



| Series<br>57M<br>Metric  | Hardness   | Ae x DC                     | Ap x DC  | Vc<br>(m/min) | DC • mm       |               |       |       |       |       |       |       |       |
|--|--|-----------------------------|----------|---------------|---------------|---------------|-------|-------|-------|-------|-------|-------|-------|
|  |  |                             |          |               | 6             | 8             | 10    | 12    | 16    | 20    |       |       |       |
| TOOL STEELS<br>MOLD AND DIE STEEL<br>300M, 4340, 52100,<br>HP-9-4-20, M50, A2,<br>D2, H13, L2, M2, P20,<br>S7, T15, W2 | ≤ 420 Bhn<br>or<br>≤ 45 HRc  | Slot<br>                    | 1        | ≤ 0.3         | 66            | RPM           | 3499  | 2624  | 2099  | 1749  | 1312  | 1050  |       |
|  |  |                             |          |               | (53-79)       | Fz            | 0.032 | 0.048 | 0.064 | 0.079 | 0.094 | 0.109 |       |
|  |  |                             |          |               | Feed (mm/min) | 672           | 756   | 806   | 829   | 740   | 686   |       |       |
|  |  | Profile<br>                 | ≤ 0.1    | ≤ 1.5         | 81            | RPM           | 4294  | 3220  | 2576  | 2147  | 1610  | 1288  |       |
|  |  |                             |          |               | (65-97)       | Fz            | 0.046 | 0.066 | 0.089 | 0.112 | 0.132 | 0.152 |       |
|  |  |                             |          |               | Feed (mm/min) | 1185          | 1275  | 1376  | 1443  | 1275  | 1175  |       |       |
|  | HSM<br>  | ≤ 0.04                      | ≤ 1.5    | 171           | RPM           | 9064          | 6798  | 5439  | 4532  | 3399  | 2719  |       |       |
|  |  |                             |          | (137-205)     | Fz            | 0.056         | 0.084 | 0.112 | 0.140 | 0.170 | 0.200 |       |       |
|  |  |                             |          | Feed (mm/min) | 3046          | 3426          | 3655  | 3807  | 3467  | 3263  |       |       |       |
|  | TOOL STEELS<br>MOLD AND DIE STEEL<br>300M, 4340, 52100,<br>HP-9-4-20, M50, A2,<br>D2, H13, L2, M2, P20,<br>S7, T15, W2 | ≤ 560 Bhn<br>or<br>≤ 55 HRc | Slot<br> | 1             | ≤ 0.3         | 37            | RPM   | 1961  | 1471  | 1177  | 981   | 735   | 588   |
|  |  |                             |          |               |               | (30-44)       | Fz    | 0.025 | 0.038 | 0.051 | 0.064 | 0.077 | 0.090 |
|  |  |                             |          |               |               | Feed (mm/min) | 294   | 335   | 360   | 377   | 340   | 318   |       |
| Profile<br>  |  |                             | ≤ 0.1    | ≤ 1.5         | 46            | RPM           | 2438  | 1829  | 1463  | 1219  | 914   | 732   |       |
|  |  |                             |          |               | (37-55)       | Fz            | 0.036 | 0.053 | 0.071 | 0.089 | 0.107 | 0.125 |       |
|  |  |                             |          |               | Feed (mm/min) | 527           | 582   | 623   | 651   | 587   | 549   |       |       |
| HSM<br>  |  | ≤ 0.04                      | ≤ 1.5    | 149           | RPM           | 7898          | 5924  | 4739  | 3949  | 2962  | 2369  |       |       |
|  |  |                             |          | (119-179)     | Fz            | 0.046         | 0.066 | 0.089 | 0.112 | 0.135 | 0.158 |       |       |
|  |  |                             |          | Feed (mm/min) | 2180          | 2346          | 2531  | 2654  | 2399  | 2246  |       |       |       |
| TOOL STEELS<br>MOLD AND DIE STEEL<br>300M, 4340, 52100,<br>HP-9-4-20, M50, A2,<br>D2, H13, L2, M2, P20,<br>S7, T15, W2 |  | ≤ 740 Bhn<br>or<br>≤ 65 HRc | Slot<br> | 1             | ≤ 0.3         | 20            | RPM   | 1060  | 795   | 636   | 530   | 398   | 318   |
|  |  |                             |          |               |               | (16-24)       | Fz    | 0.020 | 0.028 | 0.038 | 0.048 | 0.058 | 0.068 |
|  |  |                             |          |               |               | Feed (mm/min) | 127   | 134   | 145   | 153   | 138   | 130   |       |
|  | Profile<br>  |                             | ≤ 0.1    | ≤ 1.5         | 24            | RPM           | 1272  | 954   | 763   | 636   | 477   | 382   |       |
|  |  |                             |          |               | (19-29)       | Fz            | 0.028 | 0.041 | 0.053 | 0.066 | 0.078 | 0.090 |       |
|  |  |                             |          |               | Feed (mm/min) | 214           | 235   | 243   | 252   | 223   | 206   |       |       |
|  | HSM<br>  | ≤ 0.04                      | ≤ 1.5    | 76            | RPM           | 4029          | 3021  | 2417  | 2014  | 1511  | 1209  |       |       |
|  |  |                             |          | (61-91)       | Fz            | 0.033         | 0.048 | 0.064 | 0.079 | 0.094 | 0.109 |       |       |
|  |  |                             |          | Feed (mm/min) | 798           | 870           | 928   | 955   | 852   | 790   |       |       |       |

Bhn (Brinell)    HRc (Rockwell C)    HSM (High Speed Machining)  
 rpm = (Vc x 1000) / (DC x 3.14)  
 mm/min = Fz x 6 x rpm  
 reduce speed and feed for materials harder than listed  
 reduce feed and Ae when finish milling (.02 x DC maximum)  
 feed rates listed have chip thinning adjustments included where applicable  
 refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)