

Speeds and Feeds

Material Specifications	Avg. SFM	Pitch TPI	Part Dia.	Speed RPM	Feed FPR	In-Feed per side
1117 11L17 12L14 1215	190	25	1/2"	1450	0.008	0.014
			1"	726	0.012	0.014
			2"	362	0.012	0.014
			3"	242	0.012	0.014
			4"	182	0.010	0.014
1018	175	25	1/2"	1337	0.008	0.014
			1"	668	0.012	0.014
			2"	334	0.012	0.014
			3"	223	0.012	0.014
			4"	167	0.010	0.014
41L40	170	25	1/2"	1298	0.008	0.014
			1"	650	0.012	0.014
			2"	324	0.012	0.014
			3"	216	0.012	0.014
			4"	162	0.010	0.014
4130 4140	116	25	1/2"	886	0.008	0.014
			1"	444	0.012	0.014
			2"	222	0.012	0.014
			3"	148	0.012	0.014
			4"	110	0.010	0.014
8620	136	25	1/2"	1039	0.008	0.014
			1"	519	0.012	0.014
			2"	260	0.012	0.014
			3"	173	0.012	0.014
			4"	130	0.010	0.014
5"	104	0.009	0.014			

THIS TABLE IS FOR REFERENCE ONLY.

Actual statistics will depend on the combination of material, machine, set-up rigidity, and machine operator. High Speed Steel Knurl wheel (25 TPI) used for calculations.

Because of the amount of Material and Brinell hardness values, the average SFM value was used for the calculations of the speeds and feeds.

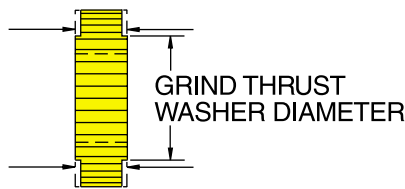
Knurling tools should be treated like cutting tools, but the knurling wheel has many more cutting edges. Use the same SFM used for high speed and cobalt tool bits to calculate speeds and feeds.

Knurling Speed, RPM, was calculated using the formula below:

$$\frac{(12) \times (\text{SFM})}{(3.1416) \times (\text{DIA.})} = \text{RPM}$$

- WARNING -

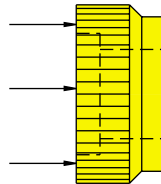
Speeds and Feeds information within this catalog are for reference only. If the operator does not feel safe using our speeds and feeds, then the operator should use what is comfortable to him or her. Dorian Tool is not responsible for any damage or injury that occurs using the speeds and feeds information within this catalog.



SS STYLE KNURL WHEEL

Wheel Grinding

GRIND CUTTING FACE ONLY



SW STYLE KNURL WHEEL

When the cutting edges of the knurl wheel become dull, sharpen them by grinding the cutting face of both wheels evenly.

Malfunctions

Uneven Depth of Knurl	Adjust knurling tool head for even wheel contact with adjustment screws.
Twisted Knurl Pattern	Check holding device. The tool must be exactly center and straight. Start tool 1/8" from end.
Breakage of Knurl Teeth	Excessive feed, cut is too deep or knurl wheels are loose.
Dulling of Knurl Teeth	Material is too hard. Decrease speed and feed.
Overlapping Knurl Pattern	Depth of cut is too shallow or starting in-feed (plunge) is too slow. Increase depth of cut or plunge faster.