| RPM |
|---|
| (3.82 x SFM) / tool diameter |

| SFM |
|---|
| RPM x .262 x tool diameter |

| FEED RATE (in / min) |
|---|
| chipload x # flutes x RPM |

| Material Removal Rate ($in^3$ / min) |
|---|
| Feed Rate x ADoC x RDoC |

| Feed / Tooth (in) |
|---|
| Feed Rate / (RPM x # Flutes) |

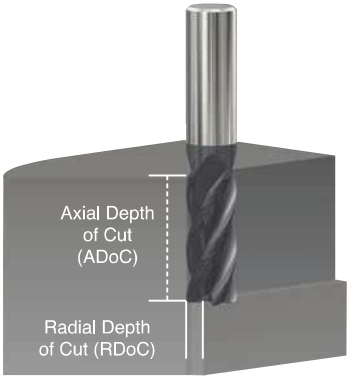
| Required Motor Horsepower |
|---|
| Feed rate x axial doc x radial doc x unit power x machine efficiency % |

**Radial Chip Thinning**

$$\frac{\text{Chipload x (dia/2)}}{\sqrt{(\text{dia x RDoC}) - \text{RDoC}^2}}$$

| Reduce SFM When End Mill is Projecting From the Tool Holder | |
|---|---|
| PROJECTION LENGTH < 2.5 X Ø | REDUCE SPEEDS & FEEDS 0% |
| 2.5 X Ø | 15% |
| 3 X Ø | 20% |
| 4 X Ø | 55% |
| 5 X Ø | 65% |
| 6 X Ø | 75% |

Ramp Angle = 1° - 3°
Reduce chipload by 20% of slotting rates.




Apply radial chip thinning formula when RDoC < 0.5 x tool dia.

See chart for SFM reductions for projection length > 2.5 x tool dia.