

| Material groups        |   |   | Application                              | Cutting speed m/min |
|------------------------|---|---|--|---------------------|
| Steel, cast steel      | Non-hardened, non-heat treated steels up to 1200 N/mm <sup>2</sup> (< 38 HRC) | Construction steels, carbon steels, tool steels, non-alloyed steels, case-hardened steels, cast steels                                  | Coarse machining with high stock removal | 450-600             |
|                        | Hardened, heat-treated steels exceeding 1200 N/mm <sup>2</sup> (> 38 HRC)     | Tool steels, tempering steels, alloyed steel, cast steels   |  | 250-350             |
| Stainless steel (INOX) | Rust- and acid-resistant steels   | Austenitic and ferritic stainless steels  | Coarse machining with high stock removal | 250-350             |
| Non-ferrous metals     | Hard-non-ferrous metals   | Bronze, titanium/titanium alloys, hard alu-alloys (high Si content)   | Coarse machining with high stock removal | 250-350             |
|                        | High-temperature resistant materials  | Nickel based alloys, cobalt based alloys (aircraft engine and turbine construction)   |  | 300-450             |
| Cast iron              | Grey cast iron, white cast iron   | Cast iron with flake graphite EN-GJL, with nodular graphite cast iron EN-GJS, white annealed cast iron EN-GJMW, black cast iron EN-GJMB | Coarse machining with high stock removal | 450-600             |



| Cutting speed (m/min) |                        |        |        |        |        |        |        |
|-----------------------|------------------------|--------|--------|--------|--------|--------|--------|
|                       | 250                    | 300    | 350    | 400    | 450    | 500    | 600    |
| ∅ (mm)                | Rotational speed (rpm) |        |        |        |        |        |        |
| 2                     | 40,000                 | 48,000 | 56,000 | 64,000 | 72,000 | 80,000 | 95,000 |
| 3                     | 27,000                 | 32,000 | 37,000 | 42,000 | 48,000 | 53,000 | 64,000 |
| 4                     | 20,000                 | 24,000 | 28,000 | 32,000 | 36,000 | 40,000 | 48,000 |
| 6                     | 13,000                 | 16,000 | 19,000 | 21,000 | 24,000 | 27,000 | 32,000 |
| 8                     | 10,000                 | 12,000 | 14,000 | 16,000 | 18,000 | 20,000 | 24,000 |
| 10                    | 8,000                  | 10,000 | 11,000 | 13,000 | 14,000 | 16,000 | 19,000 |
| 12                    | 7,000                  | 8,000  | 9,000  | 11,000 | 12,000 | 13,000 | 16,000 |
| 16                    | 5,000                  | 6,000  | 7,000  | 8,000  | 9,000  | 10,000 | 12,000 |
| 20                    | 4,000                  | 5,000  | 6,000  | 6,000  | 7,000  | 8,000  | 10,000 |
| 25                    | 3,000                  | 4,000  | 4,000  | 5,000  | 6,000  | 6,000  | 8,000  |

