

Sponge Tray Print & Use Guide

A sponge tray for the back of the sink that drains straight into it.

PLA

One Piece

No Supports

Built by MakerX Designs · Virginia Beach, VA · makerxdesigns.com · © 2026

My daughter asked if I could make a sponge tray for the back of her sink. The whole design is one idea: a wet sponge sitting in its own puddle stays wet, gets slimy and starts to smell. So this one never lets the water sit.

How it works

- **Raised ribs under the sponge.** The sponge rests on ridges, not on a flat floor, so air moves underneath it and the underside dries along with the top.
- **A sloped floor.** The base slopes toward the drain opening, so water runs off instead of pooling.
- **A drain mouth aimed at the sink.** The opening sits at the front edge and points over the basin, so what the sponge sheds goes down the drain, not onto the counter.
- **Nothing to clean out.** No trap, no reservoir, no insert.



In place behind the sink.

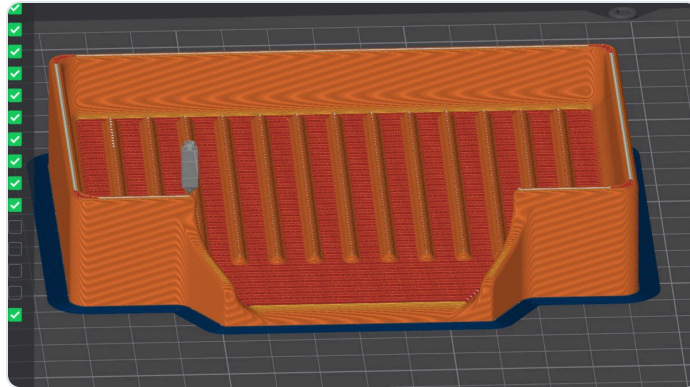
In the download

File	What it is
sponge_holder.3mf	Start here. The tray on one plate, with the tested PLA profile already set up.
sponge_holder.STL	The bare model, for your own slicer profile.

One piece, 125 × 104 × 25 mm. No hardware, no assembly.

1 • Print it

Plate	Time	Filament	Length
1 • Sponge tray	4 h 27 m	68.00 g	22.80 m



The tray prints right side up, inside a 5 mm outer brim. No supports.

- 1 Open `sponge_holder.3mf` in any slicer that imports 3MF project files. When it asks whether to load the project's print settings, **say yes**.
- 2 Slice and print. It is one plate, one color, no filament swaps.
- 3 **Peel off the brim.** It is a single thin ring around the outside of the base.

The profile baked into the 3MF

Using your own profile instead? Match these. Sliced for a 0.4 mm nozzle.

Quality		Material & plate	
Layer height	0.12 mm	Filament	PLA
First layer	0.20 mm	Nozzle temp	220 °C
Walls	3 loops	Bed temp	60 °C
Top / bottom	5 / 5 layers	Supports	None
Infill	9 % gyroid	Brim	Outer only, 5 mm
Z anti-aliasing	On		

Why fine layers and anti-aliasing

This one sits out on the counter where people see it, so the profile goes for finish over speed. Z anti-aliasing smooths the layer lines on the sloped top. If your slicer has no such setting, just print it without. Print it at 0.20 mm if you would rather have it sooner.

2 • Set it up



The front: ribs across the floor, and the drain mouth cut into the front wall.



From behind: this side faces the backsplash.

- 1 **Set it behind the sink** with the drain mouth at the edge of the counter, pointing over the basin.
- 2 **Drop the sponge in.** It rests on the ribs, not on the floor.
- 3 **That is it.** Squeeze the sponge in the tray and the water runs out of the front and into the sink.



Pressing the sponge: the water leaves through the drain mouth and falls into the sink.

Care

Mine gets a wipe once a week, and that is the whole maintenance routine. PLA has held up fine at a kitchen sink for months.

Where precision meets the printer

Thanks for printing this one. If it keeps a sponge dry and a counter free of puddles, that is exactly what it was designed to do.

For years my design world existed entirely behind a screen. As a mechanical engineer I spent countless hours building complex CAD models, but there was always a missing link — the ability to hold an idea in my hands. That changed in January 2026, when I went headfirst into 3D printing. The moment that first layer stuck to the bed, the gap between concept and reality vanished.

Coming from a background where precision is everything, tolerances aren't suggestions to me — they are a religion. I didn't want to print trinkets; I wanted to apply industrial engineering discipline to desktop manufacturing. Every wall count, every layer height and every infill percentage in this guide is a deliberate decision backed by testing. If a part can't handle the environment it was built for, it goes back to the drawing board.

Three principles behind every print

01

Functional Engineering

High-utility, real-world solutions rather than purely decorative models. If it doesn't solve a practical problem, it doesn't leave the workstation.

02

Rigorous Tolerances

Designed in professional CAD with mechanical intent — press-fits that click and assemblies that work straight off the build plate. No sanding, no filing, no guesswork.

03

Bridging the Gap

Industrial structural integrity at maker speed. Proving a desktop printer can produce parts worthy of real engineering applications is what drives every release.

The workshop

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A note on sharing

I'm thrilled when people use and share these designs. I just ask that you respect the license shown on the model listing and give the required credit, so I can keep contributing to the collective workshop.

IF THIS ONE EARNED ITS SPOT

A **Like** or a **Favorite** on the model page takes a second and genuinely helps. A **Boost** helps more than either — it is what puts a design in front of makers who would never otherwise come across it. And if you **Follow** me, new models and updates land in your feed as they are released. However you choose to support it, thank you — it is what keeps everything here free to download.

Printed one for your own sink? Post a make with a photo — I would love to see it in place.

Happy printing. — MakerX Designs · makerxdesigns.com · © 2026