DIXI 1146

CUTTING CONDITIONS

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

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

Feed per revolution f [mm]

	Materials to be machined		TiAlN Vc [m/min]		Ø D_1 0.80 - 1.00	Ø D_1 1.00 - 1.50	Ø D_1 1.50 - 2.00	Ø D_1 2.00 - 3.00	Ø D_1 3.00 - 5.00	Ø D_1 5.00 - 7.00	Ø D_1 7.00 - 10.00
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**80**	120	**0.03** - 0.11	**0.06** - 0.16	**0.08** - 0.21	**0.11** - 0.25	**0.13** - 0.27	**0.16** - 0.33	**0.19** - 0.35
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²	**70**	100	**0.03** - 0.10	**0.06** - 0.15	**0.08** - 0.20	**0.10** - 0.23	**0.12** - 0.25	**0.15** - 0.27	**0.18** - 0.30
P	Lead alloyed cutting steel		**80**	120	**0.03** - 0.12	**0.07** - 0.17	**0.09** - 0.23	**0.11** - 0.25	**0.14** - 0.27	**0.17** - 0.30	**0.21** - 0.35
P	High alloyed steel	700 – 1500 N/mm²	**40**	70	**0.03** - 0.10	**0.06** - 0.15	**0.08** - 0.17	**0.12** - 0.22	**0.12** - 0.23	**0.15** - 0.25	**0.18** - 0.28
M	DUPLEX stainless steel	> 800 N/mm²	**30**	50	**0.008** - 0.02	**0.01** - 0.04	**0.02** - 0.06	**0.03** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.07** - 0.14
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**90**	130	**0.03** - 0.12	**0.07** - 0.17	**0.09** - 0.23	**0.12** - 0.29	**0.14** - 0.35	**0.17** - 0.40	**0.21** - 0.46
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**80**	120	**0.03** - 0.12	**0.07** - 0.17	**0.09** - 0.23	**0.12** - 0.29	**0.14** - 0.35	**0.17** - 0.40	**0.21** - 0.46
K	Nodular ferritic cast iron / Malleable cast iron		**70**	100	**0.03** - 0.10	**0.06** - 0.15	**0.08** - 0.20	**0.10** - 0.25	**0.12** - 0.30	**0.15** - 0.35	**0.18** - 0.40
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	**15**	30	**0.008** - 0.02	**0.01** - 0.04	**0.02** - 0.06	**0.03** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.07** - 0.14
S	Titanium, titanium alloys		**50**	100	**0.008** - 0.02	**0.01** - 0.04	**0.02** - 0.06	**0.03** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.07** - 0.14

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			TiAlN Vc [m/min]		Ø D_1 0.50 - 1.00	Ø D_1 1.00 - 1.50	Ø D_1 1.50 - 2.00	Ø D_1 2.00 - 3.00	Ø D_1 3.00 - 5.00	Ø D_1 5.00 - 7.00	Ø D_1 7.00 - 10.00
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**70**	100	**0.03** - 0.11	**0.06** - 0.16	**0.08** - 0.21	**0.11** - 0.26	**0.13** - 0.32	**0.16** - 0.37	**0.19** - 0.42
P	Unalloyed steel / Low alloy steel	600 – 1500 N/mm²ed	**60**	90	**0.03** - 0.10	**0.06** - 0.15	**0.08** - 0.20	**0.10** - 0.25	**0.12** - 0.30	**0.15** - 0.35	**0.18** - 0.40
P	Lead alloyed cutting steel		**80**	110	**0.03** - 0.12	**0.07** - 0.17	**0.09** - 0.23	**0.12** - 0.29	**0.14** - 0.35	**0.17** - 0.40	**0.21** - 0.46
P	High alloyed steel	700 – 1500 N/mm²	**30**	60	**0.03** - 0.10	**0.06** - 0.15	**0.08** - 0.20	**0.12** - 0.25	**0.12** - 0.30	**0.15** - 0.35	**0.18** - 0.40
M	DUPLEX cast iron	> 800 N/mm²	**30**	50	**0.008** - 0.02	**0.01** - 0.04	**0.02** - 0.06	**0.03** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.07** - 0.14
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**90**	130	**0.03** - 0.12	**0.07** - 0.17	**0.09** - 0.23	**0.12** - 0.29	**0.14** - 0.35	**0.17** - 0.40	**0.21** - 0.46
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**80**	120	**0.03** - 0.12	**0.07** - 0.17	**0.09** - 0.23	**0.12** - 0.29	**0.14** - 0.35	**0.17** - 0.40	**0.21** - 0.46
K	Nodular ferritic cast iron / Malleable cast iron		**70**	100	**0.03** - 0.10	**0.06** - 0.15	**0.08** - 0.20	**0.10** - 0.25	**0.12** - 0.30	**0.15** - 0.35	**0.18** - 0.40
S	Special alloys / Heat resistant stainless steel	Inconel Nimonic Hastelloy	**15**	30	**0.008** - 0.02	**0.01** - 0.04	**0.02** - 0.06	**0.03** - 0.08	**0.04** - 0.10	**0.05** - 0.12	**0.07** - 0.14
N	Aluminium alloys	Si < 8%	**130**	160	**0.03** - 0.10	**0.06** - 0.15	**0.08** - 0.20	**0.10** - 0.25	**0.12** - 0.30	**0.15** - 0.35	**0.18** - 0.40