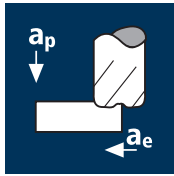




## Application





## Material

Steel  
500 - 850 N/mm<sup>2</sup>

| $d_1$<br>[mm] | $z$ | $v_c$<br>[m/min] | $f_z$<br>[mm] | $a_p$<br>[mm] | $a_e$<br>[mm] | $n$<br>[min <sup>-1</sup> ] | $v_f$<br>[mm/min] | $Q$<br>[cm <sup>3</sup> /min] |
|---------------|-----|------------------|---------------|---------------|---------------|-----------------------------|-------------------|-------------------------------|
| 2.00          | 3   | 130              | 0.100         | 0.120         | 1.500         | 20690                       | 6207              | 1.1                           |
| 3.00          | 3   | 130              | 0.150         | 0.180         | 2.250         | 13795                       | 6208              | 2.5                           |
| 4.00          | 4   | 170              | 0.200         | 0.220         | 3.000         | 13530                       | 10824             | 7.1                           |
| 5.00          | 4   | 170              | 0.250         | 0.275         | 3.750         | 10825                       | 10825             | 11.2                          |
| 6.00          | 4   | 180              | 0.300         | 0.330         | 4.500         | 9550                        | 11460             | 17.0                          |
| 8.00          | 4   | 180              | 0.400         | 0.440         | 6.000         | 7160                        | 11456             | 30.2                          |
| 10.00         | 4   | 180              | 0.500         | 0.550         | 7.500         | 5730                        | 11460             | 47.3                          |
| 12.00         | 4   | 180              | 0.540         | 0.660         | 9.000         | 4775                        | 10314             | 61.3                          |
| 16.00         | 4   | 180              | 0.560         | 0.880         | 12.000        | 3580                        | 8019              | 84.7                          |

Steel  
850 - 1100 N/mm<sup>2</sup>



|       |   |     |       |       |        |       |       |      |
|-------|---|-----|-------|-------|--------|-------|-------|------|
| 2.00  | 3 | 130 | 0.100 | 0.120 | 1.500  | 20690 | 6207  | 1.1  |
| 3.00  | 3 | 130 | 0.150 | 0.180 | 2.250  | 13795 | 6208  | 2.5  |
| 4.00  | 4 | 150 | 0.200 | 0.220 | 3.000  | 11935 | 9548  | 6.3  |
| 5.00  | 4 | 150 | 0.250 | 0.275 | 3.750  | 9550  | 9550  | 9.8  |
| 6.00  | 4 | 160 | 0.300 | 0.330 | 4.500  | 8490  | 10188 | 15.1 |
| 8.00  | 4 | 160 | 0.400 | 0.440 | 6.000  | 6365  | 10184 | 26.9 |
| 10.00 | 4 | 160 | 0.500 | 0.550 | 7.500  | 5095  | 10190 | 42.0 |
| 12.00 | 4 | 160 | 0.540 | 0.660 | 9.000  | 4245  | 9169  | 54.5 |
| 16.00 | 4 | 160 | 0.560 | 0.880 | 12.000 | 3185  | 7134  | 75.3 |

Steel  
1100 - 1300 N/mm<sup>2</sup>

|       |   |     |       |       |        |       |      |      |
|-------|---|-----|-------|-------|--------|-------|------|------|
| 2.00  | 3 | 120 | 0.100 | 0.120 | 1.500  | 19100 | 5730 | 1.0  |
| 3.00  | 3 | 120 | 0.150 | 0.180 | 2.250  | 12730 | 5729 | 2.3  |
| 4.00  | 4 | 140 | 0.200 | 0.220 | 3.000  | 11140 | 8912 | 5.9  |
| 5.00  | 4 | 140 | 0.250 | 0.275 | 3.750  | 8915  | 8915 | 9.2  |
| 6.00  | 4 | 150 | 0.300 | 0.330 | 4.500  | 7960  | 9552 | 14.2 |
| 8.00  | 4 | 150 | 0.400 | 0.440 | 6.000  | 5970  | 9552 | 25.2 |
| 10.00 | 4 | 150 | 0.500 | 0.550 | 7.500  | 4775  | 9550 | 39.4 |
| 12.00 | 4 | 150 | 0.540 | 0.660 | 9.000  | 3980  | 8597 | 51.1 |
| 16.00 | 4 | 150 | 0.560 | 0.880 | 12.000 | 2985  | 6686 | 70.6 |

Hardened tool steel  
42 - 48 HRC

|       |   |     |       |       |        |       |      |      |
|-------|---|-----|-------|-------|--------|-------|------|------|
| 2.00  | 3 | 120 | 0.085 | 0.120 | 1.500  | 19100 | 4871 | 0.9  |
| 3.00  | 3 | 120 | 0.128 | 0.180 | 2.250  | 12730 | 4869 | 2.0  |
| 4.00  | 4 | 140 | 0.150 | 0.220 | 3.000  | 11140 | 6684 | 4.4  |
| 5.00  | 4 | 140 | 0.188 | 0.275 | 3.750  | 8915  | 6686 | 6.9  |
| 6.00  | 4 | 150 | 0.225 | 0.330 | 4.500  | 7960  | 7164 | 10.6 |
| 8.00  | 4 | 150 | 0.300 | 0.440 | 6.000  | 5970  | 7164 | 18.9 |
| 10.00 | 4 | 150 | 0.325 | 0.550 | 7.500  | 4775  | 6208 | 25.6 |
| 12.00 | 4 | 150 | 0.330 | 0.660 | 9.000  | 3980  | 5254 | 31.2 |
| 16.00 | 4 | 150 | 0.400 | 0.880 | 12.000 | 2985  | 4776 | 50.4 |

Hardened tool steel  
48 - 52 HRC

|       |   |     |       |       |        |       |      |      |
|-------|---|-----|-------|-------|--------|-------|------|------|
| 2.00  | 3 | 120 | 0.085 | 0.140 | 1.500  | 19100 | 4871 | 1.0  |
| 3.00  | 3 | 120 | 0.128 | 0.210 | 2.250  | 12730 | 4869 | 2.3  |
| 4.00  | 4 | 120 | 0.150 | 0.240 | 3.000  | 9550  | 5730 | 4.1  |
| 5.00  | 4 | 120 | 0.188 | 0.300 | 3.750  | 7640  | 5730 | 6.4  |
| 6.00  | 4 | 110 | 0.225 | 0.360 | 4.500  | 5835  | 5252 | 8.5  |
| 8.00  | 4 | 110 | 0.300 | 0.480 | 6.000  | 4375  | 5250 | 15.1 |
| 10.00 | 4 | 100 | 0.325 | 0.600 | 7.500  | 3185  | 4141 | 18.6 |
| 12.00 | 4 | 100 | 0.330 | 0.720 | 9.000  | 2655  | 3505 | 22.7 |
| 16.00 | 4 | 100 | 0.400 | 0.800 | 12.000 | 1990  | 3184 | 30.6 |

Hardened tool steel  
52 - 56 HRC

|       |   |     |       |       |        |       |      |      |
|-------|---|-----|-------|-------|--------|-------|------|------|
| 2.00  | 3 | 120 | 0.075 | 0.140 | 1.500  | 19100 | 4298 | 0.9  |
| 3.00  | 3 | 120 | 0.113 | 0.210 | 2.250  | 12730 | 4316 | 2.0  |
| 4.00  | 4 | 120 | 0.130 | 0.240 | 3.000  | 9550  | 4966 | 3.6  |
| 5.00  | 4 | 120 | 0.163 | 0.300 | 3.750  | 7640  | 4981 | 5.6  |
| 6.00  | 4 | 110 | 0.195 | 0.360 | 4.500  | 5835  | 4551 | 7.4  |
| 8.00  | 4 | 110 | 0.260 | 0.480 | 6.000  | 4375  | 4550 | 13.1 |
| 10.00 | 4 | 100 | 0.275 | 0.600 | 7.500  | 3185  | 3504 | 15.8 |
| 12.00 | 4 | 100 | 0.300 | 0.720 | 9.000  | 2655  | 3186 | 20.6 |
| 16.00 | 4 | 100 | 0.320 | 0.800 | 12.000 | 1990  | 2547 | 24.5 |