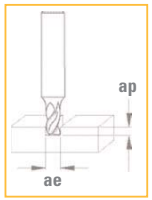
CUTTING CONDITIONS - SLOTTING



$$n\ [tr/min] = \frac{Vc\ [m/min] \times 1000}{\pi \times D_1\ [mm]}$$

$$Vf\ [mm/min] = n\ [tr/min] \times fz\ [mm] \times Z$$

Materials to be machined			CUTINOX Vc [m/min]		ap [mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**100**	170	< 1 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²	**90**	150	< 1 x ØD1
P	Lead alloyed cutting steel		**120**	180	< 1 x ØD1
P	High alloyed steel	700 – 1500 N/mm²	**50**	90	< 0.7 x ØD1
M	Stainless steel	400 – 700 N/mm²	**60**	95	< 1 x ØD1
M	DUPLEX stainless steel	> 800 N/mm²	**50**	90	< 0.7 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**140**	180	< 1 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**110**	150	< 1 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		**100**	140	< 1 x ØD1
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	**30**	55	< 1 x ØD1
S	Titanium, titanium alloys		**20**	50	< 0.3 x ØD1

Feed per tooth **fz [mm]**

Ø D_1 1.50 - 3.00	Ø D_1 3.00 - 4.00	Ø D_1 4.00 - 6.00	Ø D_1 6.00 - 8.00	Ø D_1 8.00 - 10.00	Ø D_1 10.00 - 12.00	Ø D_1 12.00 - 16.00	Ø D_1 16.00 - 20.00
0.005 - 0.010	**0.008** - 0.020	**0.011** - 0.030	**0.017** - 0.040	**0.022** - 0.050	**0.025** - 0.055	**0.030** - 0.065	**0.040** - 0.085
0.005 - 0.010	**0.008** - 0.018	**0.010** - 0.025	**0.015** - 0.035	**0.020** - 0.045	**0.023** - 0.050	**0.025** - 0.060	**0.035** - 0.075
0.010 - 0.020	**0.013** - 0.030	**0.015** - 0.045	**0.023** - 0.050	**0.025** - 0.070	**0.030** - 0.075	**0.032** - 0.080	**0.035** - 0.110
0.004 - 0.010	**0.006** - 0.015	**0.008** - 0.020	**0.013** - 0.030	**0.018** - 0.035	**0.020** - 0.040	**0.025** - 0.050	**0.030** - 0.060
0.005 - 0.010	**0.008** - 0.018	**0.010** - 0.025	**0.015** - 0.035	**0.020** - 0.045	**0.023** - 0.050	**0.025** - 0.060	**0.035** - 0.075
0.004 - 0.010	**0.006** - 0.015	**0.008** - 0.020	**0.013** - 0.030	**0.018** - 0.035	**0.020** - 0.040	**0.025** - 0.050	**0.030** - 0.060
0.010 - 0.020	**0.013** - 0.030	**0.015** - 0.045	**0.023** - 0.050	**0.025** - 0.070	**0.030** - 0.075	**0.032** - 0.080	**0.035** - 0.110
0.008 - 0.015	**0.011** - 0.025	**0.013** - 0.040	**0.019** - 0.045	**0.021** - 0.060	**0.026** - 0.065	**0.027** - 0.070	**0.030** - 0.095
0.008 - 0.015	**0.011** - 0.025	**0.013** - 0.040	**0.019** - 0.045	**0.021** - 0.060	**0.026** - 0.065	**0.027** - 0.070	**0.030** - 0.095
0.005 - 0.010	**0.008** - 0.020	**0.011** - 0.030	**0.017** - 0.040	**0.022** - 0.050	**0.025** - 0.055	**0.030** - 0.065	**0.040** - 0.085
0.001 - 0.005	**0.003** - 0.008	**0.004** - 0.010	**0.005** - 0.015	**0.008** - 0.018	**0.010** - 0.020	**0.010** - 0.025	**0.015** - 0.030

Cutting conditions based on oil lubrication.

For high alloyed steels (> 12% Chrome), stainless steels, titanium alloys, cutting speed shall be reduced by 20% when emulsion is used.