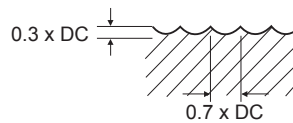


CUTTING DATA

| 313303, 313323, 314303, 314323, (2 Flute, Ball Nose) | | | | | | | | | | | | | | |
|--|--|---------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| VDI MATERIAL GROUP | HRC | Size (mm) | | | | | | | | | | | | |
| | | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 20.0 | | |
| P | 1-5 Non-alloy Steel | <25 | v_c (m/min) | 80 | 105 | 110 | 125 | 135 | 155 | 170 | 190 | 200 | 205 | 225 |
| | | | n | 12730 | 11140 | 8755 | 7960 | 7160 | 6165 | 5410 | 5040 | 4545 | 4080 | 3580 |
| | | | f_z | 0.026 | 0.025 | 0.035 | 0.045 | 0.06 | 0.089 | 0.122 | 0.15 | 0.165 | 0.18 | 0.201 |
| | | | f (mm/min) | 660 | 555 | 615 | 715 | 860 | 1100 | 1320 | 1510 | 1500 | 1470 | 1440 |
| | 6-9 Low alloy Steel | 25-35 | v_c (m/min) | 80 | 105 | 110 | 125 | 135 | 155 | 170 | 190 | 200 | 205 | 225 |
| | | | n | 12730 | 11140 | 8755 | 7960 | 7160 | 6165 | 5410 | 5040 | 4545 | 4080 | 3580 |
| | | | f_z | 0.026 | 0.025 | 0.035 | 0.045 | 0.06 | 0.089 | 0.122 | 0.15 | 0.165 | 0.18 | 0.201 |
| | | | f (mm/min) | 660 | 555 | 615 | 715 | 860 | 1100 | 1320 | 1510 | 1500 | 1470 | 1440 |
| K | 15-20 Cast Iron | v_c (m/min) | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 60 | 65 | 65 | |
| | | n | 10345 | 6895 | 5170 | 4140 | 3450 | 2585 | 2070 | 1725 | 1365 | 1295 | 1035 | |
| | | f_z | 0.01 | 0.016 | 0.028 | 0.04 | 0.053 | 0.092 | 0.112 | 0.131 | 0.164 | 0.177 | 0.2 | |
| | | f (mm/min) | 205 | 220 | 290 | 330 | 365 | 475 | 460 | 450 | 445 | 460 | 415 | |
| N | 21-24 Aluminium/ Aluminium Alloys | v_c (m/min) | 195 | 195 | 195 | 190 | 195 | 200 | 195 | 195 | 190 | 195 | 185 | |
| | | n | 31035 | 20690 | 15520 | 12095 | 10345 | 7960 | 6205 | 5170 | 4320 | 3880 | 2945 | |
| | | f_z | 0.006 | 0.01 | 0.013 | 0.019 | 0.023 | 0.034 | 0.044 | 0.061 | 0.073 | 0.07 | 0.092 | |
| | | f (mm/min) | 370 | 415 | 400 | 460 | 475 | 540 | 545 | 630 | 630 | 540 | 540 | |



► The feed rate for long, long reach and uncoated tools should be reduced by up to 50%

Recommended cutting depths are **maximum** depths, and **speeds and feeds are a starting point** based on these depths.
 All recommendations are based on ideal machining conditions. Adjustments may need to be made according to your set-up.
For long series and long necked tools it may be necessary to reduce feed rate by up to 50%.

v_c - cutting speed (m/min)
 n - RPM (rev/min)
 f_z - feed per tooth (mm)
 f - feed rate (mm/min)
 a_p - axial depth of cut
 a_e - radial depth of cut