

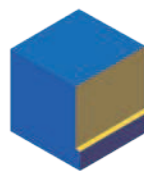
# Speed & Feed Recommendations



| 57<br>Fractional   | HARDNESS       | CUT        | SPEED | FEED (inch/flute) |        |        |        |
|--|----------------|------------|-------|-------------------|--------|--------|--------|
|  | BRINELL        | Type       | sfm   | 1/4               | 5/16   | 3/8    | 1/2    |
| <b>STEEL</b><br>TOOL STEEL<br>MOLD & DIE STEEL<br>300M, 4340, 52100,<br>HP 9-4-20, M-50,<br>A2, D2, H13, L2, M2,<br>P20, S7, T15, W2 | > 280<br>≤ 420 | Slot       | 215   | 0.0013            | 0.0019 | 0.0025 | 0.0031 |
|  |                | Profile    | 265   | 0.0018            | 0.0026 | 0.0035 | 0.0044 |
|  |                | High Speed | 560   | 0.0022            | 0.0033 | 0.0044 | 0.0055 |
|  | > 420<br>≤ 560 | Slot       | 120   | 0.0010            | 0.0015 | 0.0020 | 0.0025 |
|  |                | Profile    | 150   | 0.0014            | 0.0021 | 0.0028 | 0.0035 |
|  |                | High Speed | 490   | 0.0018            | 0.0026 | 0.0035 | 0.0044 |
|  | > 560<br>≤ 745 | Slot       | 65    | 0.0008            | 0.0011 | 0.0015 | 0.0019 |
|  |                | Profile    | 80    | 0.0011            | 0.0016 | 0.0021 | 0.0026 |
|  |                | High Speed | 250   | 0.0013            | 0.0019 | 0.0025 | 0.0031 |

| 57M<br>Metric  | HARDNESS       | CUT        | SPEED | FEED (mm/flute) |       |       |       |
|--|----------------|------------|-------|-----------------|-------|-------|-------|
|  | BRINELL        | Type       | m/min | 6               | 8     | 10    | 12    |
| <b>STEEL</b><br>TOOL STEEL<br>MOLD & DIE STEEL<br>300M, 4340, 52100,<br>HP 9-4-20, M-50,<br>A2, D2, H13, L2, M2,<br>P20, S7, T15, W2 | > 280<br>≤ 420 | Slot       | 66    | 0.032           | 0.048 | 0.064 | 0.079 |
|  |                | Profile    | 81    | 0.046           | 0.066 | 0.089 | 0.112 |
|  |                | High Speed | 171   | 0.056           | 0.084 | 0.112 | 0.140 |
|  | > 420<br>≤ 560 | Slot       | 37    | 0.025           | 0.038 | 0.051 | 0.064 |
|  |                | Profile    | 46    | 0.036           | 0.053 | 0.071 | 0.089 |
|  |                | High Speed | 149   | 0.046           | 0.066 | 0.089 | 0.112 |
|  | > 560<br>≤ 745 | Slot       | 20    | 0.020           | 0.028 | 0.038 | 0.048 |
|  |                | Profile    | 24    | 0.028           | 0.041 | 0.053 | 0.066 |
|  |                | High Speed | 76    | 0.033           | 0.048 | 0.064 | 0.079 |

| CUT TYPE   |  |  |   |   |   |
|--|--|--|---|---|---|
| SLOT   |  | PROFILE  |   | HIGH SPEED  |   |
| > 280 ≤ 560 Bhn<br>Rw = D <sub>1</sub><br>Ad = .3 x D <sub>1</sub> | > 560 ≤ 740 Bhn<br>Rw = D <sub>1</sub><br>Ad = .1 x D <sub>1</sub> | > 280 ≤ 560 Bhn<br>Rw = .1 x D <sub>1</sub><br>Ad = 1.5 X D <sub>1</sub> | > 560 ≤ 740 Bhn<br>Rw = .05 x D <sub>1</sub><br>Ad = 1.5 x D <sub>1</sub> | > 280 ≤ 560 Bhn<br>Rw = .04 x D <sub>1</sub><br>Ad = 1.5 x D <sub>1</sub> | > 560 ≤ 740 Bhn<br>Rw = .01 x D <sub>1</sub><br>Ad = 1.5 x D <sub>1</sub> |



$\text{rpm} = \text{sfm} \times 3.82 / D_1$   
 $\text{rpm} = (1000 \times \text{m/min}) / (3.14 \times D_1)$   
 $\text{ipm} = (\text{inch/flute}) \times 6 \times \text{rpm}$   
 $\text{mm/min} = (\text{mm/flute}) \times 6 \times \text{rpm}$

- maximum recommended depths shown
- finish cuts typically require reduced feed and cutting depths of .02 x D<sub>1</sub> maximum
- refer to the SGS Tool Wizard for more complete technical information (available at )