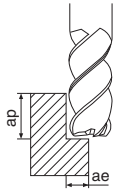


# Recommended Cutting Conditions

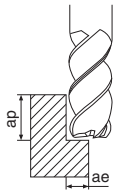
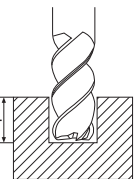
## 2FESL (Shouldering)

| Application  | Workpiece Material                      | Outside Dia. Dc (mm)                    | ø1                    | ø2                | ø4                                      | ø6     | ø8    | ø12   | ø16   |       |       |       |
|--|---|---|-----------------------|-------------------|---|--------|-------|-------|-------|-------|-------|-------|
|  <p>Shouldering</p> <table border="1"> <tr> <th>Depth of Cut (apxae) (mm)</th> </tr> <tr> <td>2.5Dcx0.05Dc (Dc&lt;ø3)</td> </tr> <tr> <td>2.5Dcx0.1Dc (Dc ≥ ø3)</td> </tr> </table> | Depth of Cut (apxae) (mm)               | 2.5Dcx0.05Dc (Dc<ø3)                    | 2.5Dcx0.1Dc (Dc ≥ ø3) | Carbon Steel SxxC | Spindle Revolution (min <sup>-1</sup> ) | 19,000 | 9,500 | 4,800 | 3,200 | 2,400 | 1,600 | 1,200 |
|  | Depth of Cut (apxae) (mm)               |   |                       |                   |   |        |       |       |       |       |       |       |
|  | 2.5Dcx0.05Dc (Dc<ø3)                    |   |                       |                   |   |        |       |       |       |       |       |       |
|  | 2.5Dcx0.1Dc (Dc ≥ ø3)                   |   |                       |                   |   |        |       |       |       |       |       |       |
|  | Feed Rate (mm/min)                      | 210                                     | 210                   | 210               | 210                                     | 210    | 210   | 210   | 210   |       |       |       |
|  | Alloy Steel SCM, SNCM                   | Spindle Revolution (min <sup>-1</sup> ) | 14,300                | 7,200             | 3,600                                   | 2,400  | 2,000 | 1,300 | 1,000 |       |       |       |
|  |   | Feed Rate (mm/min)                      | 155                   | 160               | 160                                     | 160    | 170   | 170   | 150   |       |       |       |
|  | Pre-hardened steel NAK, 30~45HRC        | Spindle Revolution (min <sup>-1</sup> ) | 11,200                | 5,600             | 2,800                                   | 1,900  | 1,600 | 1,000 | 800   |       |       |       |
| Feed Rate (mm/min)   |   | 85                                      | 85                    | 90                | 90                                      | 100    | 95    | 80    |       |       |       |       |
| Stainless steel SUS  | Spindle Revolution (min <sup>-1</sup> ) | 14,300                                  | 7,200                 | 3,600             | 2,400                                   | 2,000  | 1,300 | 1,000 |       |       |       |       |
|  | Feed Rate (mm/min)                      | 95                                      | 95                    | 95                | 95                                      | 105    | 105   | 80    |       |       |       |       |

\* Cutting with coolant is recommended for stainless steel.

**Slotting is not recommended.**

## 2FEKS, 2FEKM

| Application  | Workpiece Material        | Application                             | Outside Dia. Dc (mm)                    | ø3    | ø4                | ø6          | ø8                                      | ø10   | ø12   | ø16   |       |       |       |       |
|--|---------------------------|---|---|-------|-------------------|-------------|---|-------|-------|-------|-------|-------|-------|-------|
|  <p>Shouldering</p> <table border="1"> <tr> <th>Depth of Cut (apxae) (mm)</th> </tr> <tr> <td>1.2Dcx0.1Dc</td> </tr> </table><br> <p>Slotting</p> <table border="1"> <tr> <th>Depth of Cut (ap) (mm)</th> </tr> <tr> <td>0.5Dc</td> </tr> </table> | Depth of Cut (apxae) (mm) | 1.2Dcx0.1Dc                             | Depth of Cut (ap) (mm)                  | 0.5Dc | Carbon Steel SxxC | Shouldering | Spindle Revolution (min <sup>-1</sup> ) | 9,300 | 7,000 | 4,600 | 3,500 | 3,000 | 2,700 | 2,200 |
|  | Depth of Cut (apxae) (mm) |   |   |       |                   |             |   |       |       |       |       |       |       |       |
|  | 1.2Dcx0.1Dc               |   |   |       |                   |             |   |       |       |       |       |       |       |       |
|  | Depth of Cut (ap) (mm)    |   |   |       |                   |             |   |       |       |       |       |       |       |       |
|  | 0.5Dc                     |   |   |       |                   |             |   |       |       |       |       |       |       |       |
|  | Feed Rate (mm/min)        | 450                                     | 450                                     | 470   | 470               | 470         | 470                                     | 470   | 440   |       |       |       |       |       |
|  | Slotting                  | Spindle Revolution (min <sup>-1</sup> ) | 7,500                                   | 6,000 | 4,400             | 3,300       | 2,700                                   | 2,300 | 1,900 |       |       |       |       |       |
|  |                           | Feed Rate (mm/min)                      | 240                                     | 260   | 340               | 340         | 340                                     | 340   | 320   |       |       |       |       |       |
|  | Alloy Steel SCM, SNCM     | Shouldering                             | Spindle Revolution (min <sup>-1</sup> ) | 8,800 | 6,600             | 4,400       | 3,300                                   | 2,600 | 2,200 | 1,800 |       |       |       |       |
|  |                           |   | Feed Rate (mm/min)                      | 370   | 370               | 380         | 380                                     | 380   | 380   | 360   |       |       |       |       |
|  |                           | Slotting                                | Spindle Revolution (min <sup>-1</sup> ) | 7,200 | 5,400             | 3,600       | 2,700                                   | 2,200 | 1,800 | 1,500 |       |       |       |       |
|  |                           |   | Feed Rate (mm/min)                      | 270   | 270               | 270         | 270                                     | 270   | 270   | 270   |       |       |       |       |
| Pre-hardened steel NAK, 30~45HRC   | Shouldering               | Spindle Revolution (min <sup>-1</sup> ) | 6,400                                   | 4,800 | 3,200             | 2,400       | 1,900                                   | 1,600 | 1,200 |       |       |       |       |       |
|  |                           | Feed Rate (mm/min)                      | 130                                     | 130   | 130               | 140         | 140                                     | 140   | 140   |       |       |       |       |       |
|  | Slotting                  | Spindle Revolution (min <sup>-1</sup> ) | 5,300                                   | 4,000 | 2,600             | 2,000       | 1,600                                   | 1,300 | 1,000 |       |       |       |       |       |
|  |                           | Feed Rate (mm/min)                      | 120                                     | 120   | 120               | 120         | 120                                     | 120   | 120   |       |       |       |       |       |
| Stainless steel SUS  | Shouldering               | Spindle Revolution (min <sup>-1</sup> ) | 8,000                                   | 6,000 | 4,000             | 3,000       | 2,400                                   | 2,000 | 1,500 |       |       |       |       |       |
|  |                           | Feed Rate (mm/min)                      | 140                                     | 140   | 140               | 140         | 140                                     | 140   | 140   |       |       |       |       |       |
|  | Slotting                  | Spindle Revolution (min <sup>-1</sup> ) | 5,300                                   | 4,000 | 2,600             | 2,000       | 1,600                                   | 1,300 | 1,000 |       |       |       |       |       |
|  |                           | Feed Rate (mm/min)                      | 80                                      | 90    | 100               | 100         | 100                                     | 90    | 90    |       |       |       |       |       |

\* Cutting with coolant is recommended for stainless steel.

L

Solid End Mill