## List 4572: Regular Length, Corner Radius, High Feed

### Standard Milling

| Hardness | – | | <40 HRC | | 40-45 HRC | | 45-55 HRC | | 55-60 HRC | | 60-65 HRC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Work Material | Cast Iron | | Mild Steels Carbon Steels | | Tool Steels Stainless Steel Hardened Steels Prehardened Steels | | Hardened Steels | | | | | | |
| Depth of Cut | CR / CR≤2 / 2<CR: aa 0.2CR / 0.02" ; ar 0.5D / 0.5D (CR=Corner Radius) | | | | | | CR / CR≤2 / 2<CR: aa 0.1CR / 0.008" ; ar 0.5D / 0.5D | | | | CR / CR≤2 / 2<CR: aa 0.2CR / 0.016" ; ar 0.5D / 0.5D | |
| Mill Dia. | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min |
| 2 | 16,000 | 207 | 12,500 | 150 | 11,000 | 132 | 7,950 | 85 | 4,750 | 34 | 4,270 | 24 |
| 3 | 10,500 | 246 | 8,500 | 177 | 7,450 | 154 | 5,300 | 102 | 3,200 | 39 | 2,850 | 28 |
| 4 | 7,950 | 260 | 6,350 | 189 | 5,550 | 165 | 4,000 | 108 | 2,400 | 41 | 2,150 | 30 |
| 6 | 5,300 | 276 | 4,250 | 201 | 3,700 | 175 | 2,650 | 112 | 1,600 | 45 | 1,400 | 32 |
| 8 | 4,000 | 276 | 3,200 | 201 | 2,800 | 175 | 2,000 | 112 | 1,200 | 45 | 1,050 | 32 |
| 10 | 3,200 | 276 | 2,550 | 201 | 2,250 | 175 | 1,600 | 112 | 955 | 45 | 860 | 32 |
| 12 | 2,650 | 276 | 2,100 | 201 | 1,850 | 175 | 1,350 | 112 | 795 | 45 | 715 | 32 |

1. Use a rigid and precise machine and holder.
2. These milling conditions are based on milling with circular interpolation at corners; for milling without circular interpolation (such as right angle cornering), reduce the speed to 50-70% and the cutting depth to 50-80% of the above conditions.
3. We recommend using air blow or MQL (mist).
4. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5. When entering into the part, reduce the feed to 30-60% of the above conditions, with a ramping angle < 2°.
6. These milling conditions are for a tool overhang less than 4xD; for longer overhangs, reduce the speed, feed and cutting depth to prevent chattering.

### High Feed Milling

| Hardness | – | | <40 HRC | | 40-45 HRC | | 45-55 HRC | | 55-60 HRC | | 60-65 HRC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Work Material | Cast Iron | | Mild Steels Carbon Steels | | Tool Steels Stainless Steel Hardened Steels Prehardened Steels | | Hardened Steels | | | | | | |
| Depth of Cut | aa=0.1CR ar=0.3D (CR=Corner Radius) | | | | | | CR / CR≤2 / 2<CR: aa 0.1CR / 0.008" ; ar 0.3D / 0.3D | | | | CR / CR≤2 / 2<CR: aa 0.05CR / 0.004" ; ar 0.3D / 0.3D | |
| Mill Dia. | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min | Speed RPM | Feed in/min |
| 2 | 25,000 | 324 | 25,000 | 294 | 24,000 | 281 | 24,000 | 254 | 16,000 | 112 | 14,400 | 81 |
| 3 | 21,000 | 492 | 21,000 | 472 | 16,000 | 331 | 16,000 | 309 | 10,500 | 130 | 9,450 | 93 |
| 4 | 16,000 | 512 | 16,000 | 472 | 12,000 | 354 | 12,000 | 323 | 7,950 | 140 | 7,150 | 100 |
| 6 | 10,600 | 551 | 10,600 | 500 | 7,950 | 376 | 7,950 | 339 | 5,300 | 150 | 5,300 | 150 |
| 8 | 7,950 | 551 | 7,950 | 500 | 5,950 | 376 | 5,950 | 339 | 4,000 | 150 | 4,000 | 150 |
| 10 | 6,350 | 551 | 6,350 | 500 | 4,750 | 376 | 4,750 | 339 | 3,200 | 150 | 3,200 | 150 |
| 12 | 5,300 | 551 | 5,300 | 500 | 4,000 | 376 | 4,000 | 339 | 2,650 | 150 | 2,650 | 150 |

1. Use a rigid and precise machine and holder.
2. These milling conditions are based on milling with circular interpolation at corners; for milling without circular interpolation (such as right angle cornering), reduce the speed to 50-70% and the cutting depth to 50-80% of the above conditions.
3. We recommend using air blow or MQL (mist).
4. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5. When entering into the part, reduce the feed to 30-60% of the above conditions, with a ramping angle < 2°.
6. These milling conditions are for a tool overhang less than 4xD; for longer overhangs, reduce the speed, feed and cutting depth to prevent chattering.

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