



## Parametric Cable Organizer (Single Perimeter / Vase Mode)



orax

[VIEW IN BROWSER](#)

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### Summary

A fast to print cable organizer system built to be printed using 0% infill and a single perimeter or vase mode.



2.52 hrs



1 pcs



0.30 mm



0.40 mm



PLA



76 g



Prusa  
MK3/S/S+

[Hobby & Makers](#) > [Organizers](#)

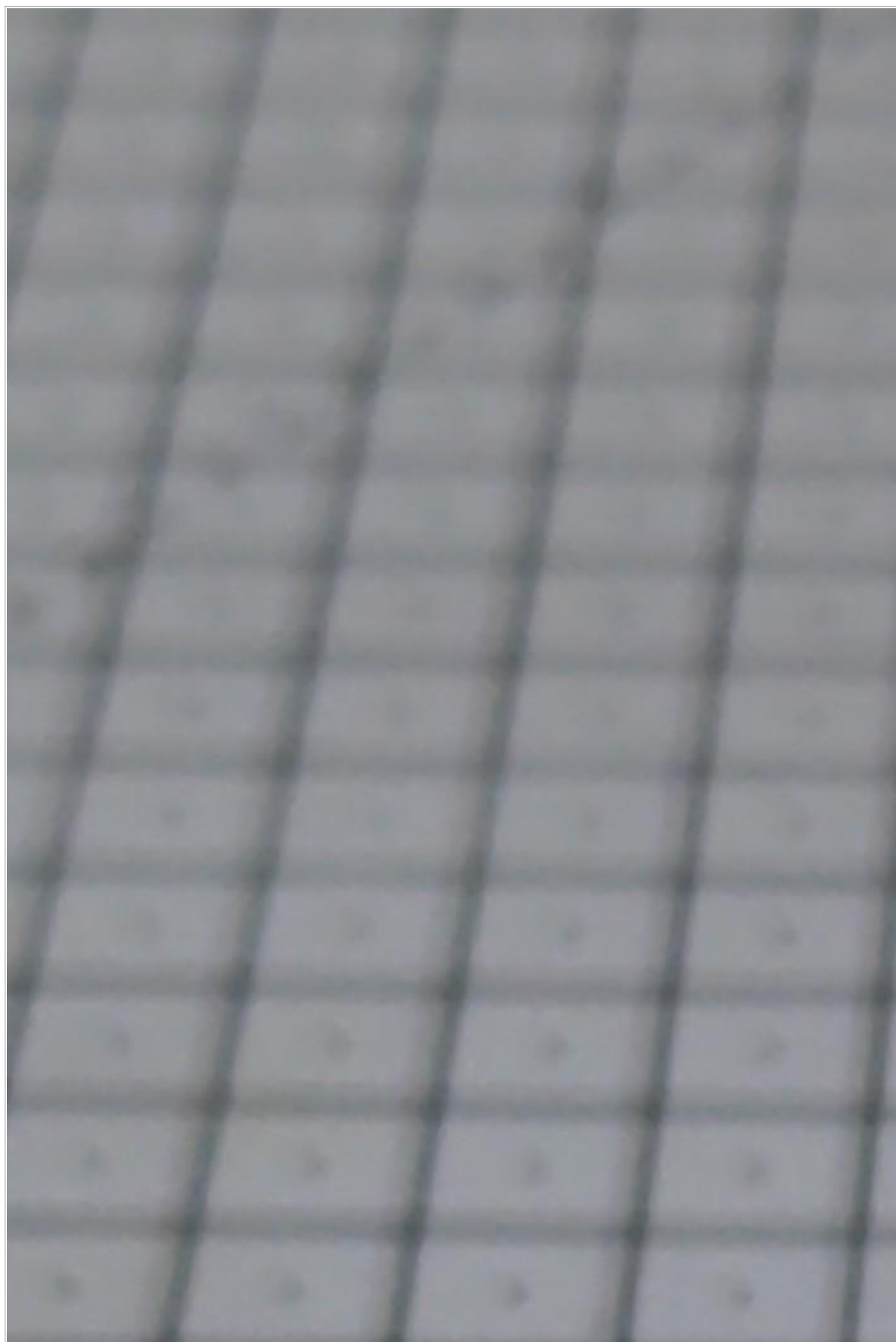
Tags: [cable](#) [cableholder](#) [cablemanagement](#) [cableorganizer](#) [drawerorganizer](#) [officeorganization](#) [organization](#) [organizer](#) [spiralizedcontour](#) [spiralvasemode](#) [vasemode](#) [parametric](#) [parametricdesign](#)

After seeing @i6o6 “[Simplest cable organizer](#)”, I feel in love with the idea of a dead simple cable organization system but ended up wondering if I could make a similar model that would be suitable to be printed extremely quickly using a single outer perimeter in vase mode. This is what came out

of this idea, a simple yet effective way to store your cables that can be printed in less than 30 minutes on a Prusa i3 MK3.

### **Available models**

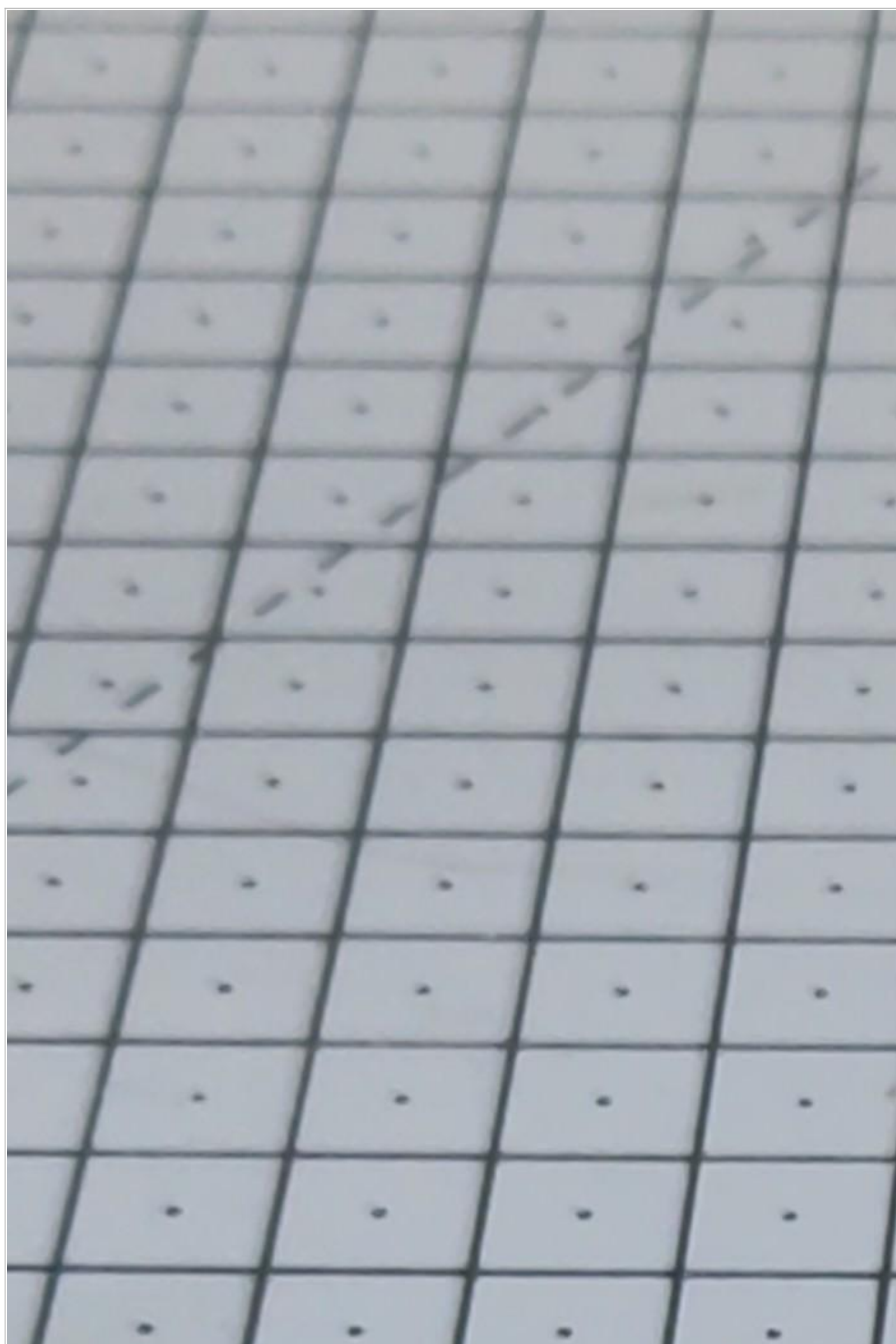
<b>cable-15.stl</b>
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**cable-30.stl**

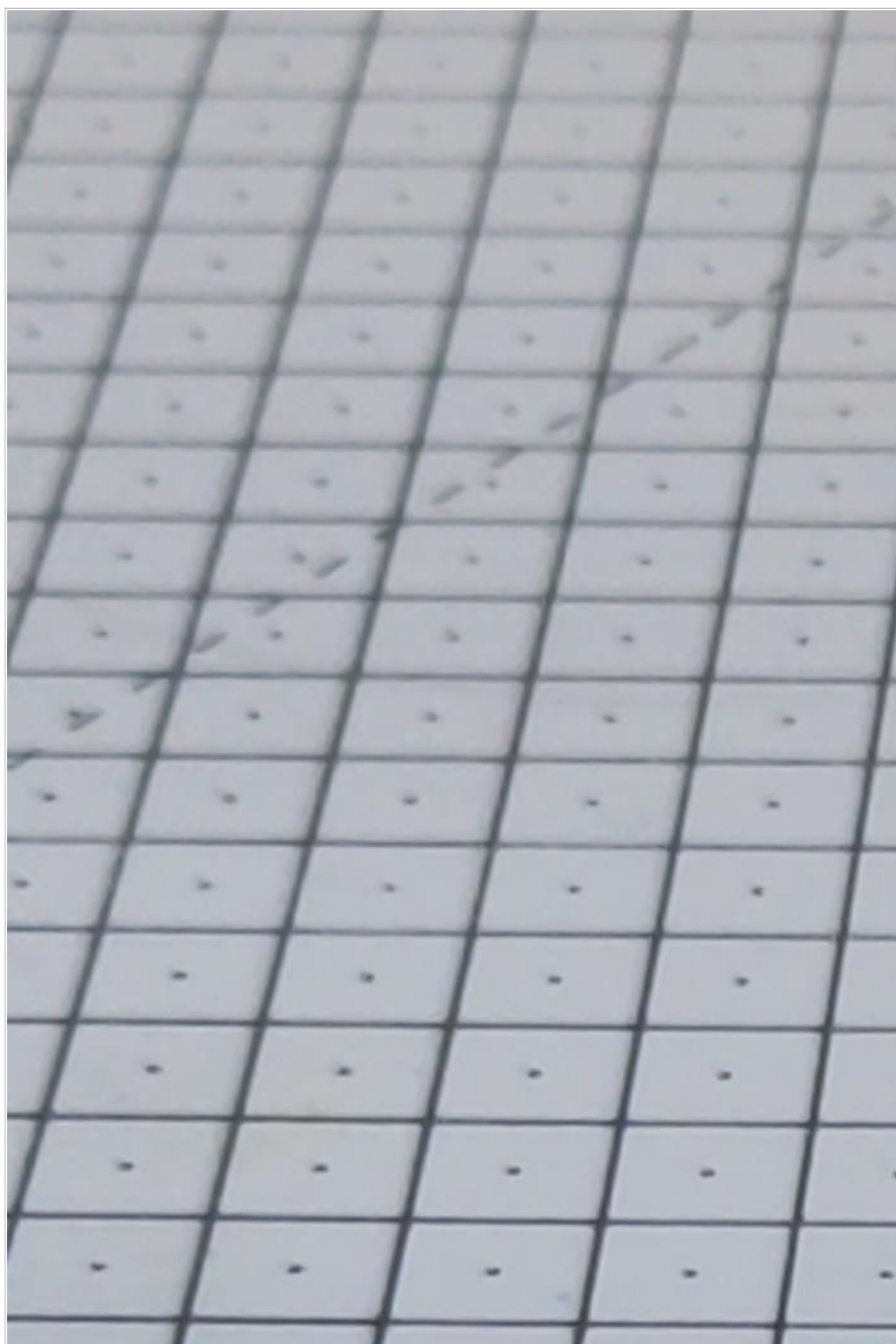


**cable-40.stl**





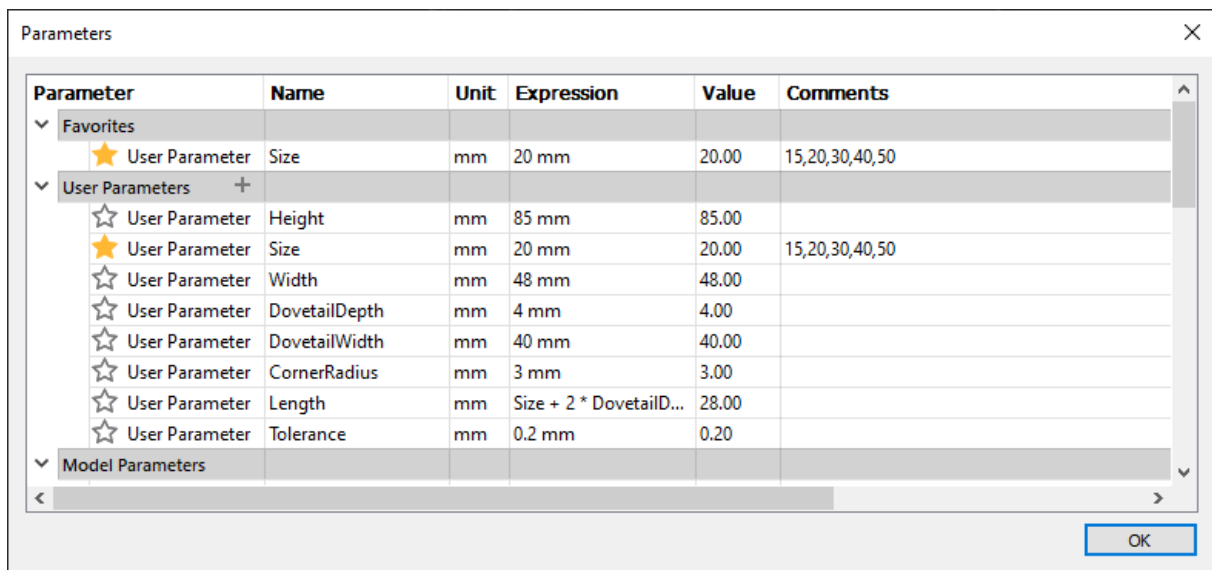
**cable-50.stl**



## Need more ?

All the exported models available in this project have been generated using the included Fusion 360 parametric project file (available as cable-organizer.f3d in the download section). If you need any other sizes or the current height or width of the model does not fit your specific need you can generate any combination of module. Make sure to use the same DovetailWidth parameter and Width across all your export if you want them to slot together properly.

Here is the list of the different parameters and their value used when exporting the previously listed models:



The screenshot shows the 'Parameters' dialog box in Fusion 360. It contains a table with the following columns: Parameter, Name, Unit, Expression, Value, and Comments. The parameters are organized into sections: Favorites, User Parameters, and Model Parameters. The 'User Parameters' section is expanded, showing a list of parameters with their respective values and expressions.

Parameter	Name	Unit	Expression	Value	Comments
★ User Parameter	Size	mm	20 mm	20.00	15,20,30,40,50
☆ User Parameter	Height	mm	85 mm	85.00	
★ User Parameter	Size	mm	20 mm	20.00	15,20,30,40,50
☆ User Parameter	Width	mm	48 mm	48.00	
☆ User Parameter	DovetailDepth	mm	4 mm	4.00	
☆ User Parameter	DovetailWidth	mm	40 mm	40.00	
☆ User Parameter	CornerRadius	mm	3 mm	3.00	
☆ User Parameter	Length	mm	Size + 2 * DovetailD...	28.00	
☆ User Parameter	Tolerance	mm	0.2 mm	0.20	

## Printing

### Recommended settings

This project was originally intended to be printed in Vase mode (and can still be) though I would recommend against it if you want to be able to print multiple instances of the same model at the same time.

- Layer height: 0.30mm
- Extrusion width (using an 0.4mm nozzle):
  - External perimeters: 0.8mm
  - First layer: 0.6mm
  - Solid infill: 0.6mm
- Perimeters: 1
- Solid layers:
  - Top: 0
  - Bottom: 2
- Seam position: Random
- Infill: 0%

- Brim / Raft / Supports: no
- Spiral vase: yes (if printing one model at a time, no otherwise)

As you can see, this print relies heavily on using a high extrusion width value which can be achieved using a 0.4mm nozzle (0.8mm external perimeter extrusion width ended up yielding a 0.72mm wall thickness on my Prusa i3 MK3 with a 0.4mm nozzle for example). Using a larger nozzle would tremendously help with both speed and wall thickness.

### **Speeding up the print**

In order to make this model print as quickly as possible, I would also suggest tweaking some of the printing speed / cooling parameters. Most of the gain in speed comes from the already tweak extrusion width but, by changing some of the printing speed, I was able to achieve relatively good result with a print time less than 30 minutes per models using the following settings:

- Speed:
  - External perimeter: 40 to 45mm/s
- Cooling:
  - Remove all cooling thresholds in your Filament Settings (set to 0 for Enable fan if layer print time is below and Slow down if layer print time is below). This is the main culprit for a slow print on top of the low external perimeter printing speed.

I have joined a 3mf file for Prusa Slicer, containing the 3 models sliced and configured to be printed using PLA on a Prusa i3 MK3/S/+ with all the print settings and tweak recommended here already applied.

### **Changelog**

- **V1.0** (2022-08-24): Initial release
- **V1.1** (2022-09-12): Added 2 more sizes case-40.stl and case-50.stl
- **V1.2** (2022-09-27): Updated description, pictures, exported GCode & Fusion 360 source file
- **V1.3** (2022-08-29): Added the Tolerance parameter to the Fusion 360 source file

## **This remix is based on**



## Simplest cable organizer

by i6o6

### Model files



#### Prusa Slicer

1 file



#### cable-organizer.3mf

☐ PrusaSlicer configuration for Prusa i3 MK3/S/+



#### STL Files

5 files



#### cable-15.stl

☐ 15mm cable organizer



#### cable-20.stl

☐ 20mm cable organizer



#### cable-30.stl

☐ 30mm cable organizer



#### cable-40.stl

☐ 40mm cable organizer



### **cable-50.stl**

📄 50mm cable organizer



## **Fusion 360**

1 file



### **cable-organizer.f3d**

📄 Fusion 360 parametric source file

## **Print files**



### **cable-organizer\_03mm\_pla\_mk3\_2h31m.gcode**

🌀 PLA   🌀 0.40 mm   ≡ 0.30 mm   ⌚ 2.52 hrs   ⚖️ 76 g   🖨️ Prusa MK3/S/S+

📄 All sizes in a single print

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