

Feeds and Speeds for RAKU[®] TOOL SB-0032



formula for calculating speed (spindle)

$$n = \frac{V_c \times 12,0001}{D_c \times \pi}$$

7271 [rpm] = $\frac{1427 \text{ [ft/min]} \times 12,0001}{\frac{3}{4} \text{ [in]} \times 3,14}$

formula for calculating axis feed rate

$$V_f = n \times f_z \times z_n$$

859 [in/min] = 7272 [rpm] x 0,0591 [in] x 2 [number]

validated cutting data for roughing

Type	D _c [in]	z _n [number]	V _c [ft/min]	f _z [in]	n [rpm]	V _f [in/min]	a _e [in]	a _p [in]	L ₁ [in]	L ₂ [in]
torus	¾	2	1427	0,0591	7.272	859	0,394	0,787	3,386	0,787
torus	½	2	853	0,0591	6.520	770	0,236	0,472	2,165	0,630
torus	¼	2	427	0,0591	6.520	770	0,118	0,236	0,906	0,315

validated cutting data for finishing

Type	D _c [in]	z _n [number]	V _c [ft/min]	f _z [in]	n [rpm]	V _f [in/min]	a _e [in]	a _p [in]	L ₁ [in]	L ₂ [in]
ball	¾	2	1312	0,0630	6.687	842	0,079	0,394	2,677	0,669
ball	½	2	787	0,0630	6.018	758	0,047	0,236	2,047	0,413
ball	¼	2	394	0,0630	6.018	758	0,024	0,118	0,906	0,394

recommended cutting data for roughing

parameter	symbol	unit
radial infeed:	a _e	[in]
axial infeed:	a _p	[in]
number of teeth:	Z _n	[number]

roughing recommendation		
min.	ideal	max.
- x D _c	0,50 x D_c	0,80 x D _c
0,10 x D _c	1,00 x D_c	5,00 x D _c
1	1	2

recommended cutting data for finishing

parameter	symbol	unit
radial infeed:	a _e	[in]
axial infeed:	a _p	[in]
number of teeth:	Z _n	[number]

finishing recommendation		
min.	ideal	max.
- x D _c	0,10 x D_c	0,80 x D _c
- x D _c	0,50 x D_c	1,00 x D _c
1	1	2

parameter	symbol	unit
cutting speed:	V _c	[ft/min]
feed/tooth:	f _z	[in]

speed (spindle):	n	[rpm]
axis feed rate:	V _f	[in/min]

cutting diameter:	D _c	[in]
tool total length:	L ₀	[in]
tool unclamping length:	L ₁	[in]
tool cutting length:	L ₂	[in]

user specifications
selection in the diagram
selection in the diagram

calculation by user
calculation by user

processing specific
processing specific
processing specific
processing specific

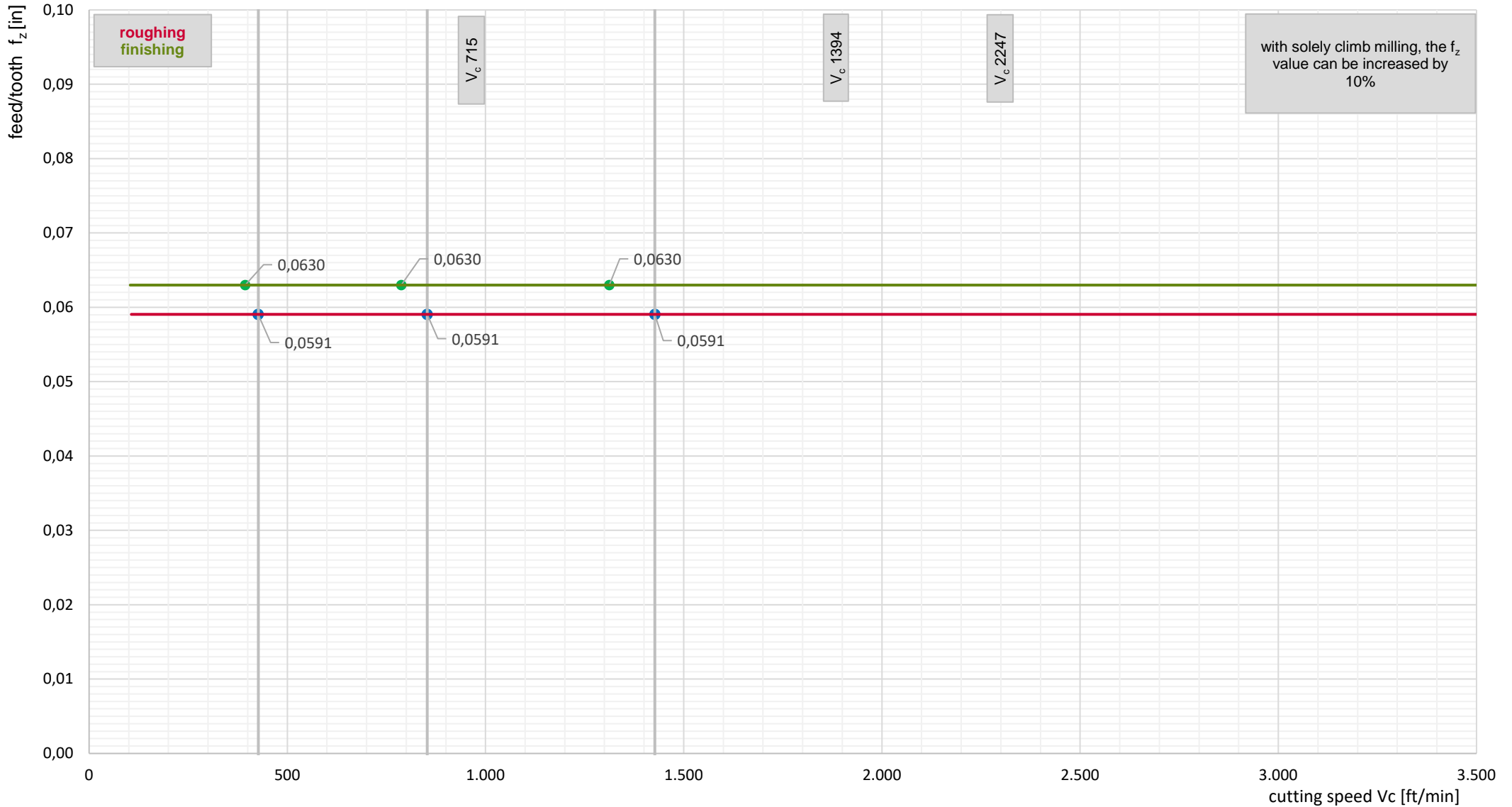
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