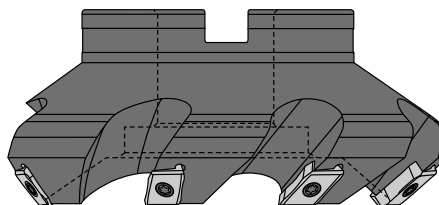
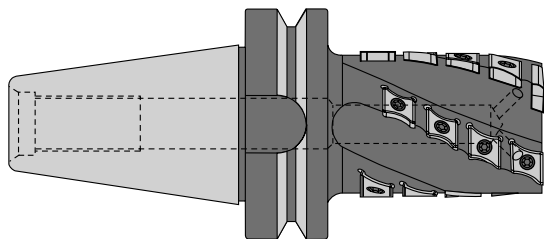


# SUGGESTED CUTTING FEEDS & SPEEDS



| MATERIALS        |                          | CAST IRON                     |                              | STEELS  |   |   | STAINLESS STEELS            |                                  | NICKEL BASED ALLOYS               | TITANIUM                   | ALUMINUM                        |
|------------------|--------------------------|-------------------------------|------------------------------|---|---|---|-----------------------------|----------------------------------|-----------------------------------|----------------------------|---------------------------------|
|                  |                          | GREY                          | NODULAR                      | LOW CARBON<br>up to: 240 BHN<br>80 Kg / mm <sup>2</sup> | HIGH CARBON<br>MEDIUM TENSILE<br>240-300 BHN<br>80-105 Kg / mm <sup>2</sup> | HIGH ALLOY<br>TOOL STEEL<br>300-400 BHN<br>105-140 Kg / mm <sup>2</sup> | 300 SERIES<br>304, 316      | 400 SERIES<br>15-5 PH<br>17-4 PH | INCONEL<br>WASPALLOY<br>HASTALLOY | 6AL 4 V                    | 6061 T6<br>7075 T6              |
|                  |                          | 500-1000 SFM<br>150-300 M/min | 400-800 SFM<br>120-240 M/min | 500-1000 SFM<br>150-300 M/min                           | 400-800 SFM<br>120-240 M/min  | 300-600 SFM<br>90-180 M/min   | 300-700 SFM<br>90-210 M/min | 400-800 SFM<br>120-240 M/min     | 100-200 SFM<br>30-60 M/min        | 200-300 SFM<br>60-90 M/min | 1500-5000 SFM<br>450-1515 M/min |
| SPEEDS           |                          | SPEEDS                        |                              | SPEEDS  |   | SPEEDS  |                             | SPEEDS                           |                                   | SPEEDS                     |                                 |
| INSERT GRADES    |                          | INSERT GRADES                 |                              | INSERT GRADES   |   | INSERT GRADES   |                             | INSERT GRADES                    |                                   | INSERT GRADES              |                                 |
| Tool Ø<br>Inches | Feeds & Speeds<br>Inches | K-15                          | K-15                         | P-25  | P-40  | P-40  | P-25                        | K-15                             | K-30                              | K-15                       | K-15                            |
| Tool Ø<br>mm     | Feeds & Speeds<br>Metric | K-30                          | K-30                         | P-40  | P-25  | P-25  | P-40                        | K-30                             | K-30                              | K-30                       | K-15                            |
| 1                | RPM                      | 2,290                         | 1,910                        | 2,290   | 1,910   | 1,720   | 1,525                       | 1,910                            | 575                               | 880                        | 7,640                           |
|                  | Feed inches              | 9 → 18                        | 7 → 15                       | 9 → 18  | 7 → 15  | 7 → 14  | 6 → 12                      | 7 → 15                           | 3 → 6                             | 4 → 10                     | 60 → 120                        |
|                  | Feed mm                  | 230 → 460                     | 180 → 380                    | 230 → 460   | 180 → 380   | 180 → 360   | 150 → 305                   | 180 → 380                        | 75 → 150                          | 100 → 250                  | 1,525 → 3,050                   |
| 1-1/4            | RPM                      | 1,830                         | 1,528                        | 1,830   | 1,528   | 1,375   | 1,220                       | 1,528                            | 460                               | 705                        | 6,115                           |
|                  | Feed inches              | 10 → 20                       | 6 → 13                       | 10 → 20   | 6 → 13  | 5 → 12  | 7 → 14                      | 6 → 13                           | 3 → 6                             | 4 → 10                     | 60 → 120                        |
|                  | Feed mm                  | 250 → 500                     | 150 → 330                    | 250 → 500   | 150 → 330   | 130 → 305   | 180 → 360                   | 150 → 330                        | 75 → 150                          | 100 → 250                  | 1,525 → 3,050                   |
| 1-1/2            | RPM                      | 1,525                         | 1,275                        | 1,525   | 1,275   | 1,145   | 1,015                       | 1,275                            | 385                               | 585                        | 5,095                           |
|                  | Feed inches              | 12 → 22                       | 10 → 20                      | 12 → 22   | 10 → 20   | 8 → 16  | 8 → 16                      | 10 → 20                          | 3 → 7                             | 4 → 11                     | 60 → 120                        |
|                  | Feed mm                  | 300 → 560                     | 250 → 500                    | 305 → 560   | 250 → 500   | 200 → 410   | 200 → 410                   | 250 → 500                        | 75 → 180                          | 100 → 275                  | 1,525 → 3,050                   |
| 2                | RPM                      | 1,145                         | 955                          | 1,145   | 955   | 860   | 765                         | 955                              | 290                               | 440                        | 3,820                           |
|                  | Feed inches              | 10 → 22                       | 8 → 18                       | 10 → 22   | 8 → 18  | 6 → 14  | 7 → 14                      | 8 → 18                           | 4 → 8                             | 5 → 12                     | 60 → 200                        |
|                  | Feed mm                  | 250 → 560                     | 200 → 460                    | 250 → 560   | 200 → 460   | 150 → 360   | 180 → 360                   | 200 → 460                        | 100 → 200                         | 130 → 300                  | 1,525 → 5,080                   |
| 2-1/2            | RPM                      | 915                           | 764                          | 915   | 764   | 690   | 610                         | 764                              | 230                               | 350                        | 3,055                           |
|                  | Feed inches              | 11 → 18                       | 10 → 20                      | 11 → 18   | 10 → 20   | 8 → 15  | 7 → 14                      | 10 → 20                          | 3 → 7                             | 6 → 12                     | 60 → 200                        |
|                  | Feed mm                  | 280 → 460                     | 255 → 500                    | 280 → 460   | 255 → 500   | 200 → 380   | 180 → 360                   | 250 → 500                        | 75 → 180                          | 150 → 300                  | 1,525 → 5,080                   |
| 3                | RPM                      | 765                           | 635                          | 765   | 635   | 575   | 508                         | 635                              | 190                               | 295                        | —                               |
|                  | Feed inches              | 14 → 24                       | 11 → 21                      | 14 → 24   | 11 → 21   | 8 → 16  | 7 → 15                      | 11 → 21                          | 3 → 8                             | 6 → 14                     | —                               |
|                  | Feed mm                  | 355 → 600                     | 280 → 530                    | 355 → 610   | 280 → 530   | 200 → 400   | 180 → 380                   | 280 → 530                        | 75 → 200                          | 150 → 355                  | —                               |
| 4                | RPM                      | 575                           | 475                          | 575   | 475   | 430   | 380                         | 475                              | 145                               | 220                        | —                               |
|                  | Feed inches              | 10 → 20                       | 9 → 18                       | 10 → 20   | 9 → 18  | 7 → 14  | 7 → 12                      | 9 → 18                           | 3 → 8                             | 5 → 12                     | —                               |
|                  | Feed mm                  | 250 → 500                     | 230 → 460                    | 250 → 500   | 230 → 460   | 180 → 360   | 180 → 305                   | 230 → 460                        | 75 → 200                          | 130 → 300                  | —                               |

IF MACHINE SPEEDS ARE LOWER THAN SPEEDS SUGGESTED  
THE CHIP LOAD PER TOOTH SHOULD PREVAIL.

**WARNING:** Any cutting tool may break or shatter.  
The wearing of safety glasses is required by law.  
Grinding of this product may produce potentially hazardous  
dust. Use adequate ventilation.