# TCMT 110204 NN

## Machining Conditions

| Material Group | Group No. | Material Examples* | Brinell hardness HB | d.o.c [mm] | | feed [mm/rev] | | A max [mm²] | $V_c$ [m/min] | | Optimal cutting conditions | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | min | max | min | max | | min | max | d.o.c | feed |
| Low Carbon Steel | 1 | Ck 15<br>9SMnPb28 | 150 | 0.10 | 2.00 | 0.08 | 0.20 | 0.36 | 180 | 400 | 0.2 to 1 | 0.18 |
| | | | 180 | | 2.00 | | 0.18 | 0.29 | | 350 | | |
| | | | 210 | | 2.00 | | 0.16 | 0.29 | | 200 | | |
| Alloy Steel | 2 | 42 CrMo 4<br>100 Cr 6<br>32 NiCrMo 14.5 | 180 | 0.10 | 2.00 | 0.08 | 0.18 | 0.29 | 120 | 300 | 0.2 to 1 | 0.15 |
| | | | 230 | | 2.00 | | 0.18 | 0.24 | | 250 | | |
| | | | 280 | | 1.50 | | 0.16 | 0.24 | | 210 | | |
| | | | 320 | | 1.50 | | 0.14 | 0.19 | | 180 | | |
| High Alloy Steel | 3 | X38 CrMoV 5<br>X210 CrW 12<br>X90 CrMoV 8 | 220 | 0.10 | 2.00 | 0.08 | 0.16 | 0.24 | 70 | 190 | 0.2 to 1 | 0.12 |
| | | | 280 | | 1.50 | | 0.14 | 0.24 | | 150 | | |
| | | | 320 | | 1.50 | | 0.13 | 0.17 | | 130 | | |
| | | | 350 | | 1.50 | | 0.13 | 0.14 | | 100 | | |
| Austenitic Stainless Steel | 4 | 303 / 304<br>304 L | 210 to 250 | 0.10 | 2.00 | 0.08 | 0.16 | 0.22 | 170 | 270 | 0.2 to 1 | 0.15 |
| | 5 | 316 / 316 L | 230 to 270 | | 1.80 | 0.08 | 0.14 | 0.17 | 170 | 210 | 0.2 to 1 | 0.12 |
| | 6 | 316 Ti<br>630 (F16PH) | -------- | | 1.50 | 0.08 | 0.13 | 0.14 | 80 | 130 | 0.2 to 1 | 0.12 |
| Ferritic Stainless Steel | 7 | 430 / 439 / 444 | Annealed | 0.10 | 2.00 | 0.08 | 0.16 | 0.20 | 170 | 250 | 0.2 to 1 | 0.15 |
| Martensitic Stainless Steel | 8 | 410 / 420 | Annealed | 0.10 | 2.00 | 0.08 | 0.16 | 0.20 | 170 | 250 | 0.2 to 1 | 0.15 |
| | | | Treated | | | | | | 120 | 210 | | |
| Grey Cast Iron | 9 | EN - GJL 200 | 140 to 230 | 0.10 | 2.00 | 0.06 | 0.18 | 0.38 | 170 | 280 | 0.2 to 1 | 0.18 |
| | | EN - GJL 250 | | | | | | 0.36 | | 250 | | |
| | | EN - GJL 300 | | | | | | 0.36 | | 230 | | |
| Nodular Cast Iron | 10 | EN - GJS 400 | 210 | 0.10 | 2.00 | 0.06 | 0.16 | 0.29 | 120 | 230 | 0.2 to 1 | 0.15 |
| | | EN - GJS 600 | | | | | | 0.24 | | 190 | | |
| | | EN - GJS 800 | | | | | | 0.24 | | 150 | | |
| Nickel Based Alloys | 11 | Inconel 625 | -------- | 0.10 | 1.50 | 0.08 | 0.14 | 0.14 | 25 | 35 | 0.2 to 1 | 0.12 |
| | | Inconel 718 | | | | | | 0.14 | | 40 | | |
| | | Hastelloy C | | | | | | 0.17 | | 65 | | |
| Titanium Based Alloys | 12 | TiAl 6 V4 | -------- | 0.10 | 1.50 | 0.08 | 0.14 | 0.17 | 35 | 60 | 0.2 to 1 | 0.14 |
| | | T40 | | | | | 0.13 | 0.14 | 28 | 40 | 0.2 to 1 | 0.12 |

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

| Insert designation | Super Finishing | Finishing | Semi Finishing | Roughing | Interrupted Cut |
|---|---|---|---|---|---|
| TCMT 110204 NN | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |

Lamina Technologies