



Tube Post Capsule for Seidenstrasse

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Summary

Start by finding a bottle or similar for the tube part and modify the files if you don't have one that is 62 mm for...

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Tags: [32c3](#) [seidenstrasse](#)

Start by finding a bottle or similar for the tube part and modify the files if you don't have one that is 62 mm for the outer diameter. I have used a water bottle purchased at 30c3 that is clear and without any patterns in the middle section, but the ones they are selling at 32c3 are slightly different.

Then print the parts, you need one of each. I printed the two lids in a contrast color to indicate a removeable part.

When the bottom part is printed, you can start to glue in the LEDs, then solder them together in series.

Solder the Joule Thief, but use some thin copper wire and do a lot of windings (50+), otherwise the voltage won't be high enough for the 3 LED's in series to light up properly.

Solder two small pieces of wire to the LED output on the Joule Thief and in the other end to the open ends of the LED's in series (remember to keep the polarity right).

You can fix the Joule Thief with some double sided sticky pads. If they have some foam, the battery lid will tighten and make sure the battery sits nice and firm. Now insert the brass inserts. You should be able to simply press them in, if not, you can heat the insert with a soldering iron and gently press it in, but be careful not to melt too much of the plastic or mount them at an angle, because then the screws won't go in easily.

The M3x16mm screws are used to mount the battery lid.

Cut the plastic tube out of the bottle, removing the top and bottom, leaving only the straight part and insert it into the top part.

You can now mark up where the holes need to be and cut them with a hole punch. It should now be possible to put the M3 nuts on the inside, mount the tube and screw in the M3x12mm screws to fix it all together.

Before mounting the bottom part, remember to check the LED's and fix errors if they don't light up.

Print Settings

Printer Brand:

Ultimaker

Printer:

Ultimaker Original

Rafts:

Doesn't Matter

Supports:

No

Resolution:

0.2 mm

Infill:

~30-50%

Post-Printing

Materials needed

In addition to the 3D printed parts, you will also need:

- Plastic tube (eg. from a PET plastic bottle, the standard .stl files are for a 62 mm outer diameter)
- 6x M3x10mm countersunk screws
- 6x M3 nuts
- 2x M3x16 countersunk screws
- 2x M3 brass inserts
- 3x white LED and some superglue to mount them
- 1x [Joule Thief with battery holder](#) (but with thinner wire and a lot more windings on the coil)

Model files



tubepost_top.stl



tubepost_lid.stl



tubepost_bottom.stl



tubepost_bottom_insert.stl



tubepost_battery_lid.stl



tubepost.scad

[Find source .stl files on Thingiverse.com](#)

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