

| Materials | | | | Vc Cutting Speed SFM * | DC Cutting Dia. (inch) | fz Feed per Tooth (inch) | Coolant |
|-----------|--------------------------|---|---------------------------------------|------------------------------|------------------------------|--------------------------------|---------------------------------------|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | | |
| P | 1-5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 600-1000 | 0.312 | .015-.025 | No |
| | | | | | 0.375 | .018-.028 | |
| | | | | | 0.500 | .018-.028 | |
| | | | | | 0.625 | .020-.030 | |
| | | | | | 0.750 | .020-.030 | |
| | 6-9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 500-800 | 1.000 | .025-.035 | |
| | | | | | 0.312 | .015-.025 | |
| | | | | | 0.375 | .018-.028 | |
| | | | | | 0.500 | .018-.028 | |
| | | | | | 0.625 | .020-.030 | |
| | 10-11 | High-alloy Steel | H13, A2, D2, M2, T1 | 450-700 | 0.750 | .020-.030 | |
| | | | | | 1.000 | .025-.035 | |
| | | | | | 0.312 | .015-.025 | |
| | | | | | 0.375 | .018-.028 | |
| | | | | | 0.500 | .018-.028 | |
| M | 12-13 | Stainless Steel (Ferritic & Martensitic) | 410, 416, 440 | 350-600 | 0.625 | .020-.030 | Yes |
| | | | | | 0.750 | .020-.030 | |
| | | | | | 1.000 | .025-.035 | |
| | | | | | 0.312 | .015-.025 | |
| | | | | | 0.375 | .018-.028 | |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | 300-550 | 0.500 | .018-.028 | May not be required at high speeds |
| | | | | | 0.625 | .020-.030 | |
| | | | | | 0.750 | .020-.030 | |
| | | | | | 1.000 | .025-.035 | |
| | | | | | 0.312 | .015-.025 | |
| K | 15-16 | Gray Cast Iron | CLS. 20, 30, 45 | 600-1000 | 0.312 | .015-.025 | No |
| | | | | | 0.375 | .018-.028 | |
| | | | | | 0.500 | .018-.028 | |
| | | | | | 0.625 | .020-.030 | |
| | | | | | 0.750 | .020-.030 | |
| | 17-20 | Nodular Cast Iron | 60-40-18, 100-70-03 | 450-700 | 1.000 | .025-.035 | |
| | | | | | 0.312 | .015-.025 | |
| | | | | | 0.375 | .018-.028 | |
| | | | | | 0.500 | .018-.028 | |
| | | | | | 0.625 | .020-.030 | |
| S | 31-35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 65-200 | 0.750 | .015-.025 | Yes |
| | | | | | 1.000 | .018-.028 | |
| | | | | | 0.312 | .008-.018 | |
| | | | | | 0.375 | .012-.022 | |
| | | | | | 0.500 | .012-.022 | |
| | 36-37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | 85-200 | 0.625 | .015-.025 | |
| | | | | | 0.750 | .015-.025 | |
| | | | | | 1.000 | .018-.028 | |
| | | | | | 0.312 | .008-.018 | |
| | | | | | 0.375 | .012-.022 | |
| H | 38-39 | Hardened 45-60 HRC | A2, O1, D2 | 150-300 | 0.312 | .008-.018 | No |
| | | | | | 0.375 | .012-.022 | |
| | | | | | 0.500 | .012-.022 | |
| | | | | | 0.625 | .015-.025 | |
| | | | | | 0.750 | .015-.025 | |
| | | | | | 1.000 | .018-.028 | |