

Hex Wall Shelf Print & Mount Guide

A hexagonal wall cubby that hangs on two screws, with the hardware hidden inside.

[One Plate](#)[Tree Supports](#)[Two Screws](#)

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Most floating shelves are rectangles. This one is a hexagon deep enough to actually hold something, and everything that holds it to the wall lives inside the shelf where you cannot see it.

It is a single open-ended hex tube with a 5 mm wall. One facet carries a 20 mm mounting plate at the back edge, drilled for two screws. Hang it plate-facet up and you get a flat floor to set things on, a flat top, and no visible bracket — plus a 3 mm lip along the front edge of that floor, so nothing walks off the front.



219 mm across the points, 120 mm deep. The mounting plate is the band across the far top facet.

In the download

File	What it is
makerx-hex-wall-shelf.3mf	Start here. One plate, oriented, with the tested profile and the tree supports already set up.
makerx-hex-wall-shelf.stl	The raw mesh for your own slicer. Sit it mounting-plate-end down; it needs supports either way.

1 • Check your bed before anything else

This one does not fit a 220 × 220 bed

With its 5 mm brim the plate footprint is **229 × 200 mm**. An Ender-class 220 × 220 bed cannot take it. A 235, 256 or 260 mm bed can. Scaling down to fit is fine — scale **X and Y together**, and remember the screw spacing shrinks with it, so mark the wall from the printed part rather than from this guide.

The part	
Overall size	219.4 × 190.0 × 120.0 mm (across points × across flats × deep)
Opening	207.8 mm across points, 180.0 mm across flats
Wall	5 mm
Front lip	3 mm high × 4 mm deep, about 105 mm long
Bed needed	at least 230 × 200 mm
On the plate	381.93 g PLA · 128.05 m · 8 h 33 m

The mounting plate stands 20 mm into the opening along the back edge of one facet, and the retaining lip stands 3 mm off the floor along the front edge of the facet opposite it. Everywhere else the opening is clear front to back.

2 • Slice it

- 1 Open `makerx-hex-wall-shelf.3mf` in Creality Print, or any slicer that imports 3MF project files.
- 2 When it asks whether to load the project's print settings, **say yes** — that is the whole point of the 3MF, and it brings the support setup with it.
- 3 Leave the orientation alone. It ships **mounting-plate end down** on the bed with the rounded front rim up, which is the tested setup — there is nothing to rotate.
- 4 Confirm your printer and filament, then slice.

★ What the supports are actually holding

Not the mounting plate — that sits flat on the bed. The one overhang in the whole part is the **retaining lip**, which ends up 116 mm in the air, 4 mm below the top rim. Roughly 8 g of tree carries that 105 mm ledge, and it is the only reason supports are on at all.

3 • The profile baked into the 3MF

Using your own profile instead? Match these — all sliced and print-tested on a Creality Hi 2 with a 0.4 mm nozzle.

Quality	
Layer height	0.20 mm
Nozzle	0.4 mm
Walls	4 loops
Top / bottom	5 / 5 layers
Infill	25 % gyroid

Supports & adhesion	
Supports	Tree, auto
Threshold	30 °
Brim	Outer and inner, 5 mm

Material & plate	
Filament	PLA as sliced · PETG for load or sun
Nozzle temp	220 °C
Bed temp	60 °C
Plate	Epoxy resin

What it costs you	
Print time	8 h 33 m
Part	373.94 g
Support	7.99 g

PLA is fine for decor, PETG if it has to carry

PLA prints this beautifully and the shelf is stiff. But PLA creeps under a steady load and softens in a sunny window, and this part hangs off two screws. If it is going to hold books, pots or anything heavy, or it will get direct sun, print it in PETG and slow the outer wall a little.

4 • Before you hit print

- ☐ Your bed is at least 230 × 200 mm.
- ☐ Orientation untouched — mounting plate on the bed, front rim up.
- ☐ Tree supports confirmed **on**.
- ☐ Brim present — the part meets the bed on a thin rounded edge for nine hours.
- ☐ At least **400 g** of filament left on the spool. This is not a print you want to lose at hour seven.

5 • Off the plate

- 1 Let the plate cool completely before you lift the part. The footprint is large and the contact edge is narrow, so a warm part comes off distorted.
- 2 Peel the brim away from a corner — there is an inner brim as well as an outer one, and the inner one runs right along the free edge of the mounting plate.
- 3 Twist the tree supports out. They stand inside the shelf and are anchored under the front lip near the top of the print, so reach in from the open end rather than levering against the rim.
- 4 **Dress the underside of the lip.** That is the one face the supports touch, and it is the face you look straight at when the shelf is on the wall. A blade run along it takes thirty seconds and is the difference between a printed part and a finished one.



The mounting plate, printed flat on the bed. Those diagonal lines are its solid top surface — no supports touch it.

6 • Mount it

Two holes, **6.35 mm (1/4 in) clear through, 75.0 mm apart on centers.** Use any screw whose head is wider than that — a #8 pan or button head is ideal.

- 1 Hold the shelf against the wall **plate facet at the top**, so the hexagon sits flat top and flat bottom. Level it and mark through both holes.
- 2 Drive into a stud if you can reach one. If not, use two anchors rated for what you intend to put on the shelf — the whole load hangs off these two screws.
- 3 Tighten until the rim meets the wall and stops. The plate is relieved 0.2 mm, so it pulls flat on its own. **Do not keep going** — past that you are compressing plastic, not gaining grip.



Mounted plate-facet up. The only thing you can see from the room is the two screw heads, deep inside the top facet.

★ Hide the screw heads completely

Drive it with **T25 star drive** screws and the free **MakerX T25 Cap** presses straight over the socket, so even that one visible head disappears. Print the caps in the same filament as the shelf — makerxdesigns.com.

Where precision meets the printer

Thanks for printing this one. If it earned a permanent spot on your wall, 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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IF THIS ONE EARNED ITS SPOT

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Hexagons tile, so two or three at staggered heights read as one piece of wall art rather than three shelves. Printed a cluster, or scaled one to fit your wall? Post a make with a photo — wall shots are the ones that help other people picture it.

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