CUTTING CONDITIONS

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

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

	Material to be machined		CARBIDE Vc [m/min]		Feed per tooth fz [mm] Ø D_1 15 - 30	Ø D_1 30 - 50	Ø D_1 50 - 80	Ø D_1 80 - 125	Ø D_1 125 - 160
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**80**	140	**0.002** - 0.004	**0.003** - 0.007	**0.004** - 0.008	**0.004** - 0.012	**0.004** - 0.012
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²	**50**	80	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
P	Lead alloyed cutting steel		**120**	160	**0.003** - 0.007	**0.004** - 0.008	**0.005** - 0.010	**0.005** - 0.010	**0.005** - 0.012
P	High alloyed steel	700 – 1500 N/mm²	**50**	80	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
M	Stainless steel	400 – 700 N/mm²	**80**	120	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
M	DUPLEX stainless steel	> 800 N/mm²	**50**	80	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**80**	140	**0.002** - 0.004	**0.003** - 0.007	**0.004** - 0.01	**0.004** - 0.01	**0.004** - 0.01
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**50**	80	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
K	Nodular ferritic cast iron / Malleable cast iron		**50**	80	**0.002** - 0.004	**0.003** - 0.007	**0.004** - 0.01	**0.004** - 0.01	**0.004** - 0.01
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	**20**	30	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
S	Titanium, titanium alloys		**30**	70	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
N	Copper alloys - easy to machine (brass - bronze)		**200**	450	**0.003** - 0.007	**0.004** - 0.008	**0.005** - 0.010	**0.005** - 0.010	**0.005** - 0.012
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	**150**	300	**0.001** - 0.004	**0.002** - 0.005	**0.002** - 0.008	**0.003** - 0.012	**0.003** - 0.012
N	Aluminium alloys	Si < 8%	**200**	500	**0.003** - 0.007	**0.004** - 0.008	**0.005** - 0.010	**0.005** - 0.010	**0.005** - 0.012
N	Cast aluminium	Si > 8%	**200**	450	**0.003** - 0.007	**0.004** - 0.008	**0.005** - 0.010	**0.005** - 0.010	**0.005** - 0.012
N	Plastic		**130**	200	**0.003** - 0.010	**0.004** - 0.010	**0.005** - 0.012	**0.005** - 0.012	**0.005** - 0.015
N	Gold, silver		**140**	180	**0.003** - 0.007	**0.004** - 0.008	**0.005** - 0.010	**0.005** - 0.010	**0.005** - 0.012