



| Material Group | Group No. | Material Examples* | Brinell hardness HB | d.o.c [mm] | | feed [mm/rev] | | A max [mm ²] | V _c [m/min] | | Optimal cutting conditions | | | | | |
|-----------------------------|-----------|---|---------------------|------------|------|---------------|------|--------------------------|------------------------|------------|----------------------------|------|-----|------------|------------|------|
| | | | | min | max | min | max | | min | max | d.o.c | feed | | | | |
| Low Carbon Steel | 1 | Ck 15 9SMnPb28 | 150 | 0.20 | 3.00 | 0.11 | 0.30 | 0.50 | 180 | 400 | 0.5 to 1.5 | 0.18 | | | | |
| | | | 180 | | 3.00 | | 0.30 | 0.50 | | 350 | | | | | | |
| | | | 210 | | 3.00 | | 0.28 | 0.50 | | 200 | | | | | | |
| Alloy Steel | 2 | 42 CrMo 4 100 Cr 6 32 NiCrMo 14.5 | 180 | 0.20 | 3.00 | 0.09 | 0.28 | 0.50 | 120 | 300 | 0.5 to 1.5 | 0.15 | | | | |
| | | | 230 | | 3.00 | | 0.28 | 0.40 | | 250 | | | | | | |
| | | | 280 | | 3.00 | | 0.25 | 0.40 | | 210 | | | | | | |
| | | | 320 | | 3.00 | | 0.25 | 0.30 | | 180 | | | | | | |
| High Alloy Steel | 3 | X38 CrMoV 5 X210 CrW 12 X90 CrMoV 8 | 220 | 0.20 | 3.00 | 0.09 | 0.28 | 0.40 | 70 | 190 | 0.5 to 1.5 | 0.12 | | | | |
| | | | 280 | | 3.00 | | 0.28 | 0.40 | | 150 | | | | | | |
| | | | 320 | | 2.50 | | 0.25 | 0.20 | | 130 | | | | | | |
| | | | 350 | | 2.50 | | 0.25 | 0.20 | | 100 | | | | | | |
| Austenitic Stainless Steel | 4 | 303 / 304 304 L | 210 to 250 | 0.20 | 3.00 | 0.10 | 0.25 | 0.30 | 170 | 270 | 0.5 to 1.5 | 0.15 | | | | |
| | | | 230 to 270 | | 2.50 | | 0.09 | 0.25 | | 0.20 | | | 170 | 210 | 0.5 to 1.5 | 0.15 |
| | | | | | 2.50 | | 0.09 | 0.25 | | 0.20 | | | 80 | 130 | 0.5 to 1.5 | 0.12 |
| Ferritic Stainless Steel | 7 | 430 / 439 / 444 | Annealed | 0.50 | 3.00 | 0.11 | 0.25 | 0.30 | 170 | 250 | 0.5 to 1.5 | 0.15 | | | | |
| Martensitic Stainless Steel | 8 | 410 / 420 | Annealed | 0.50 | 3.00 | 0.11 | 0.25 | 0.30 | 170 | 250 | 0.5 to 1.5 | 0.15 | | | | |
| | | | Treated | | | | | | 120 | 210 | | | | | | |
| Grey Cast Iron | 9 | EN - G.JL 200 EN - G.JL 250 EN - G.JL 300 | 140 to 230 | 0.20 | 3.00 | 0.08 | 0.35 | 0.60 | 170 | 280 | 0.5 to 1.5 | 0.18 | | | | |
| | | | 0.50 | | | | | 250 | | | | | | | | |
| | | | | | | | | 0.50 | | 230 | | | | | | |
| Nodular Cast Iron | 10 | EN - GJS 400 EN - GJS 600 EN - GJS 800 | 210 | 0.20 | 3.00 | 0.08 | 0.35 | 0.50 | 120 | 230 | 0.5 to 1.5 | 0.15 | | | | |
| | | | 260 | | | | | 0.40 | | 190 | | | | | | |
| | | | 310 | | | | | 0.40 | | 150 | | | | | | |
| Nickel Based Alloys | 11 | Inconel 625 Inconel 718 Hastelloy C | ----- | 0.25 | 2.00 | 0.10 | 0.35 | 0.20 | 25 | 35 | 0.5 to 1.5 | 0.12 | | | | |
| | | | ----- | | | | | 0.20 | | 40 | | | | | | |
| | | | | | | | | 0.20 | | 65 | | | | | | |
| Titanium Based Alloys | 12 | TiAl 6 V4 T40 | ----- | 0.25 | 2.00 | 0.09 | 0.25 | 35 | 60 | 0.5 to 1.5 | 0.15 | | | | | |
| | | | ----- | | | | 0.21 | | 0.20 | | | 28 | 40 | 0.5 to 1.5 | 0.12 | |

*For all material types and standards, see pages 155 to 158.

