

Filament Storage Insert Labels

A tray full of identical clear bags tells you nothing. This sits in the tray with the spool and says what is in it, in letters you can read across the room.

No Supports

Five Plates, One Project

Pre-Configured 3MF



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

It drops into the tray and leans against the front wall, behind the spool and in front of you. No clips, no adhesive, nothing to attach — lift the spool out and the label comes with the tray, ready for whatever goes in next.

In the download

File	What it is
makerx-filament-storage-insert-label-all.3mf	Start here. One project, five plates — PLA, ASA, PETG, TPU and Blank — each laid out with the tested profile traveling with it.
makerx-filament-storage-insert-label- <name>.stl	The five raw meshes, for your own slicer. Each one is already lying face-down and flat — no rotation needed.

1 · What the names mean

The name is what the label SAYS, not what to print it in

All five plates are sliced for **PLA**. The variants differ only in the text embossed on the face, so the "ASA" label is the one you stand in the tray holding your ASA — print it in whatever you like.

The part	
Overall size	240 × 70 × 45.5 mm · identical across all five
Per label	60.36 g PLA · 20.24 m · about \$0.91 · 2 h 33 m
Blank version	single color, so it runs shorter than the four lettered plates
Fixing	none needed · it stands in the tray under its own weight

2 • Slice it

- 1 Open the 3MF in Creality Print — or any slicer that imports 3MF project files.
- 2 When you are asked whether to load the project's print settings, **say yes** — that is the whole point of the 3MF.
- 3 Pick the plate for the material you want to label, confirm your printer and filament, and slice. Using an STL instead? Read the note below first.

A lettered plate runs about **2 h 33 m and 60.36 g**. The Blank plate is shorter, because with one color it makes no tool changes and needs no purge tower.

★ Multi-color: needs a CFS or an AMS

Two filaments, three tool changes — that needs a CFS, an AMS or another multi-material unit, and the **3MF already carries the setup** — in whatever two colors you load. An **STL carries no color**: select the part and use **Paint** in your slicer, or it slices in one color — which is why the text can look like it disappeared. Keep the **lettered face down**: fastest, and least wasted on purge.

3 • The profile baked into the 3MF

Using your own profile? Match these — sliced and print-tested on a Creality Hi, 0.4 mm nozzle.

Quality	
Layer height	0.20 mm
Nozzle	0.4 mm
Walls	2 loops
Top / bottom	5 / 3 layers
Infill	10 % gyroid

Plate adhesion	
Supports	Off
Brim	None
Bed	Epoxy resin plate

Material & speed	
Filament	PLA (tested on Creality CR-PLA)
Nozzle temp	220 °C (first layer 225)
Bed temp	60 °C (textured plate: 73)
Outer wall	250 mm/s
Infill	270 mm/s

Other materials

PLA is all a label needs indoors. If the shelf lives in a hot garage, PETG or ASA will not soften on you. TPU is the odd one out here: a label this size in TPU is floppy enough to slump against the spool, so stick to a rigid material.

4 • Before you hit print

- ☐ Supports confirmed **off** and brim **off** — a flat plaque lying face down has nothing to hold up and nothing to curl.
- ☐ Bed clean. The face against the plate is the face people will read, so its finish is your plate's finish.
- ☐ Printing two colors? The purge tower is in the project — leave it there.

5 • Off the plate

There is no brim, no supports and nothing to glue — the label comes off the plate finished. A minute of tidying is all it asks for.

- 1 Let the plate cool, then flex it and lift the label off. With no brim there is nothing to peel.
- 2 Run a fingernail along the bottom edge, where a first-layer whisker likes to hide. A whisker there makes the label lean instead of standing square.
- 3 Check the lettering. If a two-color change left a fine strand across the face, lift it off with tweezers rather than scraping — the text sits proud of the surface.



Straight off the plate. No brim to peel, no supports to snap off.

6 • Stand it in the tray

Drop it into the tray, lettering forward, and let it lean on the front wall. Then put the spool in behind it. That is the whole installation. A few things worth knowing:

- **Label in first, spool second.** The spool is what holds the label upright, so it wants something behind it.
- **Nothing attaches it.** That is deliberate — swap the spool, swap the label, and neither one has to be prised off anything.
- **Match the label to the tray, not to the shelf.** One tray, one material, one label. Mixed trays are what the Blank version is for.
- **Scaling.** If you scaled the trays, scale the label by the same amount in **X, Y and Z together**, or it will not sit down flat in the tray.



In the tray, in front of the spool. Readable without pulling anything out.

7 • Making it yours

- **The Blank plate is the point.** Print it for anything the four names do not cover — PLA-CF, silk, wood fill, a color code, a project name. It is a big flat face, so a label-maker strip or a paint pen has plenty of room.
- **A material you want as a proper plate?** Leave a comment on the model listing and it gets added. That is where the existing four came from.
- **Color it in.** Printing single-color? A fine acrylic paint pen wiped back flat picks the raised text out cleanly, which is the poor-man's second extruder.

Where precision meets the printer

Thanks for printing this one. If it saved you from lifting three spools to find out what is in the fourth, 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

Mechanical engineering degree · SolidWorks precision modeling · two Creality Hi printers · Virginia Beach, Virginia · every design free to download.

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.

Labeling something these don't cover — a different material, a different tray, a whole different storage system? Leave a comment on the model. That is where the next version starts.

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