



A340 AN340

- Cylindrical land to reduce chatter
- Both roughing and finishing capabilities
- 3 flute design for smoother/quieter milling operations
- Maximum 1XD axial depth of cut for HSM applications
- Wiper flat on end teeth for improved surface finish on the floor of part



Price Code E

| Flute Dia | Shank Dia | Length of Cut | OAL | Reach Length | Neck Dia | Radius | Unc EDP | Unc List | TiCN EDP | TiCN List |
|-----------|-----------|---------------|-------|--------------|----------|--------|---------|-----------|----------|-----------|
| 3/16 | 3/16 | 1/4 | 2 | - | - | 0.010 | 57880 | \$ 21.65 | 57909 | \$ 24.25 |
| 3/16 | 3/16 | 1/4 | 2 | 9/16 | 0.178 | 0.010 | 57881 | \$ 22.00 | 57910 | \$ 24.64 |
| 3/16 | 3/16 | 1/4 | 3 | 1-9/16 | 0.178 | 0.010 | 57882 | \$ 24.61 | 57911 | \$ 27.56 |
| 1/4 | 1/4 | 5/16 | 2 1/2 | - | - | 0.010 | 57883 | \$ 29.47 | 57912 | \$ 33.01 |
| 1/4 | 1/4 | 5/16 | 2-1/2 | 3/4 | 0.240 | 0.010 | 57884 | \$ 29.89 | 57913 | \$ 33.46 |
| 1/4 | 1/4 | 5/16 | 3-1/4 | 1-3/4 | 0.240 | 0.010 | 57885 | \$ 32.08 | 57914 | \$ 35.92 |
| 3/8 | 3/8 | 1/2 | 2 1/2 | - | - | 0.015 | 57886 | \$ 47.09 | 57915 | \$ 52.73 |
| 3/8 | 3/8 | 1/2 | 3 | - | - | 0.015 | 57887 | \$ 50.30 | 57916 | \$ 56.34 |
| 3/8 | 3/8 | 1/2 | 2-1/2 | 7/8 | 0.360 | 0.015 | 57888 | \$ 47.77 | 57917 | \$ 53.50 |
| 3/8 | 3/8 | 1/2 | 3 | 1-3/8 | 0.360 | 0.015 | 57889 | \$ 51.05 | 57918 | \$ 57.19 |
| 3/8 | 3/8 | 1/2 | 4 | 2-3/8 | 0.360 | 0.015 | 57890 | \$ 55.72 | 57919 | \$ 62.41 |
| 1/2 | 1/2 | 5/8 | 3 | - | - | 0.020 | 57891 | \$ 72.64 | 57920 | \$ 81.36 |
| 1/2 | 1/2 | 5/8 | 4 | - | - | 0.020 | 57892 | \$ 84.30 | 57921 | \$ 94.42 |
| 1/2 | 1/2 | 5/8 | 3 | 1-1/8 | 0.480 | 0.020 | 57893 | \$ 73.81 | 57922 | \$ 82.66 |
| 1/2 | 1/2 | 5/8 | 4 | 2-1/8 | 0.480 | 0.020 | 57894 | \$ 85.52 | 57923 | \$ 95.79 |
| 1/2 | 1/2 | 5/8 | 5 | 3-1/8 | 0.480 | 0.020 | 57895 | \$ 91.01 | 57924 | \$ 101.94 |
| 5/8 | 5/8 | 3/4 | 3 1/2 | - | - | 0.025 | 57896 | \$ 121.31 | 57925 | \$ 135.87 |
| 5/8 | 5/8 | 3/4 | 3-1/2 | 1-1/2 | 0.600 | 0.025 | 57897 | \$ 123.36 | 57926 | \$ 138.16 |
| 5/8 | 5/8 | 3/4 | 5 | 2-1/2 | 0.600 | 0.025 | 57898 | \$ 136.38 | 57927 | \$ 152.74 |
| 3/4 | 3/4 | 1 | 4 | - | - | 0.030 | 57899 | \$ 194.64 | 57928 | \$ 218.00 |
| 3/4 | 3/4 | 1 | 5 | - | - | 0.030 | 57900 | \$ 216.57 | 57929 | \$ 242.56 |
| 3/4 | 3/4 | 1 | 4 | 1-7/8 | 0.720 | 0.030 | 57901 | \$ 198.75 | 57930 | \$ 222.61 |
| 3/4 | 3/4 | 1 | 5 | 2-7/8 | 0.720 | 0.030 | 57902 | \$ 220.00 | 57931 | \$ 246.40 |
| 3/4 | 3/4 | 1 | 6 | 3-7/8 | 0.720 | 0.030 | 57903 | \$ 230.96 | 57932 | \$ 258.67 |
| 1 | 1 | 1 1/4 | 4 | - | - | 0.040 | 57904 | \$ 294.70 | 57933 | \$ 330.06 |
| 1 | 1 | 1 1/4 | 5 | - | - | 0.040 | 57905 | \$ 324.85 | 57934 | \$ 363.85 |
| 1 | 1 | 1 1/4 | 4 | 1-5/8 | 0.960 | 0.040 | 57906 | \$ 300.18 | 57935 | \$ 336.20 |
| 1 | 1 | 1 1/4 | 5 | 2-5/8 | 0.960 | 0.040 | 57907 | \$ 330.34 | 57936 | \$ 369.98 |
| 1 | 1 | 1 1/4 | 6 | 3-5/8 | 0.960 | 0.040 | 57908 | \$ 345.41 | 57937 | \$ 386.86 |

| A340 TiCN Coated Recommended Starting Point Speeds and Feeds (Slotting 1XD) | | | | | | | | | | | | | | | | | | |
|---|------|---------------|--------|-------|--------|---------------|-------|--------|--------|---------------|-------|--------|---------------|-------|--------|-------------|-----|-----|
| Material | SFPM | 1/4" Diameter | | | | 3/8" Diameter | | | | 1/2" Diameter | | | 3/4" Diameter | | | 1" Diameter | | |
| | | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | RPM | CPT | IPM | RPM | CPT | IPM |
| Aluminum Alloys | | | | | | | | | | | | | | | | | | |
| 6061-T6 | 1400 | 21,392 | 0.0060 | 385.1 | 14,261 | 0.0090 | 385.1 | 10,696 | 0.0120 | 385.1 | 7,131 | 0.0150 | 320.9 | 5,348 | 0.0180 | 288.8 | | |
| 7075-T6 | 1200 | 18,336 | 0.0060 | 330.0 | 12,224 | 0.0090 | 330.0 | 9,168 | 0.0120 | 330.0 | 6,112 | 0.0150 | 275.0 | 4,584 | 0.0180 | 247.5 | | |

| A340 TiCN Coated Recommended Starting Point Speeds and Feeds (Profiling .25XD) | | | | | | | | | | | | | | | | | | |
|--|------|---------------|--------|-------|--------|---------------|-------|--------|--------|---------------|-------|--------|---------------|-------|--------|-------------|-----|-----|
| Material | SFPM | 1/4" Diameter | | | | 3/8" Diameter | | | | 1/2" Diameter | | | 3/4" Diameter | | | 1" Diameter | | |
| | | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | RPM | CPT | IPM | RPM | CPT | IPM |
| Aluminum Alloys | | | | | | | | | | | | | | | | | | |
| 6061-T6 | 1400 | 21,392 | 0.0100 | 641.8 | 14,261 | 0.0150 | 641.8 | 10,696 | 0.0200 | 641.8 | 7,131 | 0.0250 | 534.8 | 5,348 | 0.0300 | 481.3 | | |
| 7075-T6 | 1200 | 18,336 | 0.0100 | 550.1 | 12,224 | 0.0150 | 550.1 | 9,168 | 0.0200 | 550.1 | 6,112 | 0.0250 | 458.4 | 4,584 | 0.0300 | 412.6 | | |



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A345R

- Full Radius Program
- Cylindrical land to reduce chatter
- Both roughing and finishing capabilities
- 3 Flute design for smoother/quieter milling operations
- Wiper flat on end teeth for improved surface finish on the floor of part



| Flute Dia | Shank Dia | LOC | OAL | 0.010 Radius | | 0.015 Radius | | 0.020 Radius | | 0.030 Radius | | 0.045 Radius | |
|-----------|-----------|-------|-------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| | | | | TiCN EDP | TiCN List | TiCN EDP | TiCN List | TiCN EDP | TiCN List | TiCN EDP | TiCN List | TiCN EDP | TiCN List |
| 1/8 | 1/8 | 3/8 | 1 1/2 | 61627-010 | \$ 25.01 | 61627-015 | \$ 23.67 | 61627-020 | \$ 25.01 | 61627-030 | \$ 25.01 | - | - |
| 5/32 | 3/16 | 1/2 | 2 | 61629-010 | \$ 28.83 | 61629-015 | \$ 27.28 | 61629-020 | \$ 28.83 | 61629-030 | \$ 28.83 | - | - |
| 3/16 | 3/16 | 9/16 | 2 | 61631-010 | \$ 37.95 | 61631-015 | \$ 35.93 | 61631-020 | \$ 37.95 | 61631-030 | \$ 37.95 | - | - |
| 7/32 | 1/4 | 3/4 | 2 1/2 | 61633-010 | \$ 36.11 | 61633-015 | \$ 34.18 | 61633-020 | \$ 36.11 | 61633-030 | \$ 36.11 | - | - |
| 1/4 | 1/4 | 3/4 | 2 1/2 | 61635-010 | \$ 39.06 | 61635-015 | \$ 36.98 | 61635-020 | \$ 39.06 | 61635-030 | \$ 39.06 | 61635-045 | \$ 39.06 |
| 9/32 | 5/16 | 13/16 | 2 1/2 | 61638-010 | \$ 41.16 | 61638-015 | \$ 38.96 | 61638-020 | \$ 41.16 | 61638-030 | \$ 41.16 | 61638-045 | \$ 41.16 |
| 5/16 | 5/16 | 13/16 | 2 1/2 | 61640-010 | \$ 44.74 | 61640-015 | \$ 42.35 | 61640-020 | \$ 44.74 | 61640-030 | \$ 44.74 | 61640-045 | \$ 44.74 |
| 5/16 | 5/16 | 2 1/4 | 4 | 61642-010 | \$ 85.08 | 61642-015 | \$ 80.53 | 61642-020 | \$ 85.08 | 61642-030 | \$ 85.08 | 61642-045 | \$ 85.08 |
| 11/32 | 3/8 | 1 | 2 1/2 | 61644-010 | \$ 48.94 | 61644-015 | \$ 46.31 | 61644-020 | \$ 48.94 | 61644-030 | \$ 48.94 | 61644-045 | \$ 48.94 |
| 3/8 | 3/8 | 1 | 2 1/2 | 61646-010 | \$ 53.37 | 61646-015 | \$ 50.52 | 61646-020 | \$ 53.37 | 61646-030 | \$ 53.37 | 61646-045 | \$ 53.37 |
| 13/32 | 7/16 | 1 | 2 3/4 | 61649-010 | \$ 58.31 | 61649-015 | \$ 55.20 | 61649-020 | \$ 58.31 | 61649-030 | \$ 58.31 | 61649-045 | \$ 58.31 |
| 7/16 | 7/16 | 1 | 2 3/4 | 61651-010 | \$ 63.86 | 61651-015 | \$ 60.44 | 61651-020 | \$ 63.86 | 61651-030 | \$ 63.86 | 61651-045 | \$ 63.86 |
| 15/32 | 1/2 | 1 1/4 | 3 | 61653-010 | \$ 70.03 | 61653-015 | \$ 66.29 | 61653-020 | \$ 70.03 | 61653-030 | \$ 70.03 | 61653-045 | \$ 70.03 |
| 1/2 | 1/2 | 5/8 | 3 | 61654-010 | \$ 70.03 | 61654-015 | \$ 66.29 | 61654-020 | \$ 70.03 | 61654-030 | \$ 70.03 | 61654-045 | \$ 70.03 |
| 1/2 | 1/2 | 1 1/4 | 3 | 61655-010 | \$ 76.93 | 61655-015 | \$ 100.02 | 61655-020 | \$ 76.93 | 61655-030 | \$ 76.93 | 61655-045 | \$ 76.93 |
| 1/2 | 1/2 | 2 | 4 | 61656-010 | \$ 105.69 | 61656-015 | \$ 72.82 | 61656-020 | \$ 105.69 | 61656-030 | \$ 105.69 | 61656-045 | \$ 105.69 |
| 1/2 | 1/2 | 3 1/8 | 6 | 61657-010 | \$ 177.73 | 61657-015 | \$ 168.21 | 61657-020 | \$ 177.73 | 61657-030 | \$ 177.73 | 61657-045 | \$ 177.73 |
| 5/8 | 5/8 | 1 5/8 | 3 1/2 | 61659-010 | \$ 157.62 | 61659-015 | \$ 149.18 | 61659-020 | \$ 157.62 | 61659-030 | \$ 157.62 | 61659-045 | \$ 157.62 |
| 5/8 | 5/8 | 3 3/4 | 6 | 61661-010 | \$ 270.87 | 61661-015 | \$ 256.35 | 61661-020 | \$ 270.87 | 61661-030 | \$ 270.87 | 61661-045 | \$ 270.87 |
| 3/4 | 3/4 | 1 | 3 | 61662-010 | \$ 167.86 | 61666-015 | \$ 374.04 | 61662-020 | \$ 167.86 | 61662-030 | \$ 167.86 | 61662-045 | \$ 167.86 |
| 3/4 | 3/4 | 2 1/4 | 5 | 61664-010 | \$ 220.04 | 61662-015 | \$ 158.86 | 61664-020 | \$ 220.04 | 61664-030 | \$ 220.04 | 61664-045 | \$ 220.04 |
| 3/4 | 3/4 | 4 | 6 1/2 | 61666-010 | \$ 395.21 | 61664-015 | \$ 208.25 | 61666-020 | \$ 395.21 | 61666-030 | \$ 395.21 | 61666-045 | \$ 395.21 |
| 1 | 1 | 2 5/8 | 6 | 61669-010 | \$ 321.33 | 61669-015 | \$ 304.12 | 61669-020 | \$ 321.33 | 61669-030 | \$ 321.33 | 61669-045 | \$ 321.33 |
| 1 | 1 | 4 1/8 | 7 | 61671-010 | \$ 543.86 | 61671-015 | \$ 514.73 | 61671-020 | \$ 543.86 | 61671-030 | \$ 543.86 | 61671-045 | \$ 543.86 |

| Flute Dia | Shank Dia | LOC | OAL | 0.060 Radius | | 0.090 Radius | | 0.125 Radius | | 0.190 Radius | |
|-----------|-----------|-------|-------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| | | | | TiCN EDP | TiCN List | TiCN EDP | TiCN List | TiCN EDP | TiCN List | TiCN EDP | TiCN List |
| 1/8 | 1/8 | 3/8 | 1 1/2 | - | - | - | - | - | - | - | - |
| 5/32 | 3/16 | 1/2 | 2 | - | - | - | - | - | - | - | - |
| 3/16 | 3/16 | 9/16 | 2 | - | - | - | - | - | - | - | - |
| 7/32 | 1/4 | 3/4 | 2 1/2 | - | - | - | - | - | - | - | - |
| 1/4 | 1/4 | 3/4 | 2 1/2 | 61635-060 | \$ 39.06 | - | - | - | - | - | - |
| 9/32 | 5/16 | 13/16 | 2 1/2 | 61638-060 | \$ 41.16 | - | - | - | - | - | - |
| 5/16 | 5/16 | 13/16 | 2 1/2 | 61640-060 | \$ 44.74 | - | - | - | - | - | - |
| 5/16 | 5/16 | 2 1/4 | 4 | 61642-060 | \$ 85.08 | - | - | - | - | - | - |
| 11/32 | 3/8 | 1 | 2 1/2 | 61644-060 | \$ 48.94 | - | - | - | - | - | - |
| 3/8 | 3/8 | 1 | 2 1/2 | 61646-060 | \$ 53.37 | - | - | - | - | - | - |
| 13/32 | 7/16 | 1 | 2 3/4 | 61649-060 | \$ 58.31 | - | - | - | - | - | - |
| 7/16 | 7/16 | 1 | 2 3/4 | 61651-060 | \$ 63.86 | 61651-090 | \$ 65.49 | 61651-125 | \$ 65.49 | - | - |
| 15/32 | 1/2 | 1 1/4 | 3 | 61653-060 | \$ 70.03 | 61653-090 | \$ 71.66 | 61653-125 | \$ 71.66 | - | - |
| 1/2 | 1/2 | 5/8 | 3 | 61654-060 | \$ 70.03 | 61654-090 | \$ 71.66 | 61654-125 | \$ 71.66 | - | - |
| 1/2 | 1/2 | 1 1/4 | 3 | 61655-060 | \$ 76.93 | 61655-090 | \$ 78.57 | 61655-125 | \$ 78.57 | - | - |
| 1/2 | 1/2 | 2 | 4 | 61656-060 | \$ 105.69 | 61656-090 | \$ 107.31 | 61656-125 | \$ 107.31 | - | - |
| 1/2 | 1/2 | 3 1/8 | 6 | 61657-060 | \$ 177.73 | 61657-090 | \$ 179.36 | 61657-125 | \$ 179.36 | - | - |
| 5/8 | 5/8 | 1 5/8 | 3 1/2 | 61659-060 | \$ 157.62 | 61659-090 | \$ 159.25 | 61659-125 | \$ 159.25 | - | - |
| 5/8 | 5/8 | 3 3/4 | 6 | 61661-060 | \$ 270.87 | 61661-090 | \$ 272.50 | 61661-125 | \$ 272.50 | - | - |
| 3/4 | 3/4 | 1 | 3 | 61662-060 | \$ 167.86 | 61662-090 | \$ 169.49 | 61662-125 | \$ 169.49 | 61662-190 | \$ 171.23 |
| 3/4 | 3/4 | 2 1/4 | 5 | 61664-060 | \$ 220.04 | 61664-090 | \$ 221.66 | 61664-125 | \$ 221.66 | 61664-190 | \$ 223.42 |
| 3/4 | 3/4 | 4 | 6 1/2 | 61666-060 | \$ 395.21 | 61666-090 | \$ 396.84 | 61666-125 | \$ 396.84 | 61666-190 | \$ 398.59 |
| 1 | 1 | 2 5/8 | 6 | 61669-060 | \$ 321.33 | 61669-090 | \$ 322.96 | 61669-125 | \$ 322.96 | 61669-190 | \$ 324.70 |
| 1 | 1 | 4 1/8 | 7 | 61671-060 | \$ 543.86 | 61671-090 | \$ 545.49 | 61671-125 | \$ 545.49 | 61671-190 | \$ 547.24 |

| A345R TiCN Coated Recommended Starting Point Speeds and Feeds (Slotting 1XD) | | | | | | | | | | | | | | | | | | | | | | |
|--|------|---------------|--------|-------|--------|---------------|-------|--------|--------|---------------|-------|--------|-------|---------------|--------|-------|-----|-------------|-----|-----|-----|--|
| Material | SFPM | 1/4" Diameter | | | | 3/8" Diameter | | | | 1/2" Diameter | | | | 3/4" Diameter | | | | 1" Diameter | | | | |
| | | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | |
| Aluminum Alloys | | | | | | | | | | | | | | | | | | | | | | |
| 6061-T6 | 1400 | 21,392 | 0.0045 | 288.8 | 14,261 | 0.0068 | 288.8 | 10,696 | 0.0090 | 288.8 | 7,131 | 0.0113 | 240.7 | 5,348 | 0.0135 | 216.6 | | | | | | |
| 7075-T6 | 1200 | 18,336 | 0.0045 | 247.5 | 12,224 | 0.0068 | 247.5 | 9,168 | 0.0090 | 247.5 | 6,112 | 0.0113 | 206.3 | 4,584 | 0.0135 | 185.7 | | | | | | |

| A345R TiCN Coated Recommended Starting Point Speeds and Feeds (Profiling .25XD) | | | | | | | | | | | | | | | | | | | | | | |
|---|------|---------------|--------|-------|--------|---------------|-------|--------|--------|---------------|-------|--------|-------|---------------|--------|-------|-----|-------------|-----|-----|-----|--|
| Material | SFPM | 1/4" Diameter | | | | 3/8" Diameter | | | | 1/2" Diameter | | | | 3/4" Diameter | | | | 1" Diameter | | | | |
| | | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | RPM | CPT | IPM | IPM | |
| Aluminum Alloys | | | | | | | | | | | | | | | | | | | | | | |
| 6061-T6 | 1400 | 21,392 | 0.0075 | 481.3 | 14,261 | 0.0113 | 481.3 | 10,696 | 0.0150 | 481.3 | 7,131 | 0.0188 | 401.1 | 5,348 | 0.0225 | 361.0 | | | | | | |
| 7075-T6 | 1200 | 18,336 | 0.0075 | 412.6 | 12,224 | 0.0113 | 412.6 | 9,168 | 0.0150 | 412.6 | 6,112 | 0.0188 | 343.8 | 4,584 | 0.0225 | 309.4 | | | | | | |

Pricing Valid as of August 2009