut					
	0		.015	.031	.047	.062	.078	.093	.125	.187	.250	.312	.375	Radial	Axial	
	750	Profiling	.00046	.00094	.00143	.00189	.00237	.00283	.00380	.00569	.00761	.00949	.01141	.13 x Dia	.13 x Dia	
Casting (2xx, 5xx, 7xx, 8xx)								1					1			
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000	Finishing	.00041	.00086	.00130	.00172	.00216	.00257	.00346	.00517	.00692	.00863	.01037	.10 x Dia	.10 x Dia	
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	750	Profiling		.00085	.00129 .00117	.00170 .00154	.00214 .00194	.00255 .00232	.00342	.00512	.00685	.00854	.01027 .00934	.13 x Dia .10 x Dia	.13 x Dia .10 x Dia	
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	700		ishing .00041													
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	650															
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	475															
Wrought - 5%-8% Si (4xxx)	1000	Finishing														
Wrought - 8%-12% Si (4xxx)	800															
MAGNESIUM ALLOYS	1500	Profiling	.00046	.00094	.00143	.00189	.00237	.00283	.00380	.00569	.00761	.00949	.01141	.13 x Dia	.13 x Dia	
ZINC ALLOYS	800	Finishing	.00041	.00086	.00130	.00172	.00216	.00257	.00346	.00517	.00692	.00863	.01037	.10 x Dia	.10 x Dia	
COPPER ALLOYS			ng .00037	.00075	.00114	.00151	.00190	.00226	.00304	.00455	.00609	.00759	.00913	.13 x Dia	.13 x Dia	
High Coppers - 90%+ (C1xxxx)	225	Profiling														
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		Finishing .00033	.00069	.00104	.00137	.00173	.00206	.00277	.00414	.00553	.00690	.00830	.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															