

3D Printing

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Projects TODO

- Composter bin auto-open
- Shower drain easy clean
- Door stop
- RC2014 case

FreeCAD

Exporting STL

Best way is to use *Mesh* workbench and *Create mesh from shape...* . Once mesh is rendered it can be exported via *File -> Export...* and selecting STL.

Filaments

MATERIAL	HARDWARE			TEMPERATURES		SHEETS						PHYSICAL FEATURES			
	Enclosure	Drybox	Hardened nozzle	Nozzle	Bed	Textured	Smooth PEI	Satin	Special PA Nylon	PP	HT	Easily soluble	Heat deflection	Impact resistance	Tensile strength
> PLA	⊖ No	-	No	185-235 °C	50-60 °C	✓	✓	✓	✗	⚠ First, print with PP	✗	✗	🔴	🔴	🟡
> PETG	⊖ No	No	No	215-270 °C	70-90 °C	✓	⚠ with glue stick	✓	✓ Cleaned with water	✓	✗	✗	🔴	🔴	🟡
> PETG HT	⊖ No	No	No	270 °C	110 °C	✓	⚠ with glue stick	✓	✓ Cleaned with water	✓	✗	✗	🟡	🟢	🟡
> ASA	⊖ Recommended	No	No	220-275 °C	90-110 °C	⚠ with glue stick	⚠ with glue stick	✓	✗	✓	✗	✓	🟡	🔴	🟡
> ABS	⊖ Recommended	No	No	230-255 °C	95-110 °C	⚠ with glue stick	⚠ with glue stick	✓	✗	✓	✗	✓	🟡	🔴	🔴
> PC (Polycarbonate)	⊖ Recommended	No	No	270-275 °C	100-115 °C	⚠ with glue stick	⚠ with glue stick	✓	✗	✓	✗	✗	🟢	🟡	🟢
> CPE	⊖ No	Yes	No	275 °C	90-110 °C	✓	⚠ with glue stick	✓	✗	✗	✗	✗	🟡	🔴	🟡
> PVA / BVOH	⊖ No	Yes	No	195-215 °C	60 °C	✓	✓	✓	✗	✓	✗	✓	🔴	🔴	🟢
> HIPS	⊖ No	No	No	225-255 °C	100-110 °C	✓	✓	✓	✗	✗	✗	✓	🟡	🔴	🔴
> PP (Polypropylene)	⊖ -	No	No	220-245 °C	70-100 °C	✗	⚠ with PP tape	-	✗	✓	✗	✗	🔴	🟡	🔴
> Flex	⊖ No	-	No	220-260 °C	40-85 °C	✓	⚠ with glue stick	-	-	✓	✗	✗	🔴	🟢	🔴
> nGen	⊖ No	No	No	240 °C	90 °C	✓	⚠ with glue stick	✓	✗	✗	✗	✗	🔴	🟢	🟡
> PA (Nylon)	⊖ Recommended	Yes	No	240-285 °C	70-115 °C	⚠ with glue stick	✗	⚠ with glue stick	-	✗	✗	✗	🟢	🟡	🟡
> Composite materials	⊖ -	-	Yes	225-285 °C	40-115 °C	-	-	-	-	-	-	✗	🟢	🔴	🟢
> Wood / metal filled	⊖ No	No	-	190-270 °C	60-100 °C	-	-	✓	-	-	✗	✗	🔴	🔴	🔴
> PVB	⊖ No	No	No	215 °C	75 °C	✗	✓	✓	✗	✓	✗	✓	🔴	🔴	🟡
> PEI	⊖ Yes Necessary 90-190 °C	Yes Necessary	No	430 °C	150 °C	✓ with MagiGoo HT	✗	✗	✗	✗	✓ with MagiGoo HT	✗	🟢	🔴	🟢

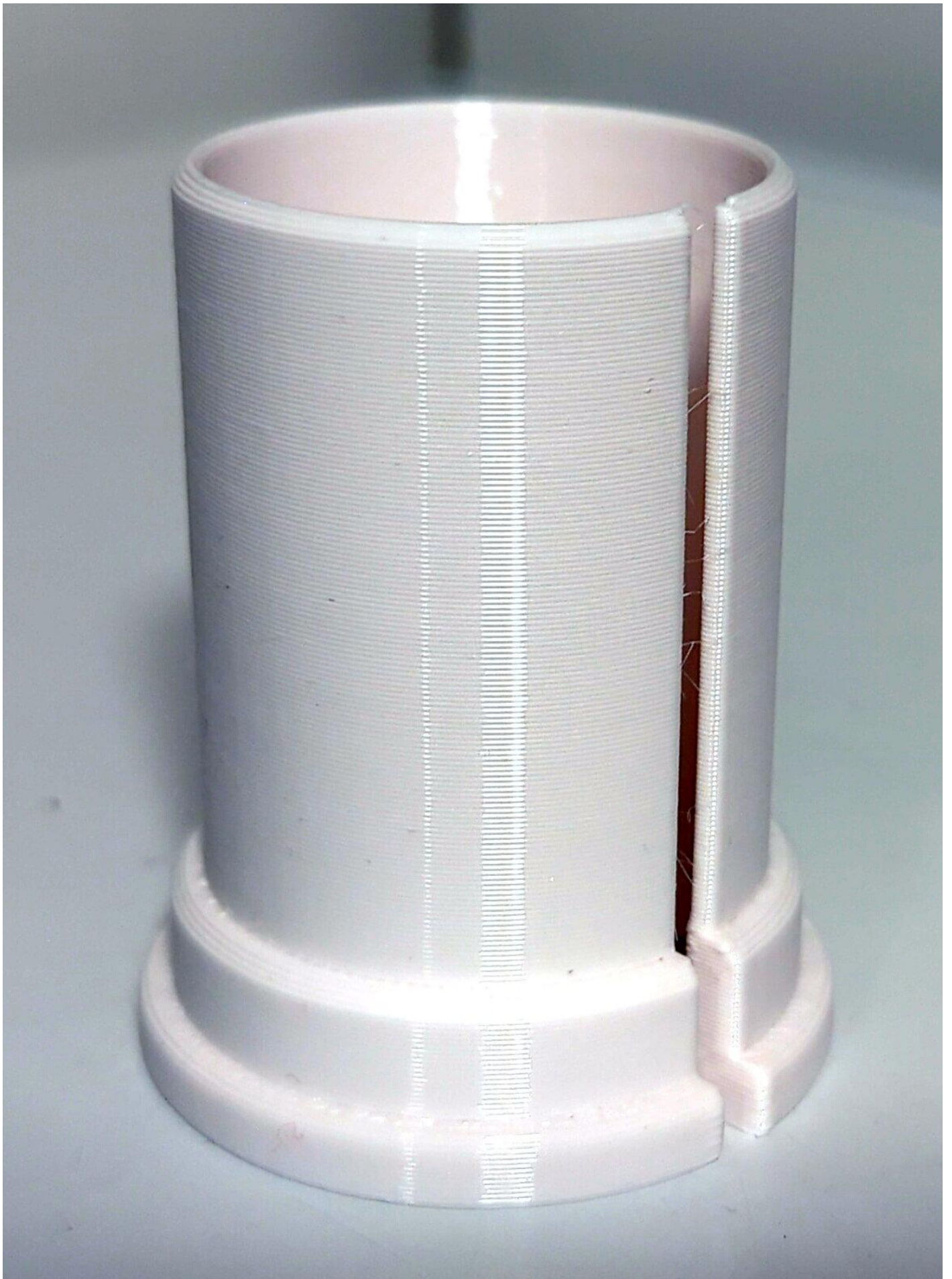
Source: <https://help.prusa3d.com/filament-material-guide>

3D Print Designs

3D Print Designs

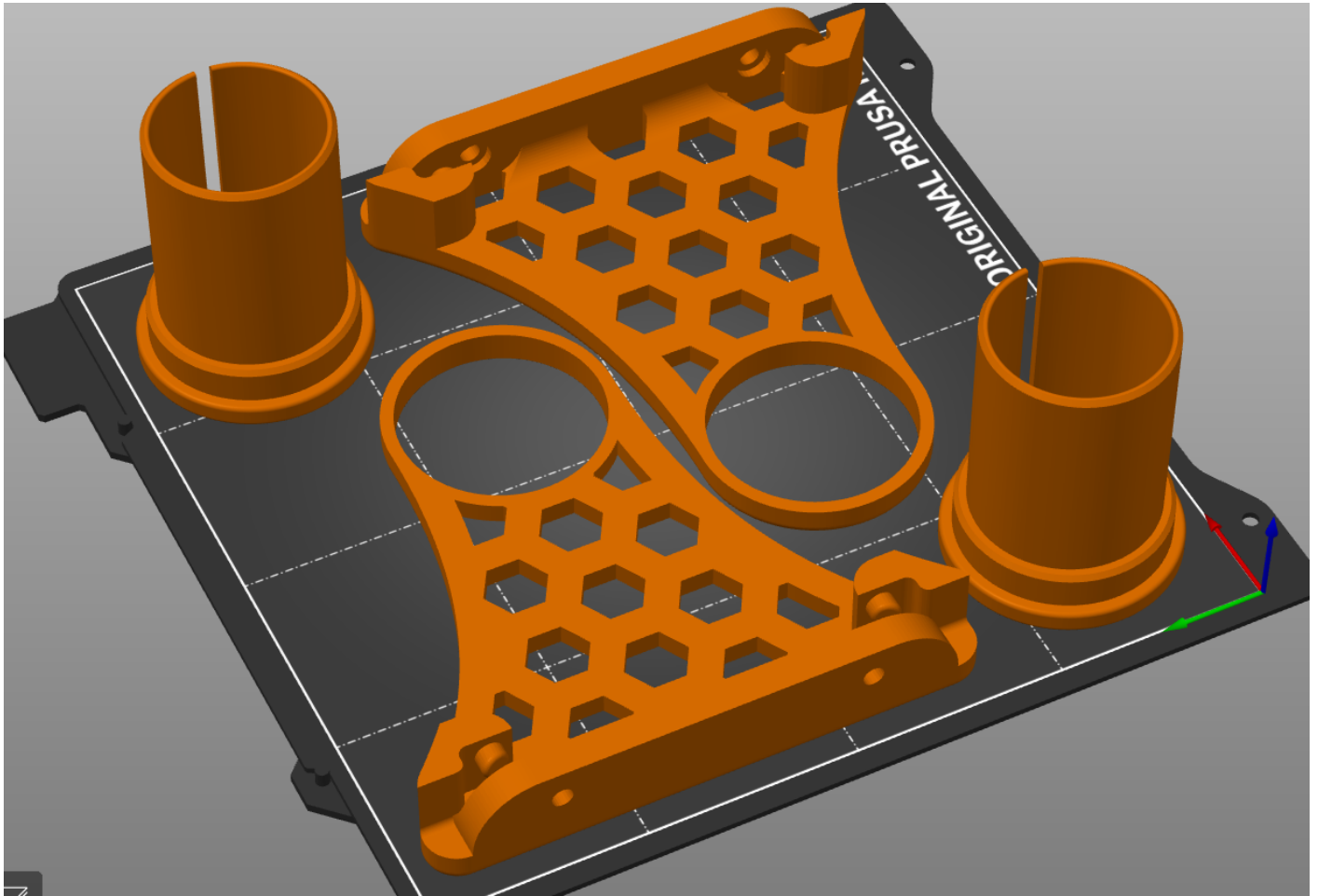
Paper Towel Holder





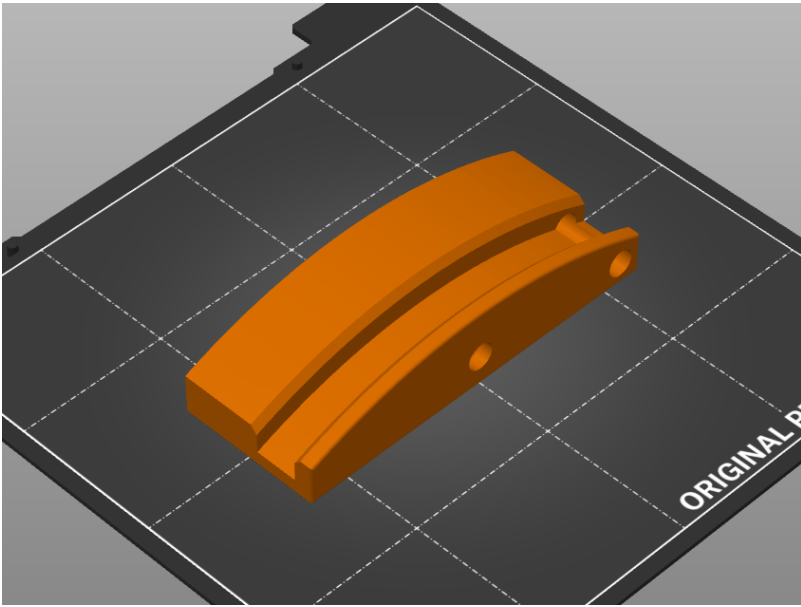
This is a remix of <https://www.thingiverse.com/thing:5182572/files> but with better fitting inserts (Part 2):

1. FreeCAD project: [Paper Towel Holder - Custom.FCStd](#)
2. STL: [Paper Towel Holder - Custom-Body.stl](#)



Screw Case Wall Mount Bracket



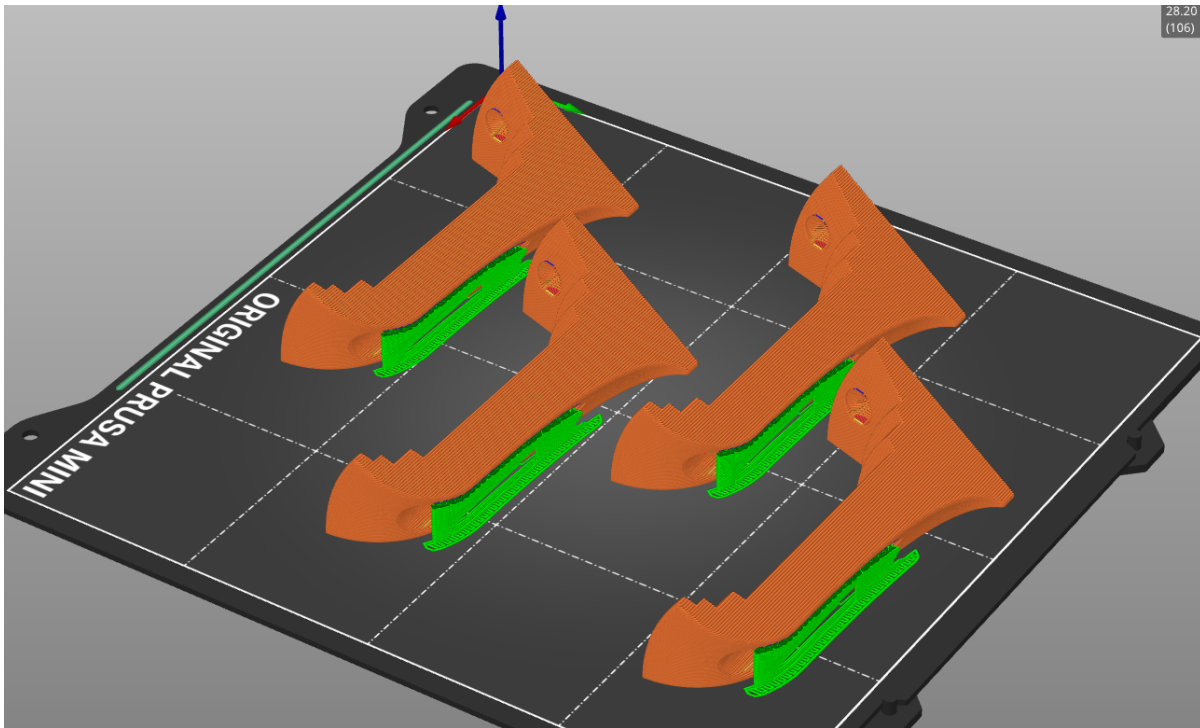


- FreeCAD: [Skrew box wall mount.FCStd](#)
- STL: [Skrew box wall mount-Body.stl](#)

3D Print Designs

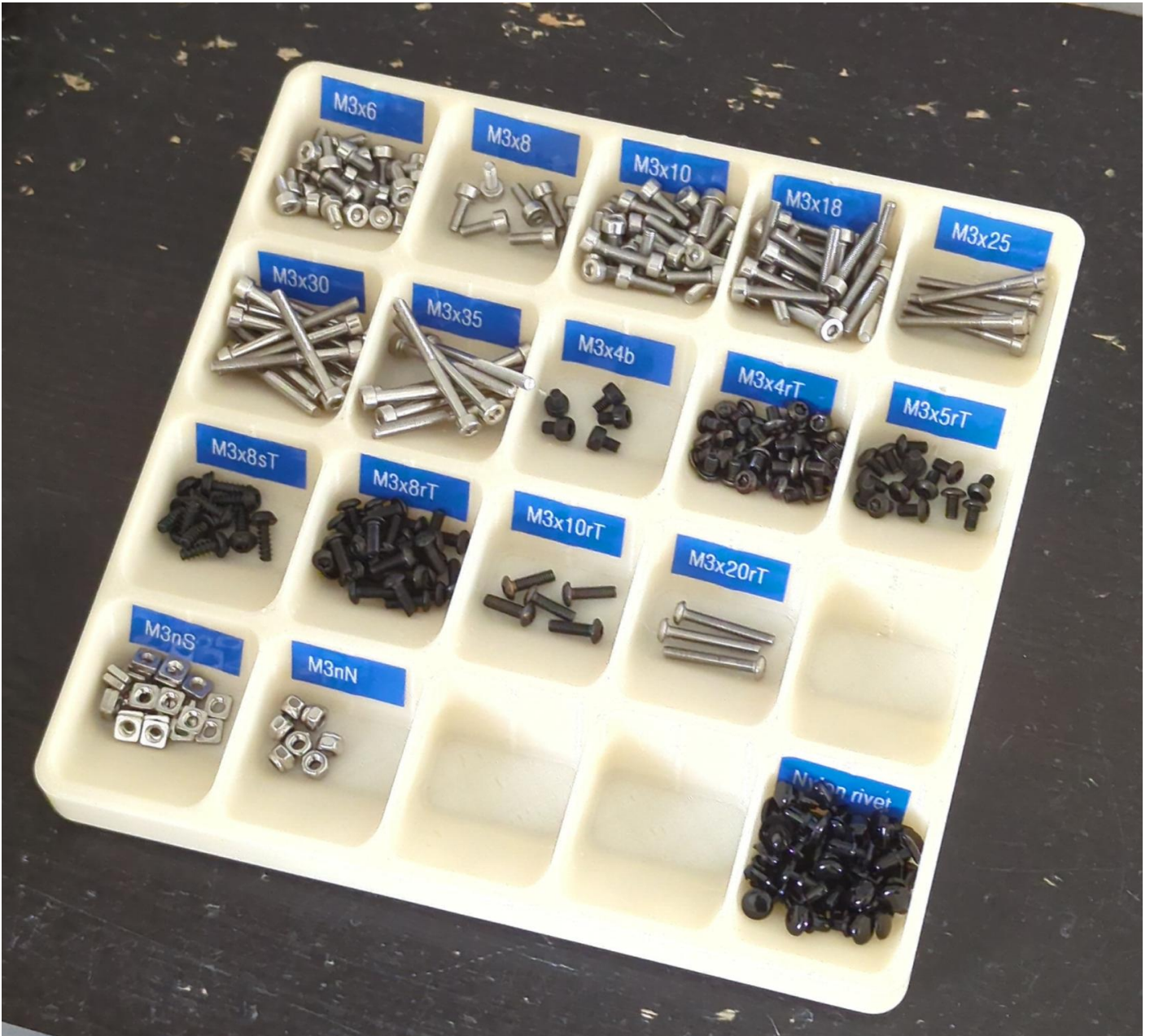
Filament Spool Wall Hanger





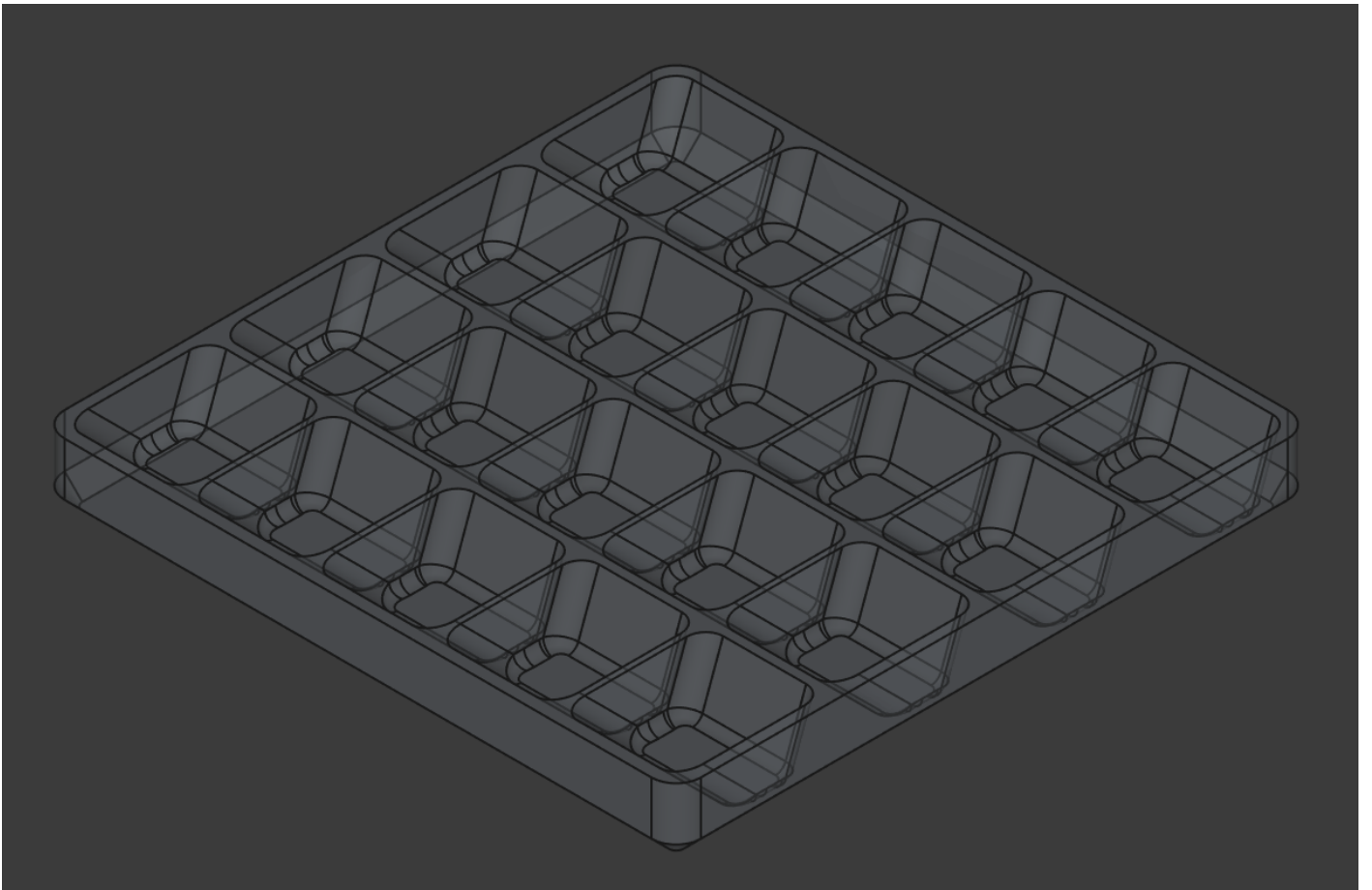
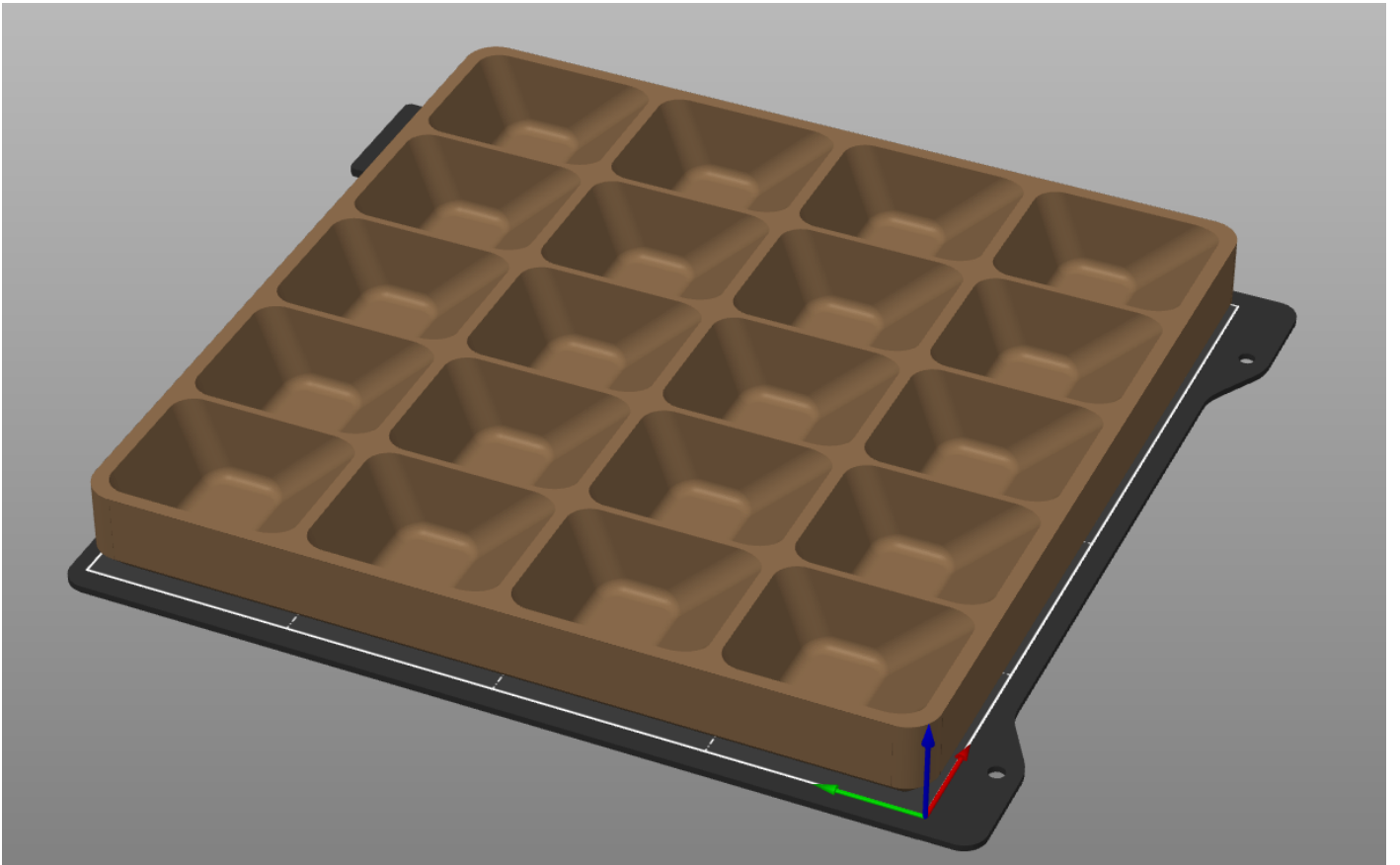
- [Filament_holder.FCStd](#)
- [Filament_holder-Body.stl](#)
- [Filament_holder-Body.3mf](#)

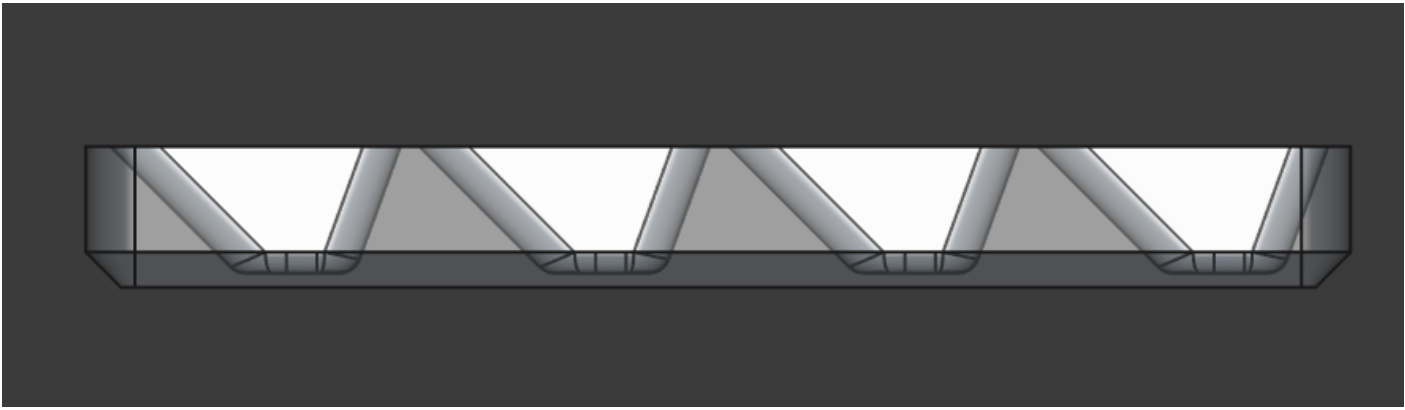
Small Parts Tray



Useful tray for keeping small parts, nuts, bolts, screws etc. organized for assembly.

- [parts-tray.FCStd](#)
- [parts-tray.3mf](#)
- [parts-tray.stl](#)





Legend

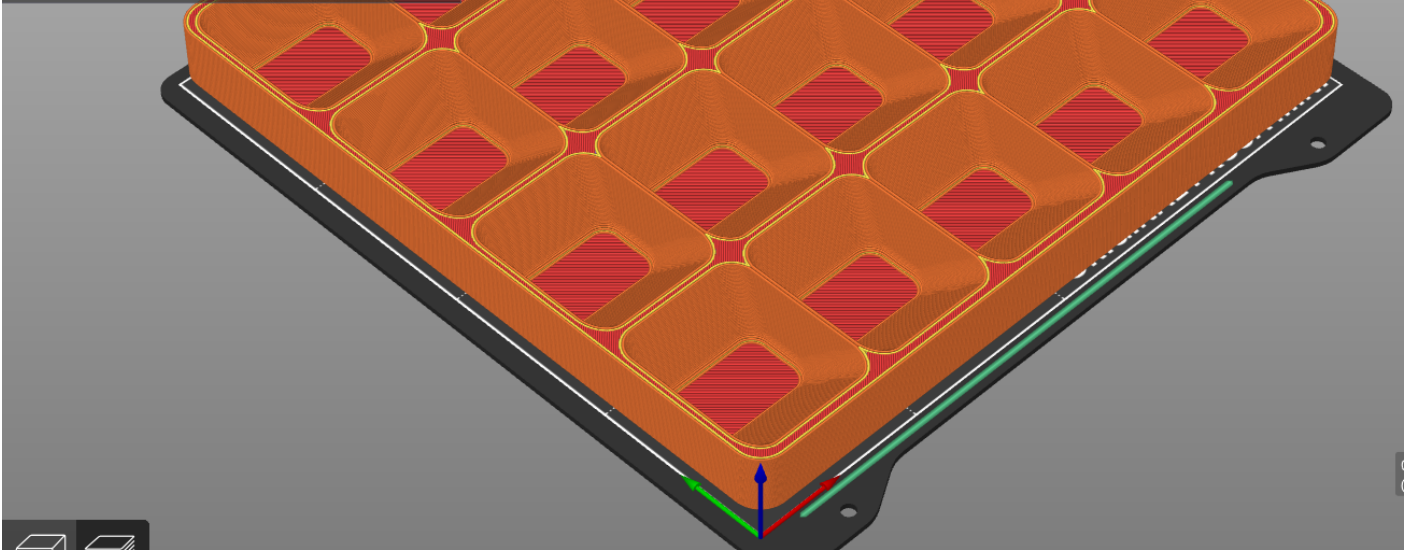
Feature type

Feature type	Time	Percentage	Used filament
Perimeter	48m	17.6%	11.82 m 35.25 g
External perimeter	1h3m	23.0%	14.79 m 44.12 g
Internal infill	45m	16.7%	10.84 m 32.33 g
Solid infill	1h3m	23.1%	14.13 m 42.14 g
Top solid infill	10m	3.5%	2.05 m 6.11 g
Bridge infill	16m	5.8%	3.29 m 9.82 g
Custom	10s	0.1%	0.02 m 0.05 g

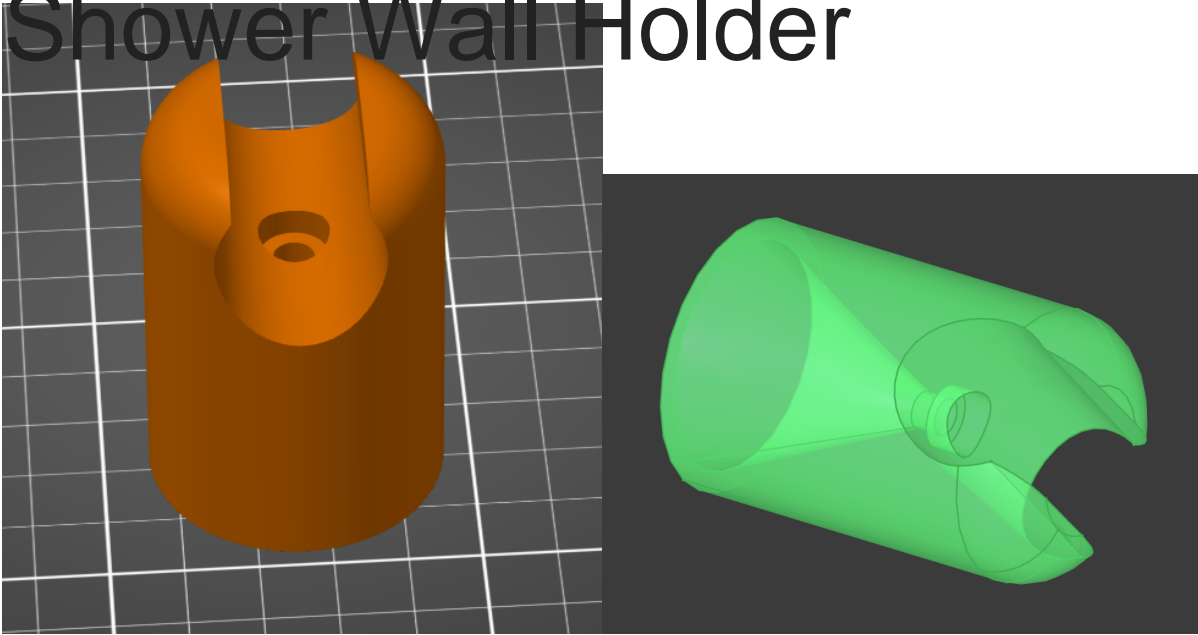
Estimated printing times [Normal mode]:

First layer: 20m
Total: 4h32m

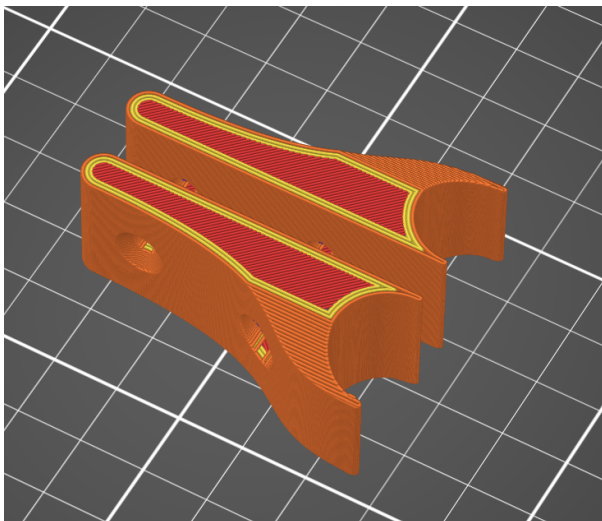
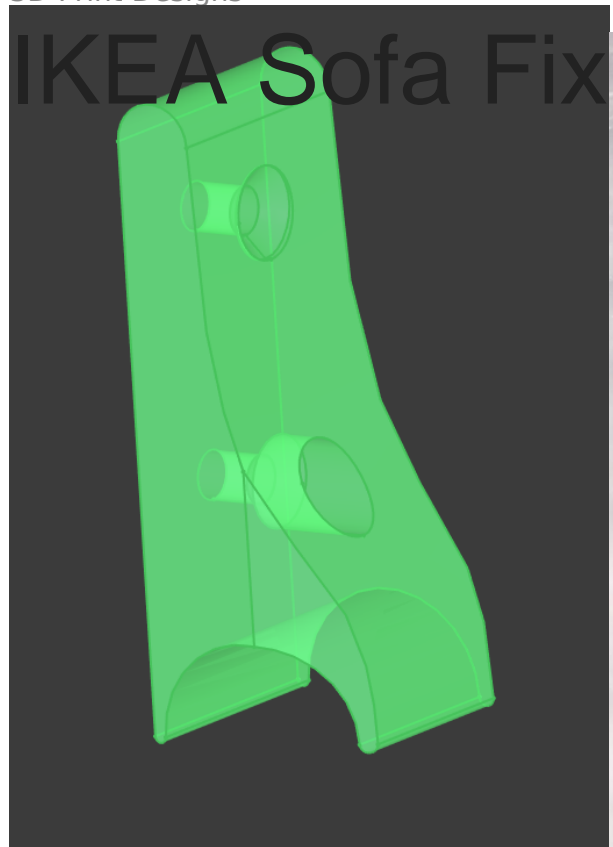
Show stealth mode



Shower Wall Holder

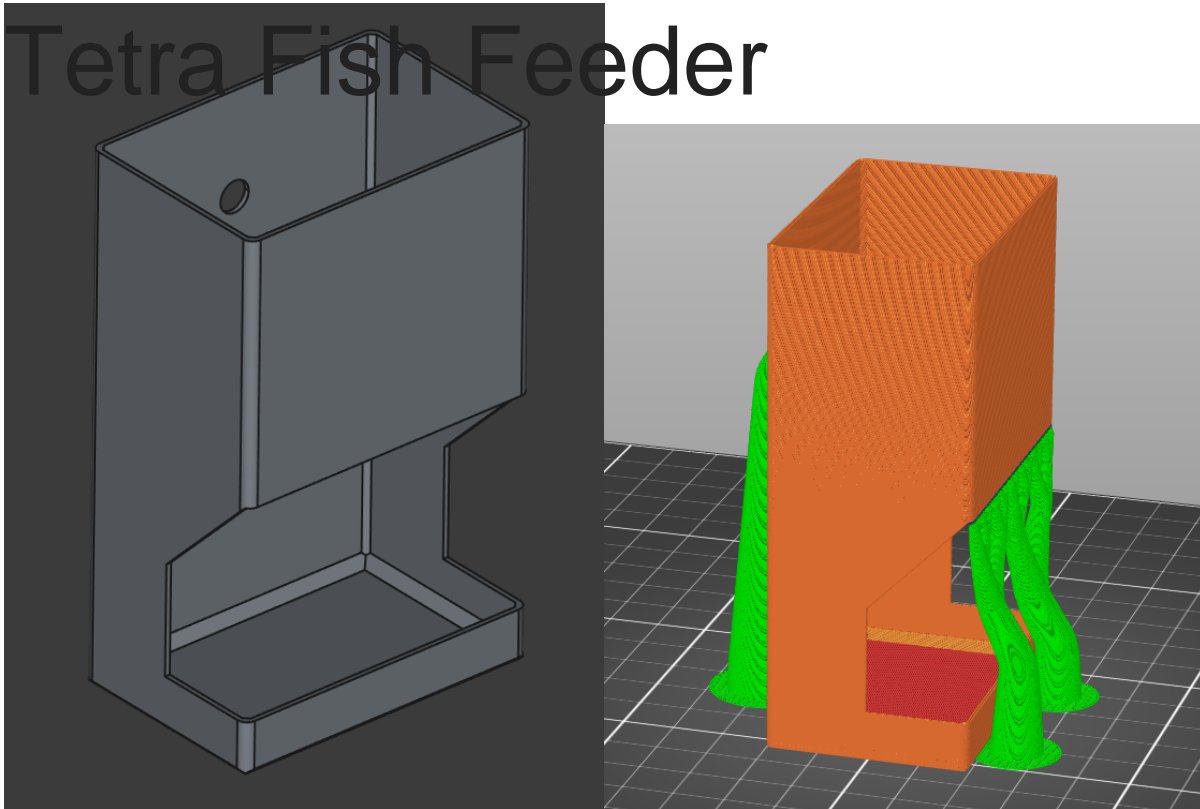


- [Shower_Wall_Holder.FCStd](#)
- [Shower_Wall_Holder.stl](#)



- [Ikea Sofa Fix.FCStd](#)
- [Ikea Sofa Fix.stl](#)

Tetra Fish Feeder



- [Tetra Feeder.FCStd](#)
- [Tetra Feeder.3mf](#)
- [Tetra Feeder.stl](#)

Ikea Besta Corner Stabiliser



Print 4 and screw in the corners at the back of your Ikea Besta cupboard or storage unit to reduce its sideways wobble.

- [Besta_stabilizer.FCStd](#)

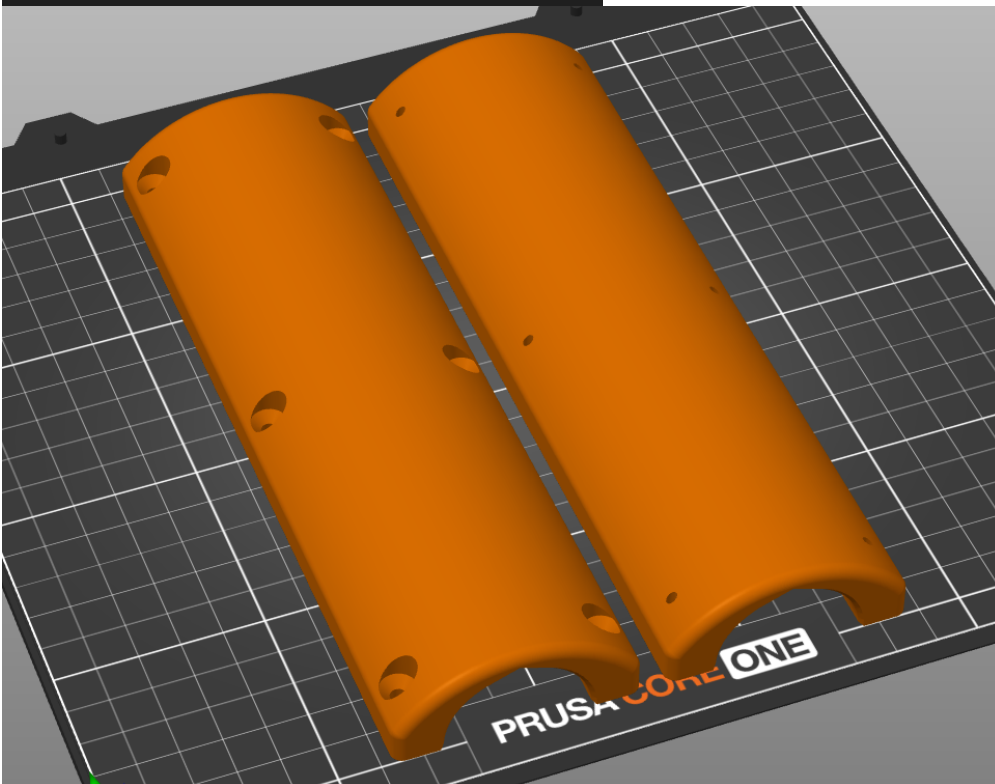
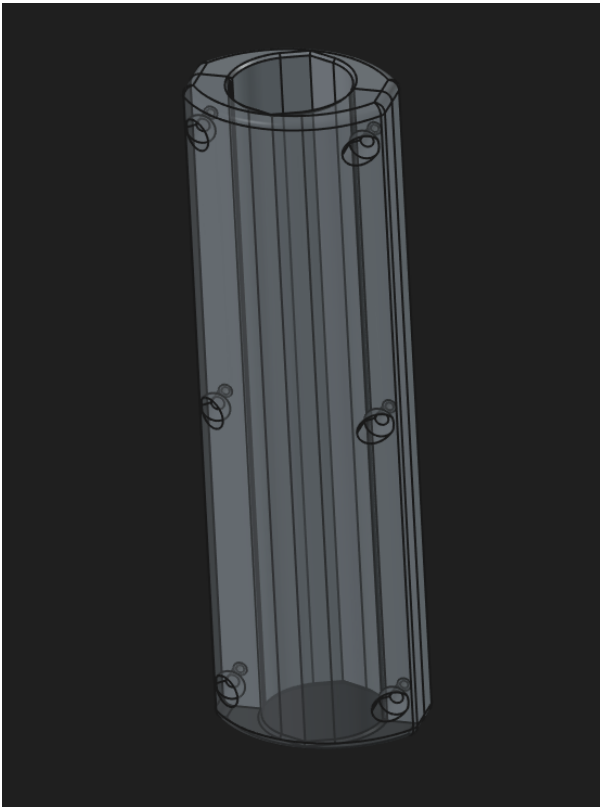
- [Besta_stabilizer.stl](#)
- [Besta_stabilizer.3mf](#)

3D Print Designs

Pipe holder 35mm

Holder to fix 35mm umbrella pipe and bushing for the base.

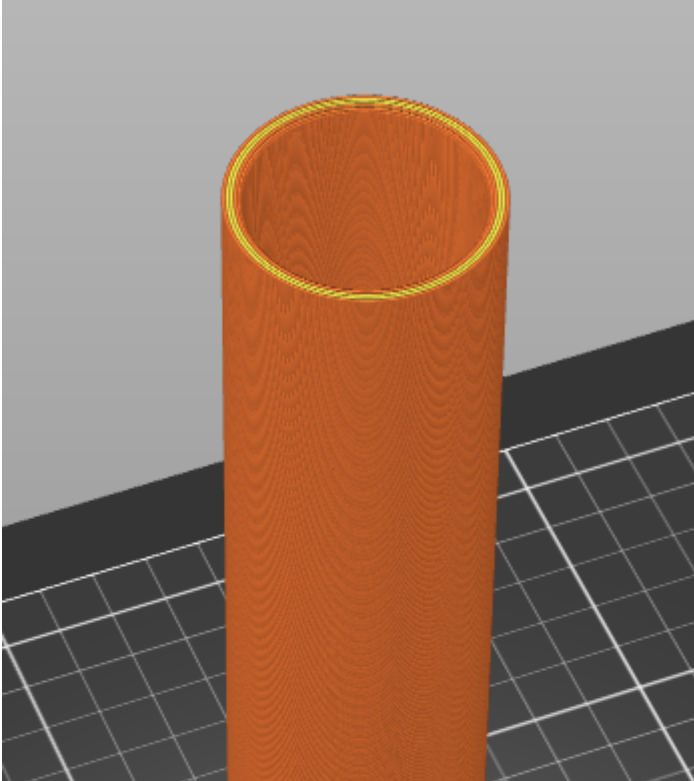
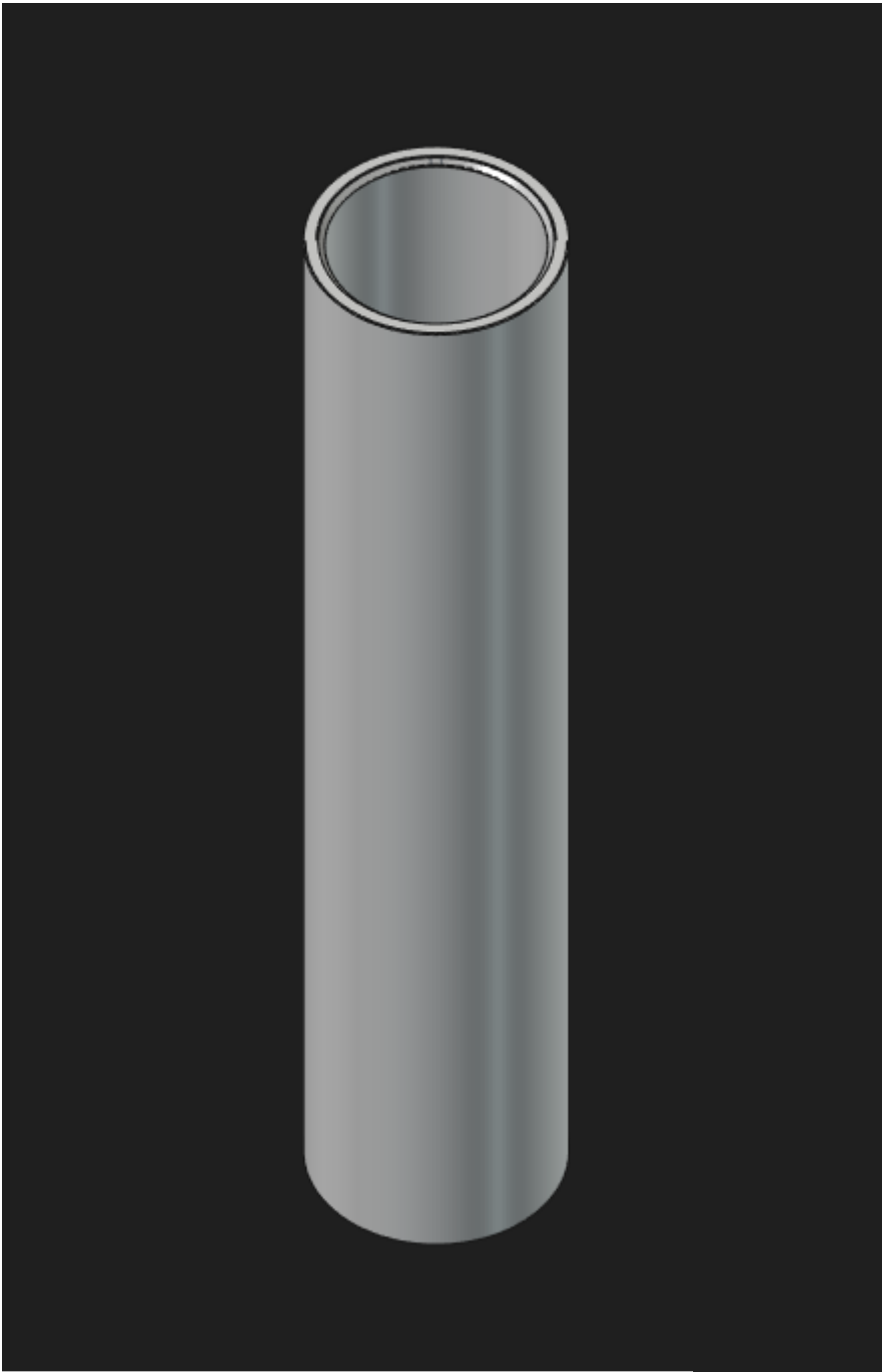
Screw over 35/200mm



Files

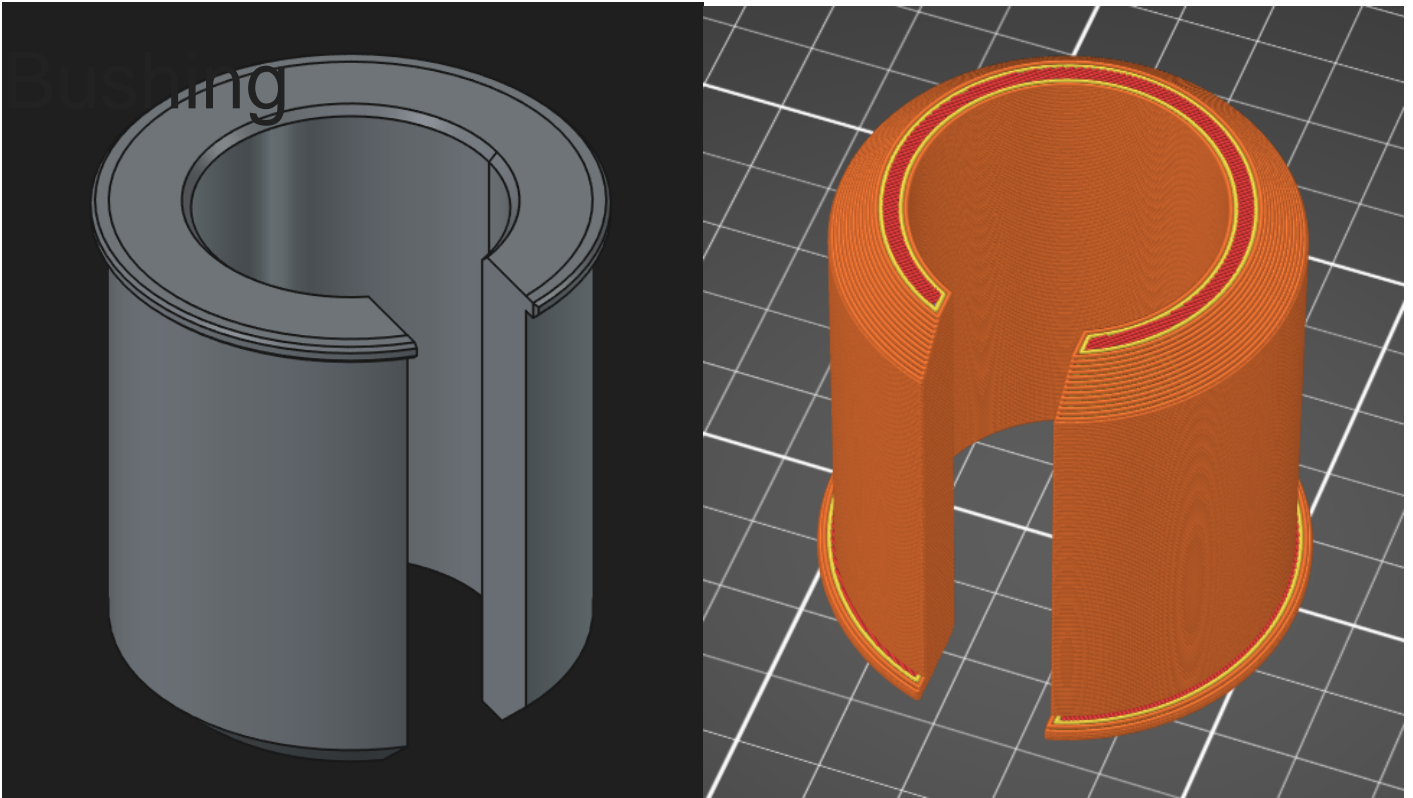
- [Pipe-Holder-Front.stl](#)
- [Pipe-Holder-Back.stl](#)
- [Pipe-Holder-Back.3mf](#)
- [pipe-holder.FCStd](#)

Pipe 35/200mm



Files

- [Pipe-35-200.stl](#)
- [Pipe-35-200.3mf](#)



Files

- [Bushing.stl](#)
- [bushing.FCStd](#)
- [Bushing.3mf](#)