## M936 <br> OW-R-FEED



## M936 <br> OW-R-FEED



| $\begin{aligned} & \text { ISO } \\ & \text { Code } \end{aligned}$ | Work Material | Type of Cut | Axial <br> DOC | Radial DOC | $\begin{aligned} & \text { Speed } \\ & \text { (SFM) } \end{aligned}$ | Feed Rate Per Tooth (IPT) |  |  |  | 3/8 | 7/16 | 1/2 | 518 | 3/4 | 7/8 | 1 | 1-1/ | 1/4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | 1/8 | 3/16 | 1/4 | 5/16 |  |  |  |  |  |  |  |  |  |
| P | 3a] Tool \& Die Steels $\leq 34$ HRc <br> A2, D2, O1, S7, P20, H13 | Peripheral-Rough | $1.5 \times \mathrm{D}$ | . $52 \times \mathrm{D}$ | 333 | . 00064 | . 00096 | . 0013 | . 0016 | . 0019 | . 0022 | . 0026 | . 0032 | . 0038 | . 0045 | . 0051 | . 0058 | . 0064 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 333 | . 00069 | . 00103 | . 0014 | . 0017 | . 0021 | . 0024 | . 0028 | . 0034 | . 0041 | . 0048 | . 0055 | . 0062 | . 0069 |
|  |  | Peripheral-HEM | $3 \times \mathrm{D}$ | . $08 \times \mathrm{D}$ | 371 | . 00114 | . 00171 | . 0023 | . 0029 | . 0034 | . 0040 | . 0046 | . 0057 | . 0068 | . 0080 | . 0091 | . 0103 | . 0114 |
|  |  | Slotting-Traditional | . $75 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 261 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0027 | . 0032 | . 0036 | . 0041 | . 0045 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 366 | . 00058 | . 00087 | . 0012 | . 0014 | . 0017 | . 0020 | . 0023 | . 0029 | . 0035 | . 0040 | . 0046 | . 0052 | . 0058 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 349 | . 00067 | . 00100 | . 0013 | . 0017 | . 0020 | . 0023 | . 0027 | . 0033 | . 0040 | . 0047 | . 0053 | . 0060 | . 0067 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 18 deg | 285 | . 00036 | . 00054 | . 0007 | . 0009 | . 0011 | . 0013 | . 0014 | . 0018 | . 0022 | . 0025 | . 0029 | . 0032 | . 0036 |
|  |  | Straight Line Ramp | . $75 \times \mathrm{D}$ | 18 deg | 333 | . 00030 | . 00045 | . 0006 | . 0007 | . 0009 | . 0010 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0027 | . 0030 |
|  |  | Zig Zag Pocket | . $75 \times \mathrm{D}$ | . $625 \times \mathrm{D}$ | 261 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0027 | . 0032 | . 0036 | . 0041 | . 0045 |
|  | 3b] Tool \& Die Steels 35-42 HRc <br> A2, D2, O1, S7, P20, H13 | Peripheral-Rough | $1.25 \times \mathrm{D}$ | . $4 \times \mathrm{D}$ | 315 | . 00060 | . 00089 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0030 | . 0036 | . 0042 | . 0048 | . 0054 | . 0060 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $012 \times \mathrm{D}$ | 315 | . 00065 | . 00098 | . 0013 | . 0016 | . 0020 | . 0023 | . 0026 | . 0033 | . 0039 | . 0046 | . 0052 | . 0059 | . 0065 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $07 \times \mathrm{D}$ | 347 | . 00108 | . 00162 | . 0022 | . 0027 | . 0032 | . 0038 | . 0043 | . 0054 | . 0065 | . 0076 | . 0086 | . 0097 | . 0108 |
|  |  | Slotting-Traditional | . $625 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 248 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 347 | . 00055 | . 00082 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0027 | . 0033 | . 0038 | . 0044 | . 0049 | . 0055 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 331 | . 00060 | . 00090 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0030 | . 0036 | . 0042 | . 0048 | . 0054 | . 0060 |
|  |  | Helical Entry | $2 \times \mathrm{D}$ | 12 deg | 270 | . 00033 | . 00050 | . 0007 | . 0008 | . 0010 | . 0012 | . 0013 | . 0017 | . 0020 | . 0023 | . 0027 | . 0030 | . 0033 |
|  |  | Straight Line Ramp | . $63 \times \mathrm{D}$ | 16 deg | 285 | . 00030 | . 00045 | . 0006 | . 0007 | . 0009 | . 0010 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0027 | . 0030 |
|  |  | Zig Zag Pocket | . $625 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 248 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
| $\mathrm{H}$ | 1a] Tool \& Die Steels 40-48- HRc | Peripheral-Rough | $1 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 290 | . 00048 | . 00071 | . 0010 | . 0012 | . 0014 | . 0017 | . 0019 | . 0024 | . 0029 | . 0033 | . 0038 | . 0043 | . 0048 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $01 \times \mathrm{D}$ | 285 | . 00050 | . 00075 | . 0010 | . 0012 | . 0015 | . 0017 | . 0020 | . 0025 | . 0030 | . 0035 | . 0040 | . 0045 | . 0050 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $05 \times \mathrm{D}$ | 337 | . 00132 | . 00197 | . 0026 | . 0033 | . 0039 | . 0046 | . 0053 | . 0066 | . 0079 | . 0092 | . 0105 | . 0118 | . 0132 |
|  |  | Slotting-Traditional | . $45 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 238 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0027 | . 0032 | . 0036 | . 0041 | . 0045 |
|  |  | Rough Facing | . $35 \times$ D | . $65 \times \mathrm{D}$ | 319 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0027 | . 0032 | . 0036 | . 0041 | . 0045 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 298 | . 00045 | . 00067 | . 0009 | . 0011 | . 0013 | . 0016 | . 0018 | . 0022 | . 0027 | . 0031 | . 0036 | . 0040 | . 0045 |
|  |  | Helical Entry | . $88 \times \mathrm{D}$ | 12 deg | 238 | . 00035 | . 00052 | . 0007 | . 0009 | . 0010 | . 0012 | . 0014 | . 0017 | . 0021 | . 0024 | . 0028 | . 0031 | . 0035 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 8 deg | 257 | . 00024 | . 00037 | . 0005 | . 0006 | . 0007 | . 0009 | . 0010 | . 0012 | . 0015 | . 0017 | . 0020 | . 0022 | . 0024 |
|  |  | Zig Zag Pocket | . $45 \times \mathrm{D}$ | . $\times$ D | 238 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0027 | . 0032 | . 0036 | . 0041 | . 0045 |
| M | 1a] Martensitic \& Ferritic Stainless Steels 15-29 HRc <br> 410, 416, 440 | Peripheral-Rough | $2.5 \times \mathrm{D}$ | . $3 \times \mathrm{D}$ | 347 | . 00072 | . 00108 | . 0014 | . 0018 | . 0022 | . 0025 | . 0029 | . 0036 | . 0043 | . 0050 | . 0058 | . 0065 | . 0072 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 356 | . 00081 | . 00121 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0040 | . 0048 | . 0057 | . 0065 | . 0073 | . 0081 |
|  |  | Peripheral-HEM | $3 \times \mathrm{D}$ | . $2 \times \mathrm{D}$ | 380 | . 00102 | . 00153 | . 0020 | . 0026 | . 0031 | . 0036 | . 0041 | . 0051 | . 0061 | . 0071 | . 0082 | . 0092 | . 0102 |
|  |  | Slotting-Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 261 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 381 | . 00068 | . 00103 | . 0014 | . 0017 | . 0021 | . 0024 | . 0027 | . 0034 | . 0041 | . 0048 | . 0055 | . 0062 | . 0068 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 374 | . 00069 | . 00103 | . 0014 | . 0017 | . 0021 | . 0024 | . 0027 | . 0034 | . 0041 | . 0048 | . 0055 | . 0062 | . 0069 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 7 deg | 314 | . 00027 | . 00041 | . 0005 | . 0007 | . 0008 | . 0010 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0025 | . 0027 |
|  |  | Straight Line Ramp | . $75 \times \mathrm{D}$ | 5 deg | 261 | . 00038 | . 00057 | . 0008 | . 0010 | . 0011 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0034 | . 0038 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $625 \times \mathrm{D}$ | 261 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  | 1b] Martensitic \& Ferrit- <br> ic Stainless Steels <br> 30-48 HRc <br> 410, 416, 440 | Peripheral-Rough | $2.25 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 329 | . 00072 | . 00108 | . 0014 | . 0018 | . 0022 | . 0025 | . 0029 | . 0036 | . 0043 | . 0050 | . 0058 | . 0065 | . 0072 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $012 \times \mathrm{D}$ | 338 | . 00077 | . 00115 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0038 | . 0046 | . 0054 | . 0061 | . 0069 | . 0077 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $2 \times \mathrm{D}$ | 360 | . 00097 | . 00145 | . 0019 | . 0024 | . 0029 | . 0034 | . 0039 | . 0048 | . 0058 | . 0068 | . 0077 | . 0087 | . 0097 |
|  |  | Slotting-Traditional | . $75 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 248 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 361 | . 00065 | . 00097 | . 0013 | . 0016 | . 0019 | . 0023 | . 0026 | . 0032 | . 0039 | . 0045 | . 0052 | . 0058 | . 0065 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 345 | . 00063 | . 00095 | . 0013 | . 0016 | . 0019 | . 0022 | . 0025 | . 0032 | . 0038 | . 0044 | . 0051 | . 0057 | . 0063 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 7 deg | 297 | . 00024 | . 00035 | . 0005 | . 0006 | . 0007 | . 0008 | . 0009 | . 0012 | . 0014 | . 0017 | . 0019 | . 0021 | . 0024 |
|  |  | Straight Line Ramp | . $63 \times \mathrm{D}$ | 4 deg | 248 | . 00038 | . 00057 | . 0008 | . 0010 | . 0011 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0034 | . 0038 |
|  |  | Zig Zag Pocket | . $75 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 248 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |

## M936 <br> OW-R-FEED

| $\begin{gathered} \text { ISO } \\ \text { Code } \end{gathered}$ | Work Material | Type of Cut | Axial <br> DOC | Radial DOC | Speed <br> (SFM) | Feed Rate Per Tooth (IPT) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | 1/8 | 3/16 | 1/4 | 5/16 | $3 / 8$ | 7/16 | 1/2 | $5 / 8$ | $3 / 4$ | $7 / 8$ | 1 | 1-1/8 | 1-1/4 |
| M | 2a] Austenitic Stainless <br> Steels 15-29 HRc <br> FeNi Alloys <br> 303, 304, 316, Invar, <br> Kovar | Peripheral-Rough | $2 \times \mathrm{D}$ | . $3 \times \mathrm{D}$ | 365 | . 00083 | . 00125 | . 0017 | . 0021 | . 0025 | . 0029 | . 0033 | . 0042 | . 0050 | . 0058 | . 0067 | . 0075 | . 0083 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 333 | . 00074 | . 00110 | . 0015 | . 0018 | . 0022 | . 0026 | . 0029 | . 0037 | . 0044 | . 0052 | . 0059 | . 0066 | . 0074 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $2 \times \mathrm{D}$ | 375 | . 00100 | . 00150 | . 0020 | . 0025 | . 0030 | . 0035 | . 0040 | . 0050 | . 0060 | . 0070 | . 0080 | . 0090 | . 0100 |
|  |  | Slotting-Traditional | $1.25 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 261 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 381 | . 00075 | . 00112 | . 0015 | . 0019 | . 0022 | . 0026 | . 0030 | . 0037 | . 0045 | . 0052 | . 0060 | . 0067 | . 0075 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 349 | . 00064 | . 00097 | . 0013 | . 0016 | . 0019 | . 0023 | . 0026 | . 0032 | . 0039 | . 0045 | . 0052 | . 0058 | . 0064 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 7 deg | 308 | . 00026 | . 00039 | . 0005 | . 0007 | . 0008 | . 0009 | . 0010 | . 0013 | . 0016 | . 0018 | . 0021 | . 0023 | . 0026 |
|  |  | Straight Line Ramp | . $75 \times \mathrm{D}$ | 5 deg | 270 | . 00038 | . 00057 | . 0008 | . 0010 | . 0011 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0034 | . 0038 |
|  |  | Zig Zag Pocket | $1.25 \times \mathrm{D}$ | . $625 \times$ D | 261 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  | 2b] Austenitic Stainless <br> Steels 30-48 HRc <br> FeNi Alloys <br> 303, 304, 316,Invar, <br> Kovar | Peripheral -Rough | $2 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 356 | . 00074 | . 00112 | . 0015 | . 0019 | . 0022 | . 0026 | . 0030 | . 0037 | . 0045 | . 0052 | . 0060 | . 0067 | . 0074 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $012 \times \mathrm{D}$ | 315 | . 00070 | . 00105 | . 0014 | . 0017 | . 0021 | . 0024 | . 0028 | . 0035 | . 0042 | . 0049 | . 0056 | . 0063 | . 0070 |
|  |  | Peripheral-HEM | $3 \times \mathrm{D}$ | . $2 \times \mathrm{D}$ | 356 | . 00095 | . 00142 | . 0019 | . 0024 | . 0028 | . 0033 | . 0038 | . 0047 | . 0057 | . 0066 | . 0076 | . 0085 | . 0095 |
|  |  | Slotting-Traditional | . $75 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 248 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 361 | . 00071 | . 00106 | . 0014 | . 0018 | . 0021 | . 0025 | . 0028 | . 0035 | . 0043 | . 0050 | . 0057 | . 0064 | . 0071 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 331 | . 00058 | . 00086 | . 0012 | . 0014 | . 0017 | . 0020 | . 0023 | . 0029 | . 0035 | . 0040 | . 0046 | . 0052 | . 0058 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 7 deg | 292 | . 00024 | . 00036 | . 0005 | . 0006 | . 0007 | . 0008 | . 0010 | . 0012 | . 0014 | . 0017 | . 0019 | . 0022 | . 0024 |
|  |  | Straight Line Ramp | . $63 \times \mathrm{D}$ | 4 deg | 248 | . 00038 | . 00057 | . 0008 | . 0010 | . 0011 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0034 | . 0038 |
|  |  | Zig Zag Pocket | . $75 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 248 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |
|  | 3a] Precipitation Hardening Stainless Steel 15-38 HRc <br> 17-4, 15-5, 13-8 | Peripheral -Rough | $2 \times \mathrm{D}$ | . $28 \times \mathrm{D}$ | 351 | . 00067 | . 00101 | . 0013 | . 0017 | . 0020 | . 0023 | . 0027 | . 0034 | . 0040 | . 0047 | . 0054 | . 0060 | . 0067 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 309 | . 00062 | . 00093 | . 0012 | . 0015 | . 0019 | . 0022 | . 0025 | . 0031 | . 0037 | . 0043 | . 0049 | . 0056 | . 0062 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $2 \times \mathrm{D}$ | 347 | . 00083 | . 00125 | . 0017 | . 0021 | . 0025 | . 0029 | . 0033 | . 0042 | . 0050 | . 0058 | . 0067 | . 0075 | . 0083 |
|  |  | Slotting -Traditional | . $75 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 238 | . 00040 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0040 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 376 | . 00062 | . 00093 | . 0012 | . 0015 | . 0019 | . 0022 | . 0025 | . 0031 | . 0037 | . 0043 | . 0050 | . 0056 | . 0062 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 324 | . 00054 | . 00081 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0027 | . 0032 | . 0038 | . 0043 | . 0049 | . 0054 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 7 deg | 285 | . 00025 | . 00037 | . 0005 | . 0006 | . 0007 | . 0009 | . 0010 | . 0012 | . 0015 | . 0017 | . 0020 | . 0022 | . 0025 |
|  |  | Straight Line Ramp | . $63 \times \mathrm{D}$ | 5 deg | 243 | . 00035 | . 00053 | . 0007 | . 0009 | . 0011 | . 0012 | . 0014 | . 0018 | . 0021 | . 0025 | . 0028 | . 0032 | . 0035 |
|  |  | Zig Zag Pocket | . $75 \times \mathrm{D}$ | . $625 \times \mathrm{D}$ | 238 | . 00040 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0040 |
|  | 3b] Precipitation Hardening Stainless Steel 39-47 HRc 17-4, 15-5, 13-8 | Peripheral-Rough | $2 \times \mathrm{D}$ | . $28 \times \mathrm{D}$ | 337 | . 00061 | . 00092 | . 0012 | . 0015 | . 0018 | . 0021 | . 0025 | . 0031 | . 0037 | . 0043 | . 0049 | . 0055 | . 0061 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $012 \times \mathrm{D}$ | 293 | . 00059 | . 00088 | . 0012 | . 0015 | . 0018 | . 0020 | . 0023 | . 0029 | . 0035 | . 0041 | . 0047 | . 0053 | . 0059 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $18 \times \mathrm{D}$ | 329 | . 00079 | . 00118 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0039 | . 0047 | . 0055 | . 0063 | . 0071 | . 0079 |
|  |  | Slotting -Traditional | . $625 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 225 | . 00038 | . 00057 | . 0008 | . 0010 | . 0011 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0034 | . 0038 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 356 | . 00057 | . 00085 | . 0011 | . 0014 | . 0017 | . 0020 | . 0023 | . 0028 | . 0034 | . 0040 | . 0045 | . 0051 | . 0057 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 316 | . 00051 | . 00077 | . 0010 | . 0013 | . 0015 | . 0018 | . 0020 | . 0026 | . 0031 | . 0036 | . 0041 | . 0046 | . 0051 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 6 deg | 270 | . 00023 | . 00034 | . 0005 | . 0006 | . 0007 | . 0008 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0021 | . 0023 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 4 deg | 225 | . 00036 | . 00054 | . 0007 | . 0009 | . 0011 | . 0013 | . 0014 | . 0018 | . 0022 | . 0025 | . 0029 | . 0033 | . 0036 |
|  |  | Zig Zag Pocket | . $625 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 225 | . 00038 | . 00057 | . 0008 | . 0010 | . 0011 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0034 | . 0038 |
| S | $\begin{aligned} & \text { 1a] Titanium Alloys } \\ & \text { 6AL-4V, 6-2-4 } \\ & \text { 18-31 HRc } \end{aligned}$ | Peripheral -Rough | $2 \times \mathrm{D}$ | . $3 \times \mathrm{D}$ | 261 | . 00059 | . 00089 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0030 | . 0036 | . 0042 | . 0048 | . 0053 | . 0059 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 285 | . 00059 | . 00089 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0030 | . 0036 | . 0042 | . 0048 | . 0053 | . 0059 |
|  |  | Peripheral - HEM | $3 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 390 | . 00095 | . 00143 | . 0019 | . 0024 | . 0029 | . 0033 | . 0038 | . 0048 | . 0057 | . 0067 | . 0076 | . 0086 | . 0095 |
|  |  | Slotting -Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 238 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 287 | . 00053 | . 00080 | . 0011 | . 0013 | . 0016 | . 0019 | . 0021 | . 0027 | . 0032 | . 0037 | . 0043 | . 0048 | . 0053 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 314 | . 00053 | . 00080 | . 0011 | . 0013 | . 0016 | . 0019 | . 0021 | . 0027 | . 0032 | . 0037 | . 0043 | . 0048 | . 0053 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 20 deg | 380 | . 00033 | . 00050 | . 0007 | . 0008 | . 0010 | . 0012 | . 0013 | . 0017 | . 0020 | . 0023 | . 0026 | . 0030 | . 0033 |
|  |  | Straight Line Ramp | $1 \times \mathrm{D}$ | 25 deg. | 380 | . 00037 | . 00056 | . 0007 | . 0009 | . 0011 | . 0013 | . 0015 | . 0019 | . 0022 | . 0026 | . 0030 | . 0033 | . 0037 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $625 \times \mathrm{D}$ | 238 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |



## M936 <br> PW-R-FEED

| $\begin{aligned} & \text { ISO } \\ & \text { Code } \end{aligned}$ | Work Material | Type of Cut | Axial DOC | Radial DOC | $\begin{aligned} & \text { Speed } \\ & \text { (SFM) } \end{aligned}$ | Feed Rate Per Tooth (IPT) |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | $7 / 8$ | 1 | 1-1/8 | 1-1/4 |
| S | 4a] Nickel Chromium based Super Alloys Inconel 718, Rene 88 10-25 HRC | Peripheral-Rough | $1.25 \times$ D | . $25 \times \mathrm{D}$ | 71 | . 00038 | . 00057 | . 0008 | . 0010 | . 0011 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0030 | . 0034 | . 0038 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $01 \times \mathrm{D}$ | 86 | . 00078 | . 00118 | . 0016 | . 0020 | . 0024 | . 0027 | . 0031 | . 0039 | . 0047 | . 0055 | . 0063 | . 0071 | . 0078 |
|  |  | Peripheral -HEM | $2 \times \mathrm{D}$ | . $08 \times$ D | 86 | . 00185 | . 00278 | . 0037 | . 0046 | . 0056 | . 0065 | . 0074 | . 0093 | . 0111 | . 0130 | . 0148 | . 0167 | . 0185 |
|  |  | Slotting -Traditional | . $25 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 48 | . 00029 | . 00043 | . 0006 | . 0007 | . 0009 | . 0010 | . 0011 | . 0014 | . 0017 | . 0020 | . 0023 | . 0026 | . 0029 |
|  |  | Rough Facing | . $28 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 78 | . 00034 | . 00051 | . 0007 | . 0009 | . 0010 | . 0012 | . 0014 | . 0017 | . 0021 | . 0024 | . 0027 | . 0031 | . 0034 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 94 | . 00067 | . 00100 | . 0013 | . 0017 | . 0020 | . 0023 | . 0027 | . 0033 | . 0040 | . 0047 | . 0053 | . 0060 | . 0067 |
|  |  | Helical Entry | $2 \times \mathrm{D}$ | 12 deg | 119 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0027 | . 0032 | . 0036 | . 0041 | . 0045 |
|  |  | Straight Line Ramp | . $37 \times$ D | 3 deg | 50 | . 00029 | . 00043 | . 0006 | . 0007 | . 0009 | . 0010 | . 0011 | . 0014 | . 0017 | . 0020 | . 0023 | . 0026 | . 0029 |
|  |  | Zig Zag Pocket | . $25 \times \mathrm{D}$ | . $5 \times \mathrm{D}$ | 48 | . 00029 | . 00043 | . 0006 | . 0007 | . 0009 | . 0010 | . 0011 | . 0014 | . 0017 | . 0020 | . 0023 | . 0026 | . 0029 |
|  | 4b] Nickel Chromium based Super Alloys Inconel 718, Rene 88 26-39 HRc | Peripheral -Rough | $1 \times \mathrm{D}$ | . $2 \times \mathrm{D}$ | 68 | . 00036 | . 00054 | . 0007 | . 0009 | . 0011 | . 0013 | . 0014 | . 0018 | . 0022 | . 0025 | . 0029 | . 0032 | . 0036 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $01 \times \mathrm{D}$ | 81 | . 00074 | . 00111 | . 0015 | . 0019 | . 0022 | . 0026 | . 0030 | . 0037 | . 0045 | . 0052 | . 0059 | . 0067 | . 0074 |
|  |  | Peripheral -HEM | $2 \times \mathrm{D}$ | . $05 \times \mathrm{D}$ | 81 | . 00176 | . 00263 | . 0035 | . 0044 | . 0053 | . 0061 | . 0070 | . 0088 | . 0105 | . 0123 | . 0140 | . 0158 | . 0176 |
|  |  | Slotting -Traditional | . $25 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 45 | . 00027 | . 00041 | . 0005 | . 0007 | . 0008 | . 0009 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0024 | . 0027 |
|  |  | Rough Facing | . $28 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 74 | . 00032 | . 00049 | . 0006 | . 0008 | . 0010 | . 0011 | . 0013 | . 0016 | . 0019 | . 0023 | . 0026 | . 0029 | . 0032 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $6 \times \mathrm{D}$ | 85 | . 00059 | . 00089 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0030 | . 0036 | . 0042 | . 0048 | . 0053 | . 0059 |
|  |  | Helical Entry | $2.5 \times \mathrm{D}$ | 8 deg | 113 | . 00041 | . 00062 | . 0008 | . 0010 | . 0012 | . 0014 | . 0017 | . 0021 | . 0025 | . 0029 | . 0033 | . 0037 | . 0041 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 10 deg | 500 | . 00062 | . 00094 | . 0012 | . 0016 | . 0019 | . 0022 | . 0025 | . 0031 | . 0037 | . 0044 | . 0050 | . 0056 | . 0062 |
|  |  | Zig Zag Pocket | . $25 \times \mathrm{D}$ | . $5 \times \mathrm{D}$ | 45 | . 00027 | . 00041 | . 0005 | . 0007 | . 0008 | . 0009 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0024 | . 0027 |
| N | 1a] Aluminum Alloys O-T6 <br> 2024, 6061, 7075 | Peripheral -Rough | $2.25 \times$ D | . $6 \times \mathrm{D}$ | 500 | . 00175 | . 00263 | . 0035 | . 0044 | . 0053 | . 0061 | . 0070 | . 0088 | . 0105 | . 0123 | . 0140 | . 0158 | . 0175 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $02 \times$ D | 750 | . 00063 | . 00094 | . 0013 | . 0016 | . 0019 | . 0022 | . 0025 | . 0031 | . 0038 | . 0044 | . 0050 | . 0056 | . 0063 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 700 | . 00175 | . 00263 | . 0035 | . 0044 | . 0053 | . 0061 | . 0070 | . 0088 | . 0105 | . 0123 | . 0140 | . 0158 | . 0175 |
|  |  | Slotting-Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 375 | . 00080 | . 00120 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0040 | . 0048 | . 0056 | . 0064 | . 0072 | . 0080 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 550 | . 00144 | . 00216 | . 0029 | . 0036 | . 0043 | . 0051 | . 0058 | . 0072 | . 0087 | . 0101 | . 0115 | . 0130 | . 0144 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 784 | . 00050 | . 00076 | . 0010 | . 0013 | . 0015 | . 0018 | . 0020 | . 0025 | . 0030 | . 0035 | . 0040 | . 0045 | . 0050 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 10 deg | 500 | . 00063 | . 00095 | . 0013 | . 0016 | . 0019 | . 0022 | . 0025 | . 0032 | . 0038 | . 0044 | . 0051 | . 0057 | . 0063 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 10 deg | 463 | . 00062 | . 00094 | . 0012 | . 0016 | . 0019 | . 0022 | . 0025 | . 0031 | . 0037 | . 0044 | . 0050 | . 0056 | . 0062 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $45 \times \mathrm{D}$ | 375 | . 00080 | . 00120 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0040 | . 0048 | . 0056 | . 0064 | . 0072 | . 0080 |
|  | 1b] Aluminum Alloys <br> 2024, 6061, 7075 <br> 96-175 Bhn | Peripheral -Rough | $2.25 \times \mathrm{D}$ | . $6 \times \mathrm{D}$ | 475 | . 00166 | . 00249 | . 0333 | . 0042 | . 0050 | . 0058 | . 0067 | . 0083 | . 0100 | . 0116 | . 0133 | . 0150 | . 0166 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $02 \times$ D | 713 | . 00052 | . 00078 | . 0010 | . 0013 | . 0016 | . 0018 | . 0021 | . 0026 | . 0031 | . 0037 | . 0042 | . 0047 | . 0052 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 665 | . 00166 | . 00249 | . 0033 | . 0042 | . 0050 | . 0058 | . 0067 | . 0083 | . 0100 | . 0116 | . 0133 | . 0150 | . 0166 |
|  |  | Slotting -Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 347 | . 00074 | . 00111 | . 0015 | . 0019 | . 0022 | . 0026 | . 0030 | . 0037 | . 0044 | . 0052 | . 0059 | . 0067 | . 0074 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 495 | . 00130 | . 00195 | . 0026 | . 0033 | . 0039 | . 0046 | . 0052 | . 0065 | . 0078 | . 0091 | . 0104 | . 0117 | . 0130 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 743 | . 00046 | . 00070 | . 0009 | . 0012 | . 0014 | . 0016 | . 0019 | . 0023 | . 0028 | . 0033 | . 0037 | . 0042 | . 0046 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 10 deg | 450 | . 00057 | . 00085 | . 0011 | . 0014 | . 0017 | . 0020 | . 0023 | . 0028 | . 0034 | . 0040 | . 0046 | . 0051 | . 0057 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 10 deg | 438 | . 00061 | . 00092 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0031 | . 0037 | . 0043 | . 0049 | . 0055 | . 0061 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $45 \times \mathrm{D}$ | 338 | . 00072 | . 00108 | . 0014 | . 0018 | . 0022 | . 0025 | . 0029 | . 0036 | . 0043 | . 0050 | . 0058 | . 0065 | . 0072 |
|  | 2a] High Silicon Aluminum Alloys A380, A390 45-75 Bhn | Peripheral -Rough | $2.25 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 495 | . 00150 | . 00225 | . 0030 | . 0038 | . 0045 | . 0053 | . 0060 | . 0075 | . 0090 | . 0105 | . 0120 | . 0135 | . 0150 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $02 \times \mathrm{D}$ | 725 | . 00063 | . 00094 | . 0013 | . 0016 | . 0019 | . 0022 | . 0025 | . 0031 | . 0038 | . 0044 | . 0050 | . 0056 | . 0063 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 600 | . 00163 | . 00244 | . 0033 | . 0041 | . 0049 | . 0057 | . 0065 | . 0081 | . 0098 | . 0114 | . 0130 | . 0146 | . 0163 |
|  |  | Slotting -Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 347 | . 00074 | . 00110 | . 0015 | . 0018 | . 0022 | . 0026 | . 0029 | . 0037 | . 0044 | . 0052 | . 0059 | . 0066 | . 0074 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 545 | . 00124 | . 00186 | . 0025 | . 0031 | . 0037 | . 0043 | . 0049 | . 0062 | . 0074 | . 0087 | . 0099 | . 0111 | . 0124 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 758 | . 00050 | . 00076 | . 0010 | . 0013 | . 0015 | . 0018 | . 0020 | . 0025 | . 0030 | . 0035 | . 0040 | . 0045 | . 0050 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 10 deg | 486 | . 00061 | . 00092 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0031 | . 0037 | . 0043 | . 0049 | . 0055 | . 0061 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 10 deg | 394 | . 00061 | . 00092 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0031 | . 0037 | . 0043 | . 0049 | . 0055 | . 0061 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $45 \times$ D | 365 | . 00078 | . 00116 | . 0016 | . 0019 | . 0023 | . 0027 | . 0331 | . 0039 | . 0047 | . 0054 | . 0062 | . 0070 | . 0078 |


| $\begin{aligned} & \text { ISO } \\ & \text { Code } \end{aligned}$ | Work Material | Type of Cut | $\begin{aligned} & \text { Axial } \\ & \text { DOC } \end{aligned}$ | Radial DOC | $\begin{aligned} & \text { Speed } \\ & \text { (SFM) } \end{aligned}$ | Feed Rate Per Tooth (IPT) |  |  |  | 3/8 | 7/16 | 1/2 | $5 / 8$ | 3/4 | $7 / 8$ | 1 | 1-1/8 | -1/4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | 1/8 | 3/16 | 1/4 | 5/16 |  |  |  |  |  |  |  |  |  |
| N | 2b] High Silicon Aluminum Alloys A380, A390 <br> 76-195 Bhn | Peripheral -Rough | $2.25 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 470 | . 00143 | . 00214 | . 0029 | . 0036 | . 0043 | . 0050 | . 0057 | . 0071 | . 0086 | . 0100 | . 0114 | . 0128 | . 0143 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $02 \times$ D | 689 | . 00052 | . 00078 | . 0010 | . 0013 | . 0016 | . 0018 | . 0021 | . 0026 | . 0031 | . 0037 | . 0042 | . 0047 | . 0052 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 570 | . 00152 | . 00228 | . 0030 | . 0038 | . 0046 | . 0053 | . 0061 | . 0076 | . 0091 | . 0106 | . 0122 | . 0137 | . 0152 |
|  |  | Slotting-Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 329 | . 00070 | . 00105 | . 0014 | . 0017 | . 0021 | . 0024 | . 0028 | . 0035 | . 0042 | . 0049 | . 0056 | . 0063 | . 0070 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 490 | . 00112 | . 00167 | . 0022 | . 0028 | . 0033 | . 0039 | . 0045 | . 0056 | . 0067 | . 0078 | . 0089 | . 0100 | . 0112 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 718 | . 00046 | . 00070 | . 0009 | . 0012 | . 0014 | . 0016 | . 0019 | . 0023 | . 0028 | . 0033 | . 0037 | . 0042 | . 0046 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 10 deg | 438 | . 00055 | . 00083 | . 0011 | . 0014 | . 0017 | . 0019 | . 0022 | . 0028 | . 0033 | . 0039 | . 0044 | . 0050 | . 0055 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 4 deg | 57 | . 00031 | . 00046 | . 0006 | . 0008 | . 0009 | . 0011 | . 0012 | . 0015 | . 0018 | . 0021 | . 0025 | . 0028 | . 0031 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $45 \times \mathrm{D}$ | 329 | . 00070 | . 00105 | . 0014 | . 0017 | . 0021 | . 0024 | . 0028 | . 0035 | . 0042 | . 0049 | . 0056 | . 0063 | . 0070 |
|  | 3a] Magnesium Alloys 47-140 Bhn | Peripheral-Rough | $2.25 \times \mathrm{D}$ | . $6 \times \mathrm{D}$ | 500 | . 00175 | . 00263 | . 0035 | . 0044 | . 0053 | . 0061 | . 0070 | . 0088 | . 0105 | . 0123 | . 0140 | . 0158 | . 0175 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $02 \times \mathrm{D}$ | 750 | . 00063 | . 00094 | . 0013 | . 0016 | . 0019 | . 0022 | . 0025 | . 0031 | . 0038 | . 0044 | . 0050 | . 0056 | . 0063 |
|  |  | Peripheral -HEM | $3 \times \mathrm{D}$ | . $25 \times \mathrm{D}$ | 665 | . 00166 | . 00249 | . 0033 | . 0042 | . 0050 | . 0058 | . 0067 | . 0083 | . 0100 | . 0116 | . 0133 | . 0150 | . 0166 |
|  |  | Slotting-Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 375 | . 00080 | . 00120 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0040 | . 0048 | . 0056 | . 0064 | . 0072 | . 0080 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 550 | . 00144 | . 00216 | . 0029 | . 0036 | . 0043 | . 0051 | . 0058 | . 0072 | . 0087 | . 0101 | . 0115 | . 0130 | . 0144 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 784 | . 00050 | . 00076 | . 0010 | . 0013 | . 0015 | . 0018 | . 0020 | . 0025 | . 0030 | . 0035 | . 0040 | . 0045 | . 0050 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 10 deg | 500 | . 00063 | . 00095 | . 0013 | . 0016 | . 0019 | . 0022 | . 0025 | . 0032 | . 0038 | . 0044 | . 0051 | . 0057 | . 0063 |
|  |  | Straight Line Ramp | . $5 \times \mathrm{D}$ | 10 deg | 488 | . 00062 | . 00094 | . 0012 | . 0016 | . 0019 | . 0022 | . 0025 | . 0031 | . 0037 | . 0044 | . 0050 | . 0056 | . 0062 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $45 \times$ D | 375 | . 00080 | . 00120 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0040 | . 0048 | . 0056 | . 0064 | . 0072 | . 0080 |
|  | 4a] Copper, Brass <br> 111-170 Bhn | Peripheral-Rough | $2 \times \mathrm{D}$ | . $3 \times \mathrm{D}$ | 361 | . 00059 | . 00089 | . 0012 | . 0015 | . 0018 | . 0021 | . 0024 | . 0030 | . 0036 | . 0042 | . 0048 | . 0053 | . 0059 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 366 | . 00055 | . 00082 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0027 | . 0033 | . 0038 | . 0044 | . 0049 | . 0055 |
|  |  | Peripheral -HEM | $2.25 \times \mathrm{D}$ | . $1 \times \mathrm{D}$ | 380 | . 00107 | . 00160 | . 0021 | . 0027 | . 0032 | . 0037 | . 0043 | . 0053 | . 0064 | . 0075 | . 0086 | . 0096 | . 0107 |
|  |  | Slotting-Traditional | . $75 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 276 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 418 | . 00049 | . 00073 | . 0010 | . 0012 | . 0015 | . 0017 | . 0019 | . 0024 | . 0029 | . 0034 | . 0039 | . 0044 | . 0049 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 402 | . 00046 | . 00070 | . 0009 | . 0012 | . 0014 | . 0016 | . 0019 | . 0023 | . 0028 | . 0033 | . 0037 | . 0042 | . 0046 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 12 deg | 304 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Straight Line Ramp | $1 \times \mathrm{D}$ | 20 deg | 300 | . 00044 | . 00066 | . 0009 | . 0011 | . 0013 | . 0015 | . 0018 | . 0022 | . 0026 | . 0031 | . 0035 | . 0039 | 0044 |
|  |  | Zig Zag Pocket | . $75 \times \mathrm{D}$ | . $625 \times \mathrm{D}$ | 290 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0027 | . 0032 | . 0036 | . 0041 | . 0045 |
|  | 4b] Copper Alloys, Brass Alloys 171-250 Bhn | Peripheral-Rough | $1.5 \times \mathrm{D}$ | . $3 \times \mathrm{D}$ | 342 | . 00056 | . 00084 | . 0011 | . 0014 | . 0017 | . 0020 | . 0023 | . 0028 | . 0034 | . 0039 | . 0045 | . 0051 | . 0056 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $012 \times \mathrm{D}$ | 347 | . 00052 | . 00078 | . 0010 | . 0013 | . 0016 | . 0018 | . 0021 | . 0026 | . 0031 | . 0036 | . 0041 | . 0047 | . 0052 |
|  |  | Peripheral-HEM | $2.25 \times \mathrm{D}$ | . $1 \times \mathrm{D}$ | 360 | . 00095 | . 00142 | . 0019 | . 0024 | . 0028 | . 0033 | . 0038 | . 0047 | . 0057 | . 0066 | . 0076 | . 0085 | . 0095 |
|  |  | Slotting -Traditional | . $7 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 261 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 376 | . 00044 | . 00066 | . 0009 | . 0011 | . 0013 | . 0015 | . 0018 | . 0022 | . 0026 | . 0031 | . 0035 | . 0039 | . 0044 |
|  |  | Finish Facing | . $02 \times$ D | . $7 \times \mathrm{D}$ | 381 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Helical Entry | $2.5 \times \mathrm{D}$ | 10 deg | 274 | . 00038 | . 00058 | . 0008 | . 0010 | . 0012 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0035 | . 0038 |
|  |  | Straight Line Ramp | . $75 \times \mathrm{D}$ | 18 deg | 270 | . 00038 | . 00058 | . 0008 | . 0010 | . 0012 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0035 | . 0038 |
|  |  | Zig Zag Pocket | . $7 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 261 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |
|  | 5a] Bronze 111-201 Bhn | Peripheral-Rough | $2 \times \mathrm{D}$ | . $3 \times \mathrm{D}$ | 356 | . 00057 | . 00086 | . 0011 | . 0014 | . 0017 | . 0020 | . 0023 | . 0029 | . 0034 | . 0040 | . 0046 | . 0051 | . 0057 |
|  |  | Peripheral-Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 361 | . 00055 | . 00082 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0027 | . 0033 | . 0038 | . 0044 | . 0049 | . 0055 |
|  |  | Peripheral -HEM | $2.25 \times \mathrm{D}$ | . $1 \times \mathrm{D}$ | 390 | . 00113 | . 00169 | . 0023 | . 0028 | . 0034 | . 0039 | . 0045 | . 0056 | . 0068 | . 0079 | . 0090 | . 0101 | . 0113 |
|  |  | Slotting-Traditional | . $75 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 266 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Rough Facing | . $375 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 413 | . 00047 | . 00070 | . 0009 | . 0012 | . 0014 | . 0016 | . 0019 | . 0023 | . 0028 | . 0033 | . 0037 | . 0042 | . 0047 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $\times \mathrm{D}$ | 397 | . 00046 | . 00070 | . 0009 | . 0012 | . 0014 | . 0016 | . 0019 | . 0023 | . 0028 | . 0033 | . 0037 | . 0042 | . 0046 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 12 deg | 315 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Straight Line Ramp | $1 \times \mathrm{D}$ | 20 deg | 295 | . 00044 | . 00066 | . 0009 | . 0011 | . 0013 | . 0015 | . 0018 | . 0022 | . 0026 | . 0031 | . 0035 | . 0039 | . 0044 |
|  |  | Zig Zag Pocket | . $75 \times \mathrm{D}$ | . $625 \times$ D | 280 | . 00045 | . 00068 | . 0009 | . 0011 | . 0014 | . 0016 | . 0018 | . 0023 | . 0227 | . 0032 | . 0036 | . 0041 | . 0445 |

## M936 <br> OW-R-FEED

| $\begin{aligned} & \text { ISO } \\ & \text { Code } \end{aligned}$ | Work Material | Type of Cut | Axial <br> DOC | Radial DOC | Speed <br> (SFM) | Feed R 1/8 | Per To 3/16 | (IP | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | $7 / 8$ | 1 | 1-1/8 | 1-1/4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| N | 5b] Bronze, High Tin Bronze, Manganese Bronze, Work Hardened Bronze 201-277 Bhn | Peripheral -Rough | $1.5 \times \mathrm{D}$ | . $3 \times \mathrm{D}$ | 338 | . 00054 | . 00081 | . 0011 | . 0014 | . 0016 | . 0019 | . 0022 | . 0027 | . 0032 | . 0038 | . 0043 | . 0049 | . 0054 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $012 \times \mathrm{D}$ | 342 | . 00052 | . 00078 | . 0010 | . 0013 | . 0016 | . 0018 | . 0021 | . 0026 | . 0031 | . 0036 | . 0041 | . 0047 | . 0052 |
|  |  | Peripheral -HEM | $2.25 \times \mathrm{D}$ | . $1 \times \mathrm{D}$ | 351 | . 00095 | . 00142 | . 0019 | . 0024 | . 0028 | . 0033 | . 0038 | . 0047 | . 0057 | . 0066 | . 0076 | . 0085 | . 0095 |
|  |  | Slotting -Traditional | . $7 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 252 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |
|  |  | Rough Facing | . $35 \times \mathrm{D}$ | . $65 \times \mathrm{D}$ | 371 | . 00042 | . 00063 | . 0008 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0025 | . 0029 | . 0034 | . 0038 | . 0042 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 376 | . 00043 | . 00064 | . 0009 | . 0011 | . 0013 | . 0015 | . 0017 | . 0021 | . 0026 | . 0030 | . 0034 | . 0038 | . 0043 |
|  |  | Helical Entry | $2.5 \times \mathrm{D}$ | 10 deg | 270 | . 00038 | . 00058 | . 0008 | . 0010 | . 0012 | . 0013 | . 0015 | . 0019 | . 0023 | . 0027 | . 0031 | . 0035 | . 0038 |
|  |  | Straight Line Ramp | . $75 \times \mathrm{D}$ | 18 deg | 269 | . 00039 | . 00059 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0039 |
|  |  | Zig Zag Pocket | . $7 \times \mathrm{D}$ | . $55 \times \mathrm{D}$ | 252 | . 00041 | . 00061 | . 0008 | . 0010 | . 0012 | . 0014 | . 0016 | . 0020 | . 0024 | . 0028 | . 0032 | . 0036 | . 0041 |
|  | 6a] Composites, Plastics, Fiberglass | Peripheral-Rough | $1.5 \times \mathrm{D}$ | . $5 \times \mathrm{D}$ | 428 | . 00071 | . 00107 | . 0014 | . 0018 | . 0021 | . 0025 | . 0029 | . 0036 | . 0043 | . 0050 | . 0057 | . 0064 | . 0071 |
|  |  | Peripheral -Finish | $3 \times \mathrm{D}$ | . $015 \times \mathrm{D}$ | 447 | . 00069 | . 00103 | . 0014 | . 0017 | . 0021 | . 0024 | . 0028 | . 0034 | . 0041 | . 0048 | . 0055 | . 0062 | . 0069 |
|  |  | Peripheral-HEM | $2.25 \times \mathrm{D}$ | . $12 \times \mathrm{D}$ | 475 | . 00119 | . 00178 | . 0024 | . 0030 | . 0036 | . 0042 | . 0048 | . 0059 | . 0071 | . 0083 | . 0095 | . 0107 | . 0119 |
|  |  | Slotting -Traditional | $1 \times \mathrm{D}$ | $1 \times \mathrm{D}$ | 380 | . 00067 | . 00100 | . 0013 | . 0017 | . 0020 | . 0023 | . 0027 | . 0033 | . 0040 | . 0047 | . 0053 | . 0060 | . 0067 |
|  |  | Rough Facing | $.375 \times$ D | . $7 \times \mathrm{D}$ | 495 | . 00058 | . 00087 | . 0012 | . 0015 | . 0017 | . 0020 | . 0023 | . 0029 | . 0035 | . 0041 | . 0047 | . 0052 | . 0058 |
|  |  | Finish Facing | . $02 \times \mathrm{D}$ | . $7 \times \mathrm{D}$ | 491 | . 00059 | . 00088 | . 0012 | . 0015 | . 0018 | . 0020 | . 0023 | . 0029 | . 0035 | . 0041 | . 0047 | . 0053 | . 0059 |
|  |  | Helical Entry | $3 \times \mathrm{D}$ | 20 deg | 400 | . 00067 | . 00100 | . 0013 | . 0017 | . 0020 | . 0023 | . 0027 | . 0033 | . 0040 | . 0047 | . 0053 | . 0060 | . 0067 |
|  |  | Straight Line Ramp | $1 \times \mathrm{D}$ | 25 deg . | 400 | . 00063 | . 00095 | . 0013 | . 0016 | . 0019 | . 0022 | . 0025 | . 0032 | . 0038 | . 0044 | . 0051 | . 0057 | . 0063 |
|  |  | Zig Zag Pocket | $1 \times \mathrm{D}$ | . $625 \times$ D | 400 | . 00070 | . 00105 | . 0014 | . 0018 | . 0021 | . 0025 | . 0028 | . 0035 | . 0042 | . 0049 | . 0056 | . 0063 | . 0070 |

