HARVEY TOOL

Speeds & Feeds

**Product Table:** High Helix End Mills for Aluminum Alloys - Ball - Tapered Reach (Mold Cutters)
**Characteristics:** 1.0° Neck Angle
**Series:** 9250xx

**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 | .00043 | .00089 | .00136 | .00179 | .00225 | .00268 | .00361 | .00540 | .00721 | .00900 | .01082 | .13 x Dia | .13 x Dia |
| Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx) | 1000 | Finishing | .00039 | .00081 | .00123 | .00163 | .00205 | .00244 | .00328 | .00490 | .00656 | .00818 | .00984 | .10 x Dia | .10 x Dia |
| Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx) | 750 | Profiling | .00039 | .00080 | .00122 | .00161 | .00203 | .00241 | .00325 | .00486 | .00649 | .00810 | .00974 | .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 | .00035 | .00073 | .00111 | .00146 | .00184 | .00220 | .00295 | .00441 | .00590 | .00736 | .00885 | .10 x Dia | .10 x Dia |
| Wrought - 5%-8% Si (4xxx) | 1000 | | | | | | | | | | | | | | |
| Wrought - 8%-12% Si (4xxx) | 800 | | | | | | | | | | | | | | |
| **MAGNESIUM ALLOYS** | 1500 | Profiling | .00043 | .00089 | .00136 | .00179 | .00225 | .00268 | .00361 | .00540 | .00721 | .00900 | .01082 | .13 x Dia | .13 x Dia |
| **ZINC ALLOYS** | 800 | Finishing | .00039 | .00081 | .00123 | .00163 | .00205 | .00244 | .00328 | .00490 | .00656 | .00818 | .00984 | .10 x Dia | .10 x Dia |
| **COPPER ALLOYS** High Coppers - 90%+ (C1xxxx) | 225 | Profiling | .00035 | .00072 | .00108 | .00143 | .00180 | .00215 | .00289 | .00432 | .00577 | .00720 | .00866 | .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 | .00031 | .00065 | .00099 | .00130 | .00164 | .00195 | .00262 | .00392 | .00525 | .00655 | .00787 | .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 | | | | | | | | | | | | | | |