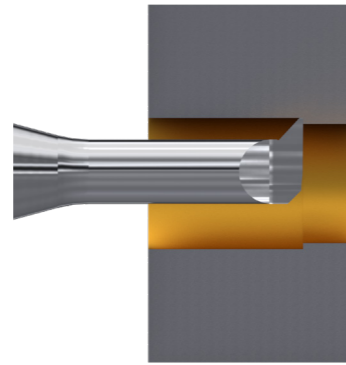




		VDI 3323	Fixed tools Vc [m/min]	Turning tools Vc [m/min]
P	Unalloyed steel, leaded steel	1 - 5	100 - 150	70 - 110
	Low alloyed steel < 800 N/mm ²	6 - 9	70 - 120	50 - 80
	High-alloy steel > 800 N/mm ² , stainless steel ferr.- marten.	10 - 13	30 - 70	20 - 50
M	Austenitic stainless steel < 700 N/mm ²	14.1-14.2	50 - 80	40 - 60
	Nickel-free stainless steel/DUPLEX >700 N/mm ²	14.3-14.4	30 - 70	20 - 50
K	Grey cast iron < 250 HB	15 - 16	60 - 150	40 - 110
	Ductile, malleable, nodular cast iron > 250 HB	17 - 20	30 - 90	20 - 60
N	Wrought aluminium alloy < 12% Si	21 - 22	200 - 400	140 - 280
	Cast aluminium alloy >12% Si	23 - 25	180 - 350	130 - 250
	Copper alloy good machinability with Pb	26	150 - 250	110 - 180
	Copper alloy with difficult machinability	27 - 28	120 - 160	80 - 110
	Plastics, wood	29 - 30	200 - 300	140 - 210
	Gold, silver	-	150 - 250	110 - 180
S	Refractory alloy, Fe, Ni, Co base	31- 35	10 - 20	10 - 10
	Titanium, titanium alloy	36 - 37	15 - 40	10 - 30



$$n \text{ [rpm]} = \frac{V_c \text{ [m/min]} \times 1000}{\pi \times D_1 \text{ [mm]}}$$

$$V_f \text{ [mm/min]} = n \text{ [rpm]} \times f \text{ [mm]}$$

Feed per tooth fz [mm]						
Ø D ₁ 0.20 - 0.50	Ø D ₁ 0.50 - 0.80	Ø D ₁ 08.00 - 1.00	Ø D ₁ 1.00 - 3.00	Ø D ₁ 3.00 - 6.00	Ø D ₁ 6.00 - 10.00	Ø D ₁ 10.00 - 20.00
0.002 - 0.005	0.005 - 0.008	0.008 - 0.010	0.010 - 0.030	0.024 - 0.049	0.036 - 0.060	0.040 - 0.080
0.002 - 0.005	0.004 - 0.007	0.007 - 0.009	0.009 - 0.027	0.027 - 0.053	0.054 - 0.060	0.030 - 0.070
0.002 - 0.004	0.004 - 0.006	0.006 - 0.008	0.008 - 0.024	0.024 - 0.047	0.048 - 0.050	0.030 - 0.070
0.001 - 0.004	0.004 - 0.006	0.006 - 0.007	0.007 - 0.022	0.022 - 0.044	0.044 - 0.050	0.030 - 0.060
0.001 - 0.003	0.003 - 0.005	0.005 - 0.006	0.006 - 0.018	0.018 - 0.035	0.036 - 0.040	0.020 - 0.050
0.003 - 0.008	0.007 - 0.012	0.012 - 0.015	0.015 - 0.044	0.044 - 0.089	0.088 - 0.090	0.060 - 0.120
0.002 - 0.006	0.006 - 0.009	0.009 - 0.012	0.012 - 0.035	0.035 - 0.071	0.070 - 0.070	0.050 - 0.100
0.004 - 0.011	0.011 - 0.017	0.017 - 0.022	0.022 - 0.065	0.065 - 0.130	0.130 - 0.140	0.080 - 0.180
0.004 - 0.010	0.010 - 0.016	0.016 - 0.020	0.020 - 0.059	0.059 - 0.118	0.118 - 0.120	0.080 - 0.170
0.004 - 0.010	0.010 - 0.016	0.016 - 0.020	0.020 - 0.059	0.059 - 0.118	0.118 - 0.120	0.080 - 0.170
0.002 - 0.006	0.006 - 0.010	0.010 - 0.012	0.012 - 0.037	0.037 - 0.074	0.074 - 0.080	0.050 - 0.100
0.004 - 0.011	0.011 - 0.017	0.017 - 0.022	0.022 - 0.065	0.065 - 0.130	0.130 - 0,140	0.080 - 0.180
0.004 - 0.010	0.010 - 0.016	0.016 - 0.020	0.020 - 0.059	0.059 - 0.118	0.118 - 0.120	0.080 - 0.170
0.001 - 0.003	0.002 - 0.004	0.004 - 0.005	0.005 - 0.015	0.015 - 0.030	0.030 - 0.030	0.020 - 0.040
0.002 - 0.006	0.006 - 0.009	0.009 - 0.012	0.012 - 0.035	0.035 - 0.071	0.070 - 0.070	0.050 - 0.100

Values based on use of cutting oil. The cutting parameters are very strongly influenced by external parameters, such as tool and workpiece stability, etc. The cutting conditions must be adapted to the operating conditions !