

| Material Group         |  | Material Example | Hardness                                | D.O.C                |         | Feed      |               | Amax<br>[mm^2] | Vc             |                | Advised D.O.C<br>[mm] | Advised Feed<br>[mm/t] | Advised Vc<br>[m/min] |      |
|------------------------|-----------------------------------------------------------------------------------|------------------|-----------------------------------------|----------------------|---------|-----------|---------------|----------------|----------------|----------------|-----------------------|------------------------|-----------------------|------|
|                        |                                                                                   |                  |                                         | min[mm]              | max[mm] | min[mm/t] | max<br>[mm/t] |                | min<br>[m/min] | max<br>[m/min] |                       |                        |                       |      |
| Steel                  | Non Alloyed                                                                       | 1                | C35, Ck45, 1020, 1045, 1060, 28Mn6      | 125 HB               | 0.5     | 3.5       | 0.25          | 0.65           | 2.16           | 180            | 330                   | 2.6                    | 0.48                  | 240  |
|                        |                                                                                   |                  |                                         | 190 HB               | 0.5     | 3.5       | 0.25          | 0.65           | 2.16           | 180            | 280                   | 2.6                    | 0.44                  | 220  |
|                        |                                                                                   |                  |                                         | 250 HB               | 0.5     | 3.5       | 0.25          | 0.59           | 1.8            | 180            | 250                   | 2.6                    | 0.41                  | 200  |
|                        | Low Alloyed                                                                       | 2                | 42CrMo4, St50, Ck60, 4140, 4340, 100Cr6 | 230 HB               | 0.5     | 2.8       | 0.25          | 0.59           | 1.44           | 120            | 250                   | 2.6                    | 0.4                   | 180  |
|                        |                                                                                   |                  |                                         | 280 HB               | 0.5     | 2.8       | 0.22          | 0.52           | 1.44           | 120            | 210                   | 2.6                    | 0.38                  | 150  |
|                        |                                                                                   |                  |                                         | 180 HB               | 0.5     | 3.5       | 0.25          | 0.59           | 1.44           | 120            | 280                   | 2.6                    | 0.4                   | 200  |
|                        |                                                                                   |                  |                                         | 350 HB               | 0.5     | 2.5       | 0.22          | 0.52           | 1.2            | 120            | 180                   | 2.3                    | 0.38                  | 130  |
|                        | High Alloyed                                                                      | 3                | X40CrM0V5, H13, M42, D3, S6-5-2, 12Ni19 | 220 HB               | 0.5     | 2.8       | 0.22          | 0.52           | 1.44           | 70             | 190                   | 2.1                    | 0.38                  | 140  |
|                        |                                                                                   |                  |                                         | 280 HB               | 0.5     | 2.8       | 0.22          | 0.52           | 1.44           | 70             | 150                   | 2.1                    | 0.38                  | 120  |
|                        |                                                                                   |                  |                                         | 320 HB               | 0.5     | 2.1       | 0.22          | 0.46           | 0.96           | 70             | 130                   | 1.9                    | 0.35                  | 100  |
|                        |                                                                                   |                  |                                         | 350 HB               | 0.5     | 2.1       | 0.22          | 0.46           | 0.96           | 70             | 110                   | 1.9                    | 0.35                  | 90   |
|                        | Stainless Steel                                                                   | Austentic        | 4                                       | 304, 316, X5CrNi18-9 | 180 HB  | 0.5       | 3.5           | 0.24           | 0.52           | 1.44           | 170                   | 270                    | 2.6                   | 0.31 |
| 240 HB                 |                                                                                   |                  |                                         |                      | 0.5     | 3.5       | 0.24          | 0.52           | 1.2            | 160            | 220                   | 2.6                    | 0.28                  | 170  |
| Duplex                 |                                                                                   | 5                | X2CrNiN23-4, S31500                     | 290 HB               | 0.5     | 2.8       | 0.22          | 0.46           | 0.96           | 80             | 150                   | 2.1                    | 0.3                   | 100  |
|                        |                                                                                   |                  |                                         | 310 HB               | 0.5     | 2.8       | 0.22          | 0.46           | 0.96           | 70             | 140                   | 2.1                    | 0.3                   | 90   |
| Ferritic & Martensitic |                                                                                   | 6                | 410, X6Cr17, 17-4 PH, 430               | 200 HB               | 0.5     | 3.5       | 0.22          | 0.52           | 0.84           | 170            | 250                   | 2.1                    | 0.25                  | 190  |
|                        |                                                                                   |                  |                                         | 42 HRc               | 0.5     | 2.8       | 0.22          | 0.52           | 0.84           | 120            | 190                   | 1.9                    | 0.25                  | 130  |
| Cast Iron              | Grey                                                                              | 7                | GG20, GG40, EN-GJL-250, N030B           | 150 HB               | 0.5     | 3.5       | 0.18          | 0.78           | 2.4            | 170            | 250                   | 2.6                    | 0.44                  | 200  |
|                        |                                                                                   |                  |                                         | 200 HB               | 0.5     | 3.5       | 0.18          | 0.78           | 2.16           | 160            | 230                   | 2.6                    | 0.44                  | 180  |
|                        |                                                                                   |                  |                                         | 250 HB               | 0.5     | 3.5       | 0.18          | 0.72           | 2.16           | 150            | 210                   | 2.6                    | 0.44                  | 160  |
|                        | Malleable & Nodular                                                               | 8                | GGG40, GGG70, 50005                     | 150 HB               | 0.5     | 3.5       | 0.18          | 0.65           | 1.8            | 120            | 250                   | 2.6                    | 0.38                  | 180  |
|                        |                                                                                   |                  |                                         | 200 HB               | 0.5     | 3.5       | 0.18          | 0.65           | 1.56           | 120            | 230                   | 2.6                    | 0.38                  | 160  |
|                        |                                                                                   |                  |                                         | 250 HB               | 0.5     | 3.5       | 0.18          | 0.65           | 1.44           | 120            | 190                   | 2.6                    | 0.38                  | 140  |
| NITI Alloy             | Fe, Ni & Co Based                                                                 | 9                | Incoloy 800                             | 240 HB               | 0.5     | 2.1       | 0.24          | 0.46           | 0.84           | 30             | 50                    | 1.7                    | 0.35                  | 30   |
|                        |                                                                                   |                  | Inconel 700                             | 250 HB               | 0.5     | 2.1       | 0.24          | 0.46           | 0.84           | 30             | 50                    | 1.7                    | 0.35                  | 30   |
|                        |                                                                                   |                  | Stellite 21                             | 350 HB               | 0.5     | 2.1       | 0.24          | 0.46           | 0.84           | 30             | 40                    | 1.7                    | 0.35                  | 30   |
|                        | Ti Based                                                                          | 10               | T40                                     | -                    | 0.5     | 2.1       | 0.24          | 0.46           | 0.84           | 40             | 60                    | 1.7                    | 0.38                  | 45   |
|                        |                                                                                   |                  | TiAl6V4                                 | -                    | 0.5     | 2.5       | 0.24          | 0.52           | 0.96           | 50             | 70                    | 1.7                    | 0.41                  | 55   |
| Hardened Materials     | Steel Chilled<br>Cast Iron<br>White Cast Iron                                     | 11               | G-X300CrMo15                            | 55 HRc               | 0.5     | 1.1       | 0.13          | 0.26           | 0.36           | 30             | 50                    | 0.9                    | 0.19                  | 40   |
|                        |                                                                                   |                  | Ni-Hard 2                               | 400 HB               | 0.5     | 1.4       | 0.13          | 0.33           | 0.48           | 40             | 60                    | 1.3                    | 0.23                  | 50   |
|                        |                                                                                   |                  | X100CrMo13, 440C, G-X260NiCr42          | 45 HRc               | 0.5     | 1.8       | 0.13          | 0.39           | 0.72           | 50             | 100                   | 1.7                    | 0.31                  | 80   |
|                        |                                                                                   |                  |                                         | 50 HRc               | 0.5     | 1.4       | 0.13          | 0.33           | 0.48           | 40             | 90                    | 1.3                    | 0.25                  | 70   |
|                        |                                                                                   |                  |                                         | 55 HRc               | 0.5     | 1.1       | 0.13          | 0.26           | 0.36           | 40             | 80                    | 0.9                    | 0.23                  | 60   |
| Aluminium              | Al (>8%Si)                                                                        | 12               | AlSi12                                  | 130 HB               | 0.5     | 4.2       | 0.24          | 0.78           | 2.16           | 200            | 400                   | 2.6                    | 0.5                   | 280  |