



ROUTING

		VDI 3323		n rpm	ae (mm)	ap (mm)
N	Wrought aluminium alloy < 12% Si	21 - 22		35 - 60'000	0.05 - 0.20	<0.9×L1
	Cast aluminium alloy >12% Si	23		30 - 60'000	0.05 - 0.20	<0.9×L1
	Copper alloy good machinability with Pb	26		25 - 50'000	0.05 - 0.20	<0.9×L1
	Copper alloy with difficult machinability	27-28		20 - 45'000	0.05 - 0.20	<0.9×L1
	Plastic, wood	29		25 - 50'000	0.05 - 0.20	<0.9×L1
	Gold, silver	-		30 - 60'000	0.05 - 0.20	<0.9×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 0.5 - 0.9	Ø D ₁ 1 - 1.5	Ø D ₁ 1.6 - 2	Ø D ₁ 2.5 - 3	Ø D ₁ 3 - 4	Ø D ₁ 4.5 - 6	Ø D ₁ 8 - 10	
0.005 - 0.009	0.011 - 0.016	0.017 - 0.021	0.026 - 0.032	0.032 - 0.042	0.048 - 0.065	0.080 - 0.110	
0.005 - 0.008	0.009 - 0.014	0.015 - 0.018	0.023 - 0.027	0.027 - 0.036	0.040 - 0.055	0.070 - 0.090	
0.005 - 0.009	0.011 - 0.016	0.017 - 0.021	0.026 - 0.032	0.032 - 0.042	0.048 - 0.065	0.080 - 0.110	
0.004 - 0.008	0.008 - 0.013	0.013 - 0.017	0.021 - 0.025	0.025 - 0.034	0.038 - 0.050	0.070 - 0.080	
0.005 - 0.009	0.011 - 0.016	0.017 - 0.021	0.026 - 0.032	0.032 - 0.042	0.048 - 0.065	0.080 - 0.110	
0.004 - 0.006	0.007 - 0.011	0.011 - 0.014	0.018 - 0.021	0.021 - 0.028	0.032 - 0.040	0.060 - 0.070	

FACE MILLING

		VDI 3323		n rpm	ae (mm)	ap (mm)
N	Wrought aluminium alloy < 12% Si	21 - 22		35 - 60'000	<1×ØD1	0.05 - 0.20
	Cast aluminium alloy >12% Si	23		30 - 60'000	<1×ØD1	0.05 - 0.20
	Copper alloy good machinability with Pb	26		25 - 50'000	<1×ØD1	0.05 - 0.20
	Copper alloy with difficult machinability	27-28		20 - 45'000	<1×ØD1	0.05 - 0.20
	Plastic, wood	29		25 - 50'000	<1×ØD1	0.05 - 0.20
	Gold, silver	-		30 - 60'000	<1×ØD1	0.05 - 0.20

Feed per tooth fz [mm]							
Ø D ₁ 0.5 - 0.9	Ø D ₁ 1 - 1.5	Ø D ₁ 1.6 - 2	Ø D ₁ 2.5 - 3	Ø D ₁ 3 - 4	Ø D ₁ 4.5 - 6	Ø D ₁ 8 - 10	
0.004 - 0.008	0.009 - 0.014	0.014 - 0.016	0.022 - 0.027	0.024 - 0.032	0.036 - 0.050	0.060 - 0.080	
0.004 - 0.007	0.008 - 0.012	0.013 - 0.014	0.020 - 0.023	0.020 - 0.027	0.030 - 0.040	0.050 - 0.070	
0.004 - 0.008	0.009 - 0.014	0.014 - 0.016	0.022 - 0.027	0.024 - 0.032	0.036 - 0.050	0.060 - 0.080	
0.003 - 0.007	0.007 - 0.011	0.011 - 0.013	0.018 - 0.021	0.019 - 0.026	0.029 - 0.040	0.050 - 0.060	
0.004 - 0.008	0.009 - 0.014	0.014 - 0.016	0.022 - 0.027	0.024 - 0.032	0.036 - 0.050	0.060 - 0.080	
0.003 - 0.005	0.006 - 0.009	0.009 - 0.011	0.015 - 0.018	0.016 - 0.021	0.024 - 0.030	0.045 - 0.050	

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 !