



**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDPARAMETER**

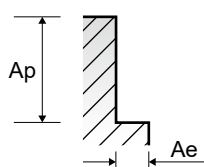
**E2595 SERIES 4FLUTE - SIDE CUTTING**

Vc = m/min.  
fz = mm/tooth  
RPM = rev./min.  
FEED = mm/min.

| ISO  | VDI 3323 | Material Description   | Ae   | Ap    | Parameter | Diameter (Ø) |       |       |       |       |       |       |
|------|----------|------------------------|------|-------|-----------|--------------|-------|-------|-------|-------|-------|-------|
|      |          |                        |      |       |           | 2.0          | 3.0   | 4.0   | 5.0   | 6.0   | 8.0   | 10.0  |
| P    | 1        | Non-alloy steel        | 0.1D | 1.5D  | Vc        | 35           | 35    | 35    | 35    | 35    | 35    | 35    |
|      |          |                        |      |       | fz        | 0.004        | 0.008 | 0.013 | 0.02  | 0.025 | 0.036 | 0.045 |
|      |          |                        |      |       | RPM       | 5570         | 3714  | 2785  | 2228  | 1857  | 1393  | 1114  |
|      | 2        |                        | 0.1D | 1.5D  | Vc        | 30           | 30    | 30    | 30    | 30    | 30    | 30    |
|      |          |                        |      |       | fz        | 0.003        | 0.006 | 0.011 | 0.017 | 0.023 | 0.036 | 0.044 |
|      |          |                        |      |       | RPM       | 4775         | 3183  | 2387  | 1910  | 1592  | 1194  | 955   |
|      | 3-4      |                        | 0.1D | 1.5D  | Vc        | 25           | 25    | 25    | 25    | 25    | 25    | 25    |
|      |          |                        |      |       | fz        | 0.003        | 0.006 | 0.009 | 0.014 | 0.019 | 0.029 | 0.038 |
|      |          |                        |      |       | RPM       | 3979         | 2653  | 1989  | 1592  | 1326  | 995   | 796   |
|      | 5        |                        | 0.1D | 1.5D  | Vc        | 15           | 15    | 15    | 15    | 15    | 15    | 15    |
|      |          |                        |      |       | fz        | 0.002        | 0.005 | 0.01  | 0.014 | 0.019 | 0.029 | 0.036 |
| RPM  |          | 2387                   |      |       | 1592      | 1194         | 955   | 796   | 597   | 477   |       |       |
| 6    | 0.1D     | 1.5D                   | Vc   | 30    | 30        | 30           | 30    | 30    | 30    | 30    |       |       |
|      |          |                        | fz   | 0.003 | 0.006     | 0.011        | 0.017 | 0.023 | 0.036 | 0.044 |       |       |
|      |          |                        | RPM  | 4775  | 3183      | 2387         | 1910  | 1592  | 1194  | 955   |       |       |
| 7    | 0.1D     | 1.5D                   | Vc   | 25    | 25        | 25           | 25    | 25    | 25    | 25    |       |       |
|      |          |                        | fz   | 0.003 | 0.006     | 0.009        | 0.014 | 0.019 | 0.029 | 0.038 |       |       |
|      |          |                        | RPM  | 3979  | 2653      | 1989         | 1592  | 1326  | 995   | 796   |       |       |
| 8-9  | 0.1D     | 1.5D                   | Vc   | 15    | 15        | 15           | 15    | 15    | 15    | 15    |       |       |
|      |          |                        | fz   | 0.002 | 0.005     | 0.01         | 0.014 | 0.019 | 0.029 | 0.036 |       |       |
|      |          |                        | RPM  | 2387  | 1592      | 1194         | 955   | 796   | 597   | 477   |       |       |
| 10   | 0.1D     | 1.5D                   | Vc   | 30    | 30        | 30           | 30    | 30    | 30    | 30    |       |       |
|      |          |                        | fz   | 0.003 | 0.006     | 0.011        | 0.017 | 0.023 | 0.036 | 0.044 |       |       |
|      |          |                        | RPM  | 4775  | 3183      | 2387         | 1910  | 1592  | 1194  | 955   |       |       |
| 11.1 | 0.1D     | 1.5D                   | Vc   | 15    | 15        | 15           | 15    | 15    | 15    | 15    |       |       |
|      |          |                        | fz   | 0.002 | 0.005     | 0.01         | 0.014 | 0.019 | 0.029 | 0.036 |       |       |
|      |          |                        | RPM  | 2387  | 1592      | 1194         | 955   | 796   | 597   | 477   |       |       |
| N    | 21-22    | Aluminum-wrought alloy | 0.1D | 1.5D  | Vc        | 75           | 105   | 100   | 100   | 105   | 100   | 95    |
|      |          |                        |      |       | fz        | 0.005        | 0.009 | 0.014 | 0.019 | 0.021 | 0.036 | 0.048 |
|      |          |                        |      |       | RPM       | 11937        | 11141 | 7958  | 6366  | 5570  | 3979  | 3024  |
| N    | 23-24    | Aluminum-cast, alloyed | 0.1D | 1.5D  | Vc        | 49           | 68    | 65    | 65    | 68    | 65    | 62    |
|      |          |                        |      |       | fz        | 0.005        | 0.009 | 0.014 | 0.019 | 0.021 | 0.036 | 0.048 |
|      |          |                        |      |       | RPM       | 7799         | 7215  | 5173  | 4138  | 3608  | 2586  | 1974  |

※ The FEED, in long & extra long types, should be reduced by around 50%

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Vc = m/min.  
fz = mm/tooth  
RPM = rev./min.  
FEED = mm/min.

| VDI 3323 | Parameter | Diameter (Ø) |       |       |       |       |       |       |       |       |       |       |       |
|----------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          |           | 12.0         | 14.0  | 16.0  | 18.0  | 20.0  | 22.0  | 25.0  | 28.0  | 30.0  | 32.0  | 36.0  | 40.0  |
| 1        | Vc        | 35           | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    | 35    |
|          | fz        | 0.061        | 0.069 | 0.079 | 0.079 | 0.089 | 0.1   | 0.1   | 0.067 | 0.067 | 0.067 | 0.065 | 0.071 |
|          | RPM       | 928          | 796   | 696   | 619   | 557   | 506   | 446   | 398   | 371   | 348   | 309   | 279   |
|          | FEED      | 227          | 220   | 220   | 196   | 198   | 203   | 178   | 160   | 149   | 140   | 121   | 119   |
| 2        | Vc        | 30           | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    |
|          | fz        | 0.056        | 0.057 | 0.071 | 0.08  | 0.089 | 0.089 | 0.091 | 0.06  | 0.059 | 0.06  | 0.06  | 0.068 |
|          | RPM       | 796          | 682   | 597   | 531   | 477   | 434   | 382   | 341   | 318   | 298   | 265   | 239   |
|          | FEED      | 178          | 156   | 170   | 170   | 170   | 155   | 139   | 123   | 113   | 107   | 95    | 97    |
| 3-4      | Vc        | 25           | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    |
|          | fz        | 0.048        | 0.054 | 0.058 | 0.066 | 0.066 | 0.075 | 0.073 | 0.048 | 0.05  | 0.049 | 0.05  | 0.056 |
|          | RPM       | 663          | 568   | 497   | 442   | 398   | 362   | 318   | 284   | 265   | 199   | 221   | 199   |
|          | FEED      | 127          | 123   | 115   | 117   | 105   | 109   | 93    | 82    | 80    | 58    | 66    | 67    |
| 5        | Vc        | 15           | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    |
|          | fz        | 0.047        | 0.054 | 0.058 | 0.065 | 0.074 | 0.074 | 0.069 | 0.047 | 0.047 | 0.054 | 0.049 | 0.053 |
|          | RPM       | 398          | 341   | 298   | 265   | 239   | 217   | 191   | 171   | 159   | 149   | 133   | 119   |
|          | FEED      | 75           | 74    | 69    | 69    | 71    | 64    | 53    | 48    | 45    | 48    | 39    | 38    |
| 6        | Vc        | 30           | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    |
|          | fz        | 0.056        | 0.057 | 0.071 | 0.08  | 0.089 | 0.089 | 0.091 | 0.06  | 0.059 | 0.06  | 0.06  | 0.068 |
|          | RPM       | 796          | 682   | 597   | 531   | 477   | 434   | 382   | 341   | 318   | 298   | 265   | 239   |
|          | FEED      | 178          | 156   | 170   | 170   | 170   | 155   | 139   | 123   | 113   | 107   | 95    | 97    |
| 7        | Vc        | 25           | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    | 25    |
|          | fz        | 0.048        | 0.054 | 0.058 | 0.066 | 0.066 | 0.075 | 0.073 | 0.048 | 0.05  | 0.049 | 0.05  | 0.056 |
|          | RPM       | 663          | 568   | 497   | 442   | 398   | 362   | 318   | 284   | 265   | 199   | 221   | 199   |
|          | FEED      | 127          | 123   | 115   | 117   | 105   | 109   | 93    | 82    | 80    | 58    | 66    | 67    |
| 8-9      | Vc        | 15           | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    |
|          | fz        | 0.047        | 0.054 | 0.058 | 0.065 | 0.074 | 0.074 | 0.069 | 0.047 | 0.047 | 0.054 | 0.049 | 0.053 |
|          | RPM       | 398          | 341   | 298   | 265   | 239   | 217   | 191   | 171   | 159   | 149   | 133   | 119   |
|          | FEED      | 75           | 74    | 69    | 69    | 71    | 64    | 53    | 48    | 45    | 48    | 39    | 38    |
| 10       | Vc        | 30           | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    | 30    |
|          | fz        | 0.056        | 0.057 | 0.071 | 0.08  | 0.089 | 0.089 | 0.091 | 0.06  | 0.059 | 0.06  | 0.06  | 0.068 |
|          | RPM       | 796          | 682   | 597   | 531   | 477   | 434   | 382   | 341   | 318   | 298   | 265   | 239   |
|          | FEED      | 178          | 156   | 170   | 170   | 170   | 155   | 139   | 123   | 113   | 107   | 95    | 97    |
| 11.1     | Vc        | 15           | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    |
|          | fz        | 0.047        | 0.054 | 0.058 | 0.065 | 0.074 | 0.074 | 0.069 | 0.047 | 0.047 | 0.054 | 0.049 | 0.053 |
|          | RPM       | 398          | 341   | 298   | 265   | 239   | 217   | 191   | 171   | 159   | 149   | 133   | 119   |
|          | FEED      | 75           | 74    | 69    | 69    | 71    | 64    | 53    | 48    | 45    | 48    | 39    | 38    |
| 21-22    | Vc        | 95           | 95    | 100   | 100   | 100   | 95    | 95    | 95    | 105   | 100   | 100   | 100   |
|          | fz        | 0.057        | 0.06  | 0.066 | 0.074 | 0.075 | 0.08  | 0.088 | 0.061 | 0.06  | 0.06  | 0.061 | 0.06  |
|          | RPM       | 2520         | 2160  | 1989  | 1768  | 1592  | 1375  | 1210  | 1080  | 1114  | 995   | 884   | 796   |
|          | FEED      | 575          | 518   | 525   | 523   | 477   | 440   | 426   | 395   | 408   | 358   | 324   | 286   |
| 23-24    | Vc        | 62           | 62    | 65    | 65    | 65    | 62    | 62    | 62    | 68    | 65    | 65    | 65    |
|          | fz        | 0.057        | 0.06  | 0.066 | 0.074 | 0.075 | 0.08  | 0.088 | 0.061 | 0.06  | 0.06  | 0.061 | 0.06  |
|          | RPM       | 1645         | 1410  | 1293  | 1149  | 1035  | 897   | 789   | 705   | 722   | 647   | 575   | 517   |
|          | FEED      | 375          | 338   | 341   | 340   | 310   | 287   | 278   | 258   | 264   | 233   | 210   | 186   |

