



Speeds & Feeds

Product Table: Variable Helix End Mills for High Temp Alloys - Finishers - Square
Characteristics: 12x Length of Cut
Series: 691xx-C6, 692xx-C6

| Material | Hardness (HBn) | SFM | | Chip Load (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 | 0.312 | 0.375 | 0.500 | Radial | Axial |
| Stainless Steels: 40x, 41x, 42x, 43x, 44x, 13-8, 15-5, 15-7, 17-4, 17-7 | 275 - 300 | 400 | Finishing | - | .00011 | .00016 | .00022 | .00027 | .00033 | .00044 | .00065 | .00088 | .00115 | .00138 | .00184 | < .04x Dia | .5x - 12x Dia |
| | 300 - 350 | 350 | | - | .00011 | .00016 | .00022 | .00027 | .00033 | .00044 | .00065 | .00088 | .00115 | .00138 | .00184 | < .04x Dia | .5x - 12x Dia |
| Tool Steels: D , H, M, T, S series | 300 - 350 | 500 | Finishing | - | .00011 | .00016 | .00022 | .00027 | .00033 | .00044 | .00065 | .00088 | .00115 | .00138 | .00184 | < .04x Dia | .5x - 12x Dia |
| | 350 - 400 | 250 | Finishing | - | .00009 | .00013 | .00017 | .00022 | .00026 | .00035 | .00052 | .00070 | .00092 | .00110 | .00147 | < .04x Dia | .5x - 12x Dia |
| | 400 - 540 | 200 | Finishing | - | .00007 | .00011 | .00014 | .00018 | .00021 | .00028 | .00043 | .00057 | .00075 | .00090 | .00119 | < .04x Dia | .5x - 12x Dia |
| Titanium: All alloys | 275 - 300 | 300 | Finishing | - | .00005 | .00007 | .00010 | .00012 | .00014 | .00019 | .00029 | .00039 | .00051 | .00061 | .00081 | < .04x Dia | .5x - 12x Dia |
| | 300 - 350 | 200 | | - | .00005 | .00007 | .00010 | .00012 | .00014 | .00019 | .00029 | .00039 | .00051 | .00061 | .00081 | < .04x Dia | .5x - 12x Dia |
| | 350 - 400 | 150 | Finishing | - | .00004 | .00006 | .00008 | .00010 | .00012 | .00016 | .00023 | .00031 | .00041 | .00049 | .00065 | < .04x Dia | .5x - 12x Dia |
| | 400 - 425 | 100 | | - | .00004 | .00006 | .00008 | .00010 | .00012 | .00016 | .00023 | .00031 | .00041 | .00049 | .00065 | < .04x Dia | .5x - 12x Dia |
| Nickel Alloys: Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy | 275 - 300 | 150 | Finishing | - | .00002 | .00002 | .00003 | .00004 | .00005 | .00007 | .00010 | .00013 | .00017 | .00020 | .00027 | < .02x Dia | .5x - 12x Dia |
| | 300 - 350 | 100 | | - | .00002 | .00002 | .00003 | .00004 | .00005 | .00007 | .00010 | .00013 | .00017 | .00020 | .00027 | < .02x Dia | .5x - 12x Dia |
| | 350 - 400 | 80 | Finishing | - | .00001 | .00002 | .00003 | .00003 | .00004 | .00005 | .00008 | .00010 | .00014 | .00016 | .00022 | < .02x Dia | .5x - 12x Dia |
| | 400 - 425 | 60 | | - | .00001 | .00002 | .00003 | .00003 | .00004 | .00005 | .00008 | .00010 | .00014 | .00016 | .00022 | < .02x Dia | .5x - 12x Dia |

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 **tech@harveytool.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.