

# CPMT 3(2.5)1 NN LT 1000

## Speeds & Feeds

| Material Group    | Gr. N°                 | VDI Group | Material Examples* | Hardness                                | D.O.C. [inch] |       | Feed [inch/rev] |       | Amax   | V <sub>c</sub> [sfm] |      | Suggested Starting Parameters |       |                |
|-------------------|------------------------|-----------|--------------------|-----------------------------------------|---------------|-------|-----------------|-------|--------|----------------------|------|-------------------------------|-------|----------------|
|                   |                        |           |                    |                                         | min           | max   | min             | max   |        | min                  | max  | D.O.C.                        | Feed  | V <sub>c</sub> |
| Steel             | Non-alloyed            | 1         | 1                  | C35, Ck45, 1020,                        | 125 HB        | 0.008 | 0.118           | 0.004 | 0.0009 | 590                  | 1080 | 0.079                         | 0.007 | 980            |
|                   |                        |           | 2                  | 1045, 1060,                             | 190 HB        |       |                 |       |        |                      |      |                               |       | 850            |
|                   |                        |           | 3                  | 28Mn6                                   | 250 HB        |       |                 |       |        |                      |      |                               |       | 780            |
|                   | Low alloyed            | 2         | 6                  | 42CrMo4, St50, Ck60, 4140, 4340, 100Cr6 | 180 HB        | 0.008 | 0.098           | 0.004 | 0.0008 | 390                  | 910  | 0.079                         | 0.006 | 850            |
|                   |                        |           | 4,6                |                                         | 230 HB        |       |                 |       |        |                      |      |                               |       | 780            |
|                   |                        |           | 5,7                |                                         | 280 HB        |       |                 |       |        |                      |      |                               |       | 650            |
|                   |                        |           | 8                  |                                         | 350 HB        |       |                 |       |        |                      |      |                               |       | 590            |
|                   | High alloyed           | 3         | 10                 | X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19 | 220 HB        | 0.008 | 0.098           | 0.004 | 0.0006 | 220                  | 620  | 0.079                         | 0.005 | 590            |
|                   |                        |           | 10                 |                                         | 280 HB        |       |                 |       |        |                      |      |                               |       | 450            |
|                   |                        |           | 11                 |                                         | 320 HB        |       |                 |       |        |                      |      |                               |       | 390            |
|                   |                        |           | 11                 |                                         | 350 HB        |       |                 |       |        |                      |      |                               |       | 360            |
| Stainless Steel   | Austenitic             | 4         | 14                 | 304, 316, X5CrNi18-9                    | 180 HB        | 0.008 | 0.098           | 0.004 | 0.0005 | 550                  | 880  | 0.079                         | 0.005 | 850            |
|                   |                        |           | 14                 |                                         | 240 HB        |       |                 |       |        |                      |      |                               |       | 680            |
|                   | Duplex                 | 5         | 14                 | X2CrNiN23-4, S31500                     | 290 HB        | 0.008 | 0.079           | 0.004 | 0.0003 | 260                  | 490  | 0.079                         | 0.005 | 450            |
|                   |                        |           | 14                 |                                         | 310 HB        |       |                 |       |        |                      |      |                               |       | 450            |
|                   | Ferritic & Martensitic | 6         | 12                 | 410, X6Cr17, 17-4 PH, 430               | 200 HB        | 0.008 | 0.098           | 0.004 | 0.0005 | 550                  | 820  | 0.079                         | 0.006 | 780            |
|                   |                        |           | 13                 |                                         | 42 HRC        |       |                 |       |        |                      |      |                               |       | 590            |
| Cast Iron         | Grey                   | 7         | 15                 | GG20, GG40, EN-GJL-250, No30B           | 150 HB        | 0.008 | 0.118           | 0.003 | 0.0010 | 550                  | 820  | 0.079                         | 0.007 | 780            |
|                   |                        |           | 15                 |                                         | 200 HB        |       |                 |       |        |                      |      |                               |       | 720            |
|                   |                        |           | 16                 |                                         | 250 HB        |       |                 |       |        |                      |      |                               |       | 650            |
|                   | Malleable & Nodular    | 8         | 17,19              | GGG40, GGG70, 50005                     | 150 HB        | 0.008 | 0.098           | 0.003 | 0.0007 | 390                  | 820  | 0.079                         | 0.006 | 780            |
|                   |                        |           | 17,19              |                                         | 200 HB        |       |                 |       |        |                      |      |                               |       | 720            |
|                   |                        |           | 18,20              |                                         | 250 HB        |       |                 |       |        |                      |      |                               |       | 590            |
| High Temp. Alloys | Fe, Ni & Co based      | 9         | 31,32              | Incoloy 800                             | 240 HB        | 0.008 | 0.079           | 0.004 | 0.0004 | 80                   | 160  | 0.079                         | 0.005 | 130            |
|                   |                        |           | 33                 | Inconel 700                             | 250 HB        |       |                 |       |        |                      |      |                               |       | 130            |
|                   |                        |           | 34                 | Stellite 21                             | 350 HB        |       |                 |       |        |                      |      |                               |       | 110            |
|                   | Ti based               | 10        | 36                 | TiAl6V4                                 | -             | 0.008 | 0.079           | 0.004 | 0.0005 | 140                  | 210  | 0.079                         | 0.006 | 190            |
|                   |                        |           | 37                 | T40                                     | -             |       |                 |       |        |                      |      |                               |       | 160            |
| Hardened Mat.     | Steel                  | 11        | 38                 | X100CrMo13, 440C, G-X260NiCr42          | 45 HRC        | 0.008 | 0.071           | 0.002 | 0.0003 | 160                  | 320  | 0.059                         | 0.004 | 290            |
|                   |                        |           | 38                 |                                         | 50 HRC        |       |                 |       |        |                      |      |                               |       | 260            |
|                   |                        |           | 38                 |                                         | 55 HRC        |       |                 |       |        |                      |      |                               |       | 220            |
|                   | Chilled Cast Iron      |           | 40                 | Ni-Hard 2                               | 400 HB        | 0.008 | 0.063           | 0.002 | 0.0003 | 130                  | 190  | 0.047                         | 0.004 | 160            |
|                   | White Cast Iron        |           | 41                 | G-X300CrMo15                            | 55 HRC        | 0.008 | 0.055           | 0.002 | 0.0002 | 90                   | 160  | 0.039                         | 0.003 | 130            |
| NF                | Al (>8%Si)             | 12        | 25                 | AlSi12                                  | 130 HB        | 0.008 | 0.157           | 0.004 | 0.012  | 650                  | 1310 | 0.079                         | 0.008 | 1140           |

