Feeds and Speeds for RAKU® TOOL SB-0064

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formula for calculating speed (spindle)

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

7271 [rpm] = $\frac{1427 \text{ [ft/min]} \times 12{,}0001}{¾ \text{ [in]} \times 3{,}14}$

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	roughing recommendation min.	roughing recommendation ideal	roughing recommendation max.
radial infeed:	a_e	[in]	- x D_c	**0.50 x D_c**	0.80 x D_c
axial infeed:	a_p	[in]	0.10 x D_c	**1.00 x D_c**	2.00 x D_c
number of teeth:	z_n	[number]	1	**2**	4

recommended cutting data for finishing

parameter	symbol	unit	finishing recommendation min.	finishing recommendation ideal	finishing recommendation max.
radial infeed:	a_e	[in]	- x D_c	**0.01 x D_c**	0.10 x D_c
axial infeed:	a_p	[in]	0,01 x D_c	**0.10 x D_c**	0.50 x D_c
number of teeth:	z_n	[number]	1	**2**	4

parameter	symbol	unit	user specifications
cutting speed:	V_c	[ft/min]	selection in the diagram
feed/tooth:	f_z	[in]	selection in the diagram
speed (spindle):	n	[rpm]	calculation by user
axis feed rate:	V_f	[in/min]	calculation by user
cutting diameter:	D_c	[in]	processing specific
tool total length:	L_0	[in]	processing specific
tool unclamping length:	L_1	[in]	processing specific
tool cutting length:	L_2	[in]	processing specific

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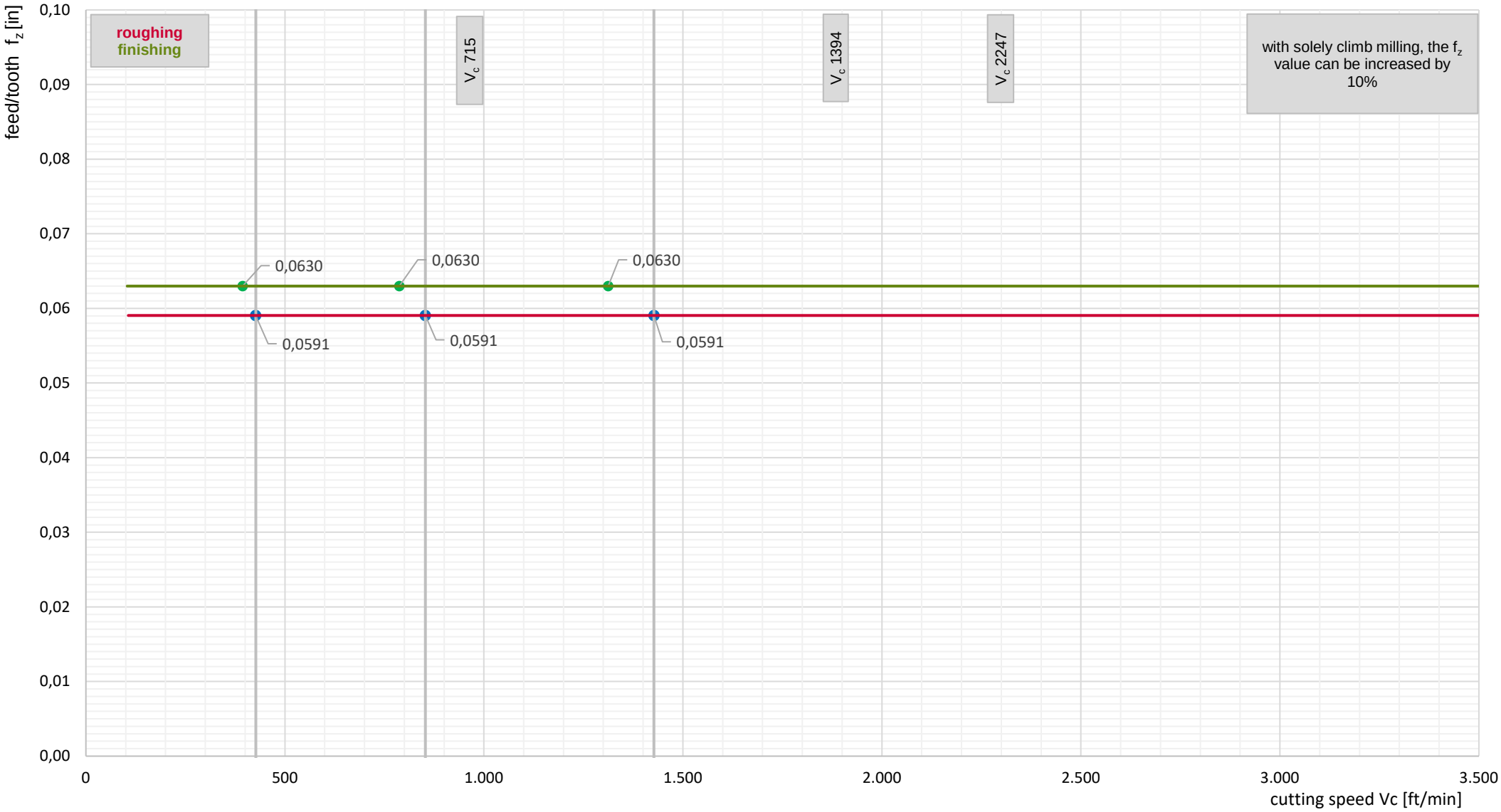

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