



ROUTING

		VDI 3323		CARBIDE Vc [m/min]	TAIIN Vc [m/min]	DIAMANT Vc [m/min]	ae (mm)	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5			95		<0.015×ØD1	<1×L1
	Low alloyed steel < 800 N/mm²	6 - 9			85		<0.015×ØD1	<1×L1
	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13			65		<0.010×ØD1	<1×L1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2			65		<0.005×ØD1	<1×L1
	Nickel-free stainless steel / DUPLEX > 700 N/mm²	14.3-14.4			55		<0.005×ØD1	<1×L1
K	Grey cast iron < 250 HB	15 - 16		125	125		<0.040×ØD1	<1×L1
	Ductile, malleable, nodular cast iron > 250 HB	17 - 20		90	90		<0.025×ØD1	<1×L1
N	Wrought aluminium alloy < 12% Si	21 - 22		165		255	<0.020×ØD1	<1×L1
	Cast aluminium alloy >12% Si	23 - 25		125		200	<0.025×ØD1	<1×L1
	Copper alloy good machinability with Pb	26		125		200	<0.025×ØD1	<1×L1
	Copper alloy with difficult machinability	27 - 28		100		160	<0.015×ØD1	<1×L1
	Plastic, wood	29 - 30		110		175	<0.025×ØD1	<1×L1
	Graphite	-		110		200	<0.020×ØD1	<1×L1
	Gold, silver	-		90		140	<0.020×ØD1	<1×L1
S	Titanium, titanium alloy	36 - 37		50	70		<0.015×ØD1	<1×L1

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

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

Feed per tooth					fz [mm]
Ø D ₁ 3.00 - 4.00	Ø D ₁ 5.00 - 6.00	Ø D ₁ 7.00 - 8.00	Ø D ₁ 10.00 - 12.00	Ø D ₁ 14.00 - 20.00	
0.015 - 0.020	0.025 - 0.030	0.035 - 0.040	0.040 - 0.048	0.042 - 0.060	
0.014 - 0.018	0.023 - 0.028	0.030 - 0.036	0.036 - 0.043	0.038 - 0.054	
0.012 - 0.016	0.020 - 0.024	0.030 - 0.032	0.032 - 0.038	0.034 - 0.048	
0.012 - 0.016	0.020 - 0.024	0.030 - 0.032	0.032 - 0.038	0.034 - 0.048	
0.011 - 0.014	0.018 - 0.022	0.025 - 0.028	0.028 - 0.034	0.029 - 0.042	
0.018 - 0.024	0.030 - 0.036	0.040 - 0.048	0.048 - 0.058	0.050 - 0.072	
0.015 - 0.020	0.025 - 0.030	0.035 - 0.040	0.040 - 0.048	0.042 - 0.060	
0.023 - 0.030	0.038 - 0.046	0.055 - 0.060	0.060 - 0.072	0.063 - 0.090	
0.020 - 0.026	0.033 - 0.040	0.045 - 0.052	0.052 - 0.062	0.055 - 0.078	
0.023 - 0.030	0.038 - 0.046	0.055 - 0.060	0.060 - 0.072	0.063 - 0.090	
0.018 - 0.024	0.030 - 0.036	0.040 - 0.048	0.048 - 0.058	0.050 - 0.072	
0.023 - 0.030	0.038 - 0.046	0.055 - 0.060	0.060 - 0.072	0.063 - 0.090	
0.030 - 0.040	0.050 - 0.060	0.070 - 0.080	0.080 - 0.096	0.084 - 0.120	
0.015 - 0.020	0.025 - 0.030	0.035 - 0.040	0.040 - 0.048	0.042 - 0.060	
0.015 - 0.020	0.025 - 0.030	0.035 - 0.040	0.040 - 0.048	0.042 - 0.060	

Values based on cutting oil use. 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 !