

| Material Group | Group No | Material Examples* | Brinell hardness | 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 | Ck15, Ck45 1020, 1045 | 150 | 0.50 | 5.0 | 0.21 | 0.45 | 1.8 | 180 | 350 | 3.0 | 0.35 |
| | | | 180 | | 5.0 | | 0.45 | 1.8 | | 300 | | |
| | | | 210 | | 4.0 | | 0.40 | 1.5 | | 250 | | |
| Alloy Steel | 2 | 42 CrMo 4 St 50-2 Ck60 1060 4140 | 180 | 0.50 | 5.0 | 0.21 | 0.40 | 1.2 | 120 | 280 | 3.0 | 0.30 |
| | | | 230 | | 4.0 | | 0.40 | 1.2 | | 250 | | |
| | | | 280 | | 4.0 | 0.35 | 1.2 | 210 | | | | |
| | | | 320 | | 3.5 | 0.35 | 1.0 | 180 | | | | |
| High Alloy Steel | 3 | X40 CrMoV 5 1 H 13 40 NiCrMo 6 4340 S 2-10-1-8 HSS M42 | 220 | 0.50 | 4.0 | 0.18 | 0.40 | 1.2 | 70 | 190 | 2.5 | 0.28 |
| | | | 280 | | 4.0 | | 0.40 | 1.2 | | 150 | | |
| | | | 320 | | 3.0 | | 0.35 | 0.8 | | 130 | | |
| | | | 350 | | 3.0 | | 0.35 | 0.8 | | 100 | | |
| | | | 400 | 2.5 | 0.30 | 0.6 | 50 | 90 | 2.0 | 0.25 | | |
| | | | 480 | 2.0 | 0.25 | 0.4 | 40 | 80 | 1.7 | 0.20 | | |
| | | | 550 | 1.7 | 0.20 | 0.3 | 30 | 70 | 1.0 | 0.18 | | |
| Austenitic Stainless Steel | 4 | X5 CrNi 18 9 304 | 210 to 250 | 0.50 | 5.0 | 0.20 | 0.40 | 1.0 | 170 | 270 | 3.0 | 0.35 |
| | | | 230 to 270 | | 4.0 | 0.18 | 0.35 | 0.8 | 160 | 210 | 3.0 | 0.32 |
| | | | ----- | | 4.0 | 0.18 | 0.35 | 0.6 | 70 | 150 | 2.5 | 0.28 |
| Ferritic Stainless Steel | 7 | X8 Cr 7 430 | Annealed | 0.50 | 4.0 | 0.22 | 0.35 | 0.9 | 170 | 250 | 3.0 | 0.32 |
| Martensitic Stainless Steel | 8 | X15 Cr 13 410 | Annealed | 0.50 | 4.0 | 0.22 | 0.35 | 0.9 | 170 | 250 | 3.0 | 0.32 |
| | | | Treated | | | | | | 120 | 190 | | |
| Grey Cast Iron | 9 | GG 20 GG 25 GG 30 | 140 to 230 | 0.50 | 5.0 | 0.15 | 0.60 | 2.0 | 170 | 250 | 3.0 | 0.35 |
| | | | | | | | | 1.8 | | 230 | | |
| | | | | | | | | 1.8 | | 210 | | |
| Nodular Cast Iron | 10 | GGG 40 GGG 50 GGG 70 G-X260NiCr42 | 210 | 0.50 | 5.0 | 0.15 | 0.50 | 1.5 | 120 | 230 | 3.0 | 0.30 |
| | | | 260 | | | | | 1.3 | | 190 | | |
| | | | 310 | | | | | 1.2 | | 150 | | |
| | | | 450 | | | | | 0.4 | | 30 | | |
| Nickel Based Alloys | 11 | Inconel 625 Inconel 718 Hastelloy C | ----- | 0.50 | 3.0 | 0.20 | 0.35 | 0.7 | 25 | 35 | 2.0 | 0.28 |
| | | | | | | | | 0.7 | 28 | 40 | | |
| | | | | | | | | 0.8 | 40 | 65 | | |
| Titanium Based Alloys | 12 | TiAl 6 V4 T40 | ----- | 0.50 | 3.0 | 0.18 | 0.35 | 35 | 60 | 2.0 | 0.30 | |
| | | | | | | | 0.30 | 0.6 | 28 | 40 | 2.0 | 0.28 |

Insert designation Super Finishing Finishing Semi Finishing Roughing Interrupted Cut

CCMT 09T304 WM



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