



Hexagonal One-Hand Bottle Opener



quattro

[VIEW IN BROWSER](#)

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Summary

Improved Version of the classic design



1.73 hrs



1 pcs



0.20 mm



0.40 mm



PLA



21 g



Prusa MINI /
MINI+

[Household](#) > [Kitchen](#)

Tags: [hexagon](#) [beer](#) [magnet](#) [bottleopener](#)

Another one-handed bottle opener? Yes, but wait, there's **more** to it!

History

The original design over at thingiverse was one of the first models I printed with my MINI. And it failed after I opened a couple of bottles. Because of that I decided to **improve the design**, make it more rigid where it counts. It worked ever since. I also made the hole for the magnet bigger so those I already had would fit.

New Design

Then comes along this contest. And less than 24h before the end I had an idea to make the design not only working better but also cooler. My aim was to make it at least 20% cooler.

My solution: **hexagons**! Everyone loves hexagons, right?

So, here's what I did: I made a CAD model from scratch to match the dimensions at the key points and use bezier curves to create a design that could distribute the stress well in order for it to not break after a few opened bottles even if fine motor skills are gone after a **couple of beers**.

I left the hexagon part to **Prusa Slicer** as this created exactly what I was aiming for. All the insides of the shells are visible, showing the bulge created by the cutout for the magnet and so on.

Preparations

So, if you are not using the provided 3mf files for **Prusa Slicer** use these settings in your Slicer of choice:

- 0 Top and bottom shells
- Hexagonal / Honeycomb infill with about 15%
- 5 perimeters (they bear all the load)
- Paint on some supports for the little hole

My design is for the **One Euro Cent** coin but I have also included a version for the **U.S. Dime**.

The 3mf files use the Euro version but you can swap the STL out for the Dime version to get your desired combination.

You will need a 10x2mm **Magnet** for this. The magnet ensures tha cap does not fall to the floor. Please dispose of it responsibly.

If you want to use other coins or different sized magnets you can alter the design in Onshape using this link: [One-Handed Bottle Opener on Onshape](#). There is a variables tab where you can set the dimensions of the coin and the magnet.

There are 3 3mf files:

- 15% infill hexagons
- 15% infill hexagons with reinforced (100% infill) coin holder
- 20% infill hexagons

Printing

I have only used PLA so far but it should work with most materials.

Assembly

Glue the coin and the magnet in their positions.

This remix is based on



Smart One Handed Bottle Opener

by Kart5a

Model files



1hbo_cent.stl

☐ Euro Cent version



1hbo_dime.stl

☐ U.S. Dime version



one-handed-bottle-opener-20.3mf

☐ 20% Honeycomb



one-handed-bottle-opener-15.3mf

☐ 15% Honeycomb



one-handed-bottle-opener-15-plus-solid.3mf

☐ 15% Honeycomb plus reinforcements around the coin

Print files



one-handed-bottle-opener-15_02mm_pla_mini_1h44m.gcode

🌀 PLA 📏 0.40 mm 📏 0.20 mm ⌚ 1.73 hrs ⚖️ 21 g 🖨️ Prusa MINI / MINI+

📄 Sample Printfile for 15% Honeycomb Euro Cent

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