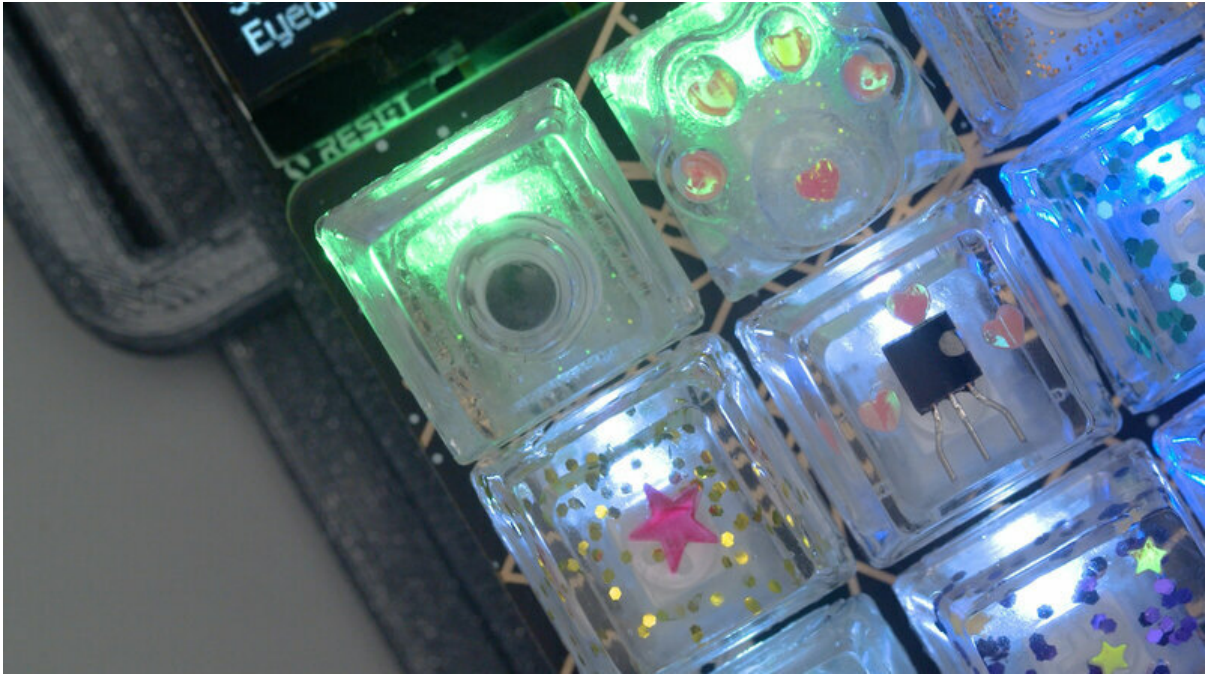




# DIY Decorative Resin Keycaps

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<https://learn.adafruit.com/diy-decorative-resin-keycaps>

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# Table of Contents

Overview 3

---

- Parts

Make Keycap Molds 8

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- Pour 1st Layer
- 
- Pop Bubbles
- 
- Cure 1st Layer
- Prep Layer 2
- 
- Layer 3
- Stem
- Align Stem Mold
- Pull Mold

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# Overview



In this project, we're resin casting keycaps for Mechanical Keyboards like the Adafruit MacroPad!

Resin casting keycaps is a really fun way to level up your keyboard making skills.

We experiment with adding colored pigments, glitter, even some components like resistors and googly eyes.





You can make your own set of keycaps with these silicone molds and UV-curable resin.

To keep it simple, all you really need is the keycap molds, some UV resin and a UV lamp for curing.

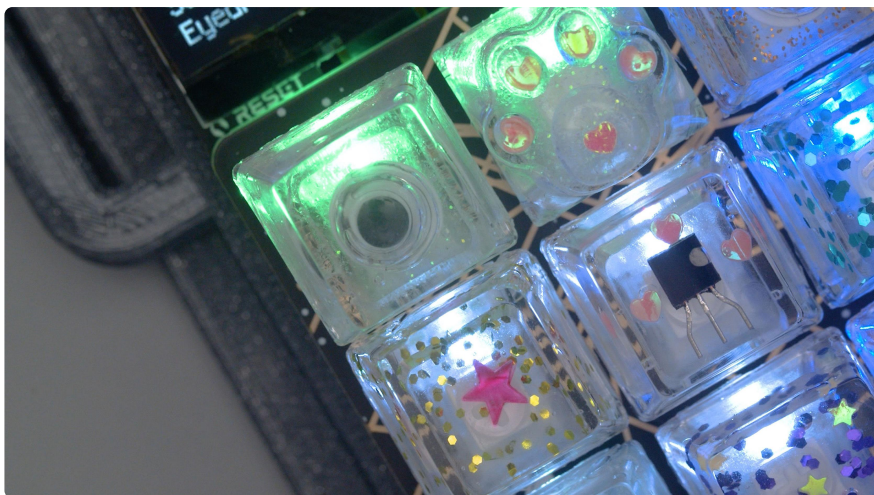


We designed and 3D printed our own mini UV lamp a while back which is just the right size for these silicone molds.

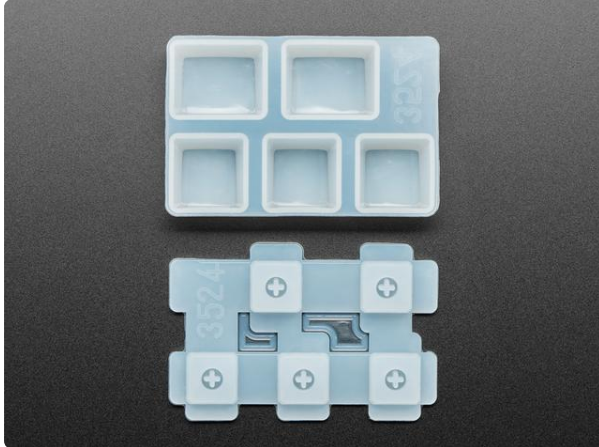
Check out the files and tutorial to make your own UV Lamp below.

[Download UV Lamp Files](#)

<https://adafru.it/thf>



## Parts



### 3 x 1U and 2 x 1.25U "Ctrl" Silicone Keycap Molds

If you love to customize, why not level up your DIY keep-makin' skills and craft your own set of bespoke 'caps with this keycap mold that has three "1U R1" (e.g....

<https://www.adafruit.com/product/5079>



### Fluorescent Pigment - Purple

We're with the squad back at New York's hottest cyberpunk club, Near Field Commune(ication), and it's still...

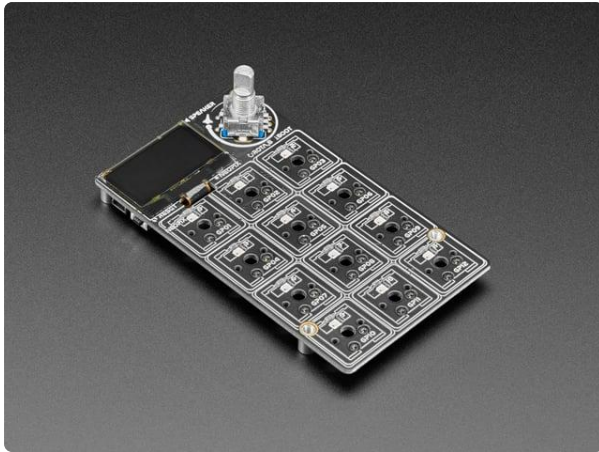
<https://www.adafruit.com/product/4124>



### Kailh Mechanical Key Switches - Linear Red - 12 Pack

For crafting your very own custom keyboard, these Kailh Red Linear mechanical key switches are deeee-luxe! With smooth actuation and Cherry MX compatibility,...

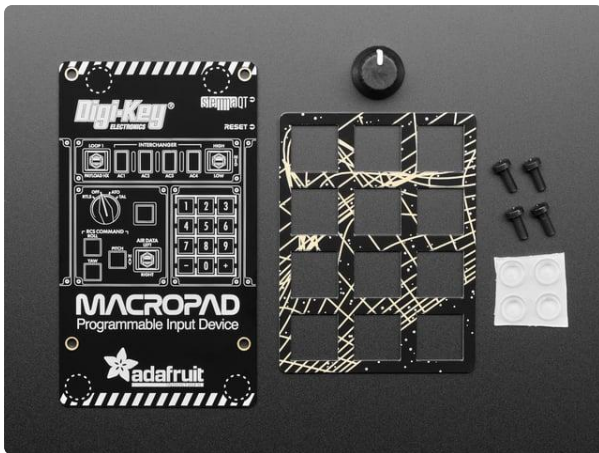
<https://www.adafruit.com/product/5122>



### Adafruit MACROPAD RP2040 Bare Bones - 3x4 Keys + Encoder + OLED

Strap yourself in, we're launching in T-minus 10 seconds...Destination? A new Class M planet called MACROPAD! M here, stands for Microcontroller because this 3x4 keyboard...

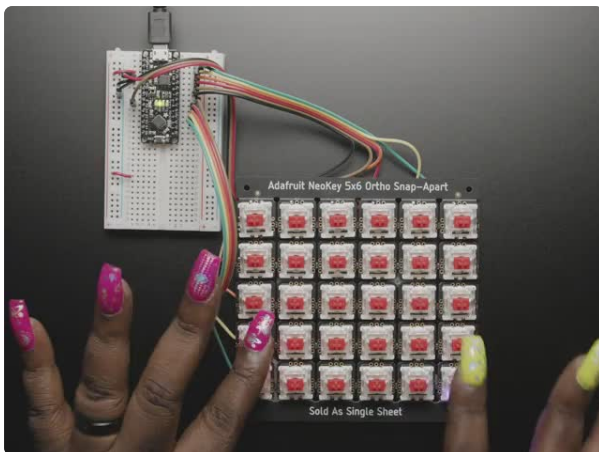
<https://www.adafruit.com/product/5100>



### Adafruit MacroPad RP2040 Enclosure + Hardware Add-on Pack

Dress up your Adafruit Macropad with PaintYourDragon's fabulous decorative silkscreen enclosure and hardware kit. You get the two custom PCBs that are cut to act as a protective...

<https://www.adafruit.com/product/5103>



### NeoKey 5x6 Ortho Snap-Apart Mechanical Key Switches w/ NeoPixel

For folks who want ready-to-go keeb action, we've got the lovely Adafruit Macropad with a 3x4 grid of MX+NeoPixel key switches -...

<https://www.adafruit.com/product/5157>



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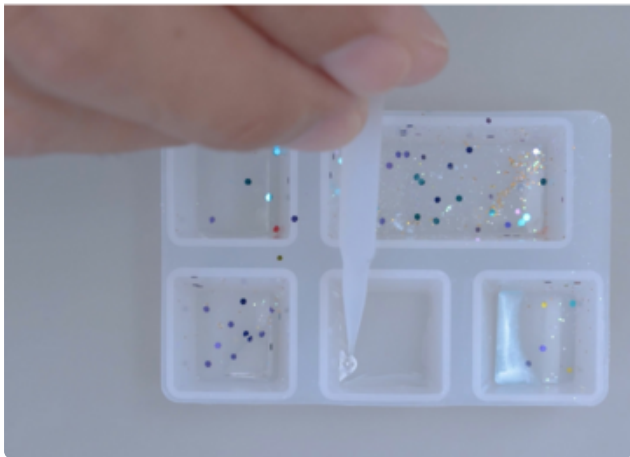
## Make Keycap Molds



### Pour 1st Layer

Add a small amount of resin, just enough to fill the bottom of the mold. Gently slosh the resin around the mold so it is evenly distributed.

Place the mold on a tray to keep the resin level.

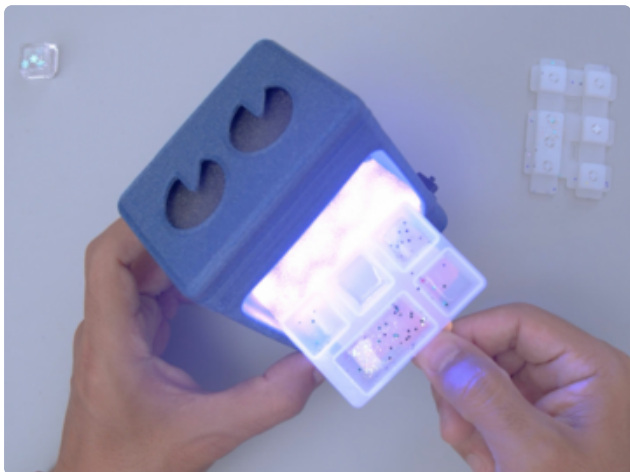


### Pop Bubbles

Use a tool to carefully remove any bubbles in the resin.

### Cure 1st Layer

Align the tray and mold inside the UV lamp.



Allow the resin to cure for about three minutes.







## Prep Layer 2

Place glitter or small objects around the center of the mold.

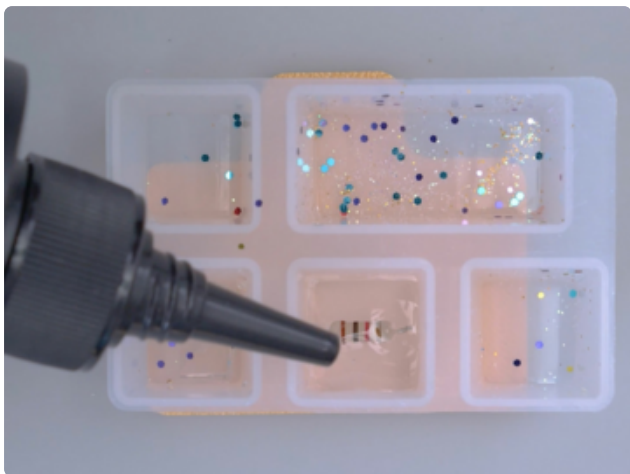


## Objects

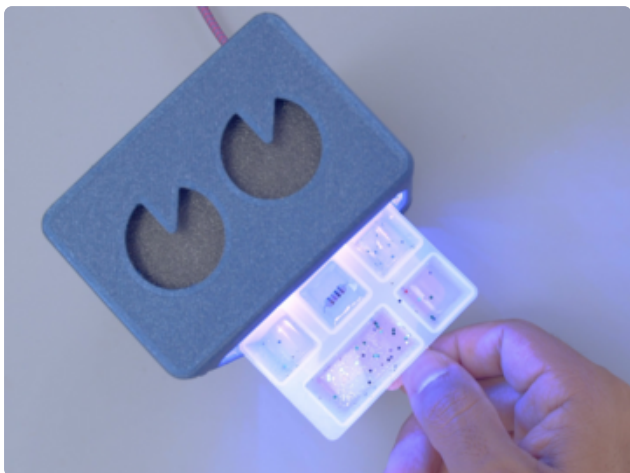
Some objects may need to be inserted at an angle to help the air bubbles escape.

## Glitter

Only use a small amount of glitter to avoid blocking UV light while curing.



Pour enough resin to fill over the top of the object in the mold and allow to cure for another 3 minutes.





## Layer 3

The 3rd and last layer can act as a backdrop for the keycap.

Add more resin on top.

Glitter or pigment can give the keycap a pop of color when diffused.

Mix and stir it up nicely so the pigment blends into the resin.

Fill the mold to the top and remove any bubbles that form.

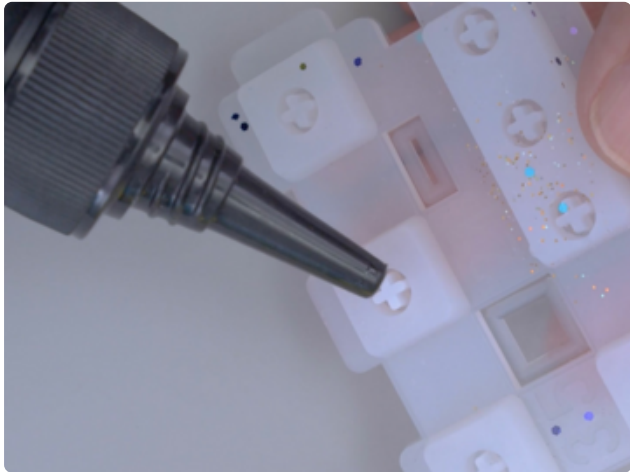


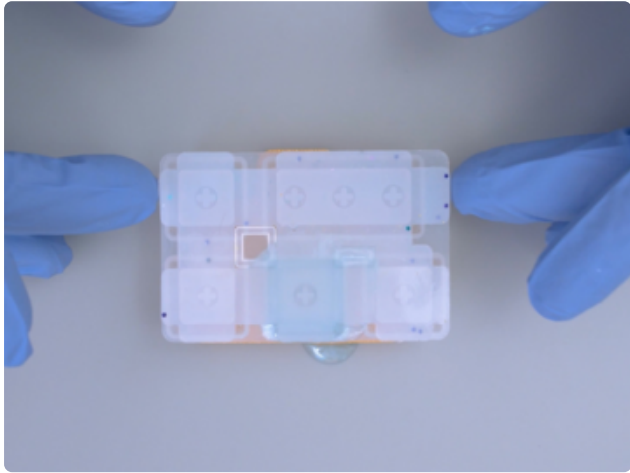
## Stem

Hold the stem mold at an angle and apply a very small amount of resin to one side of the stem. Allow the resin to slowly seep into the mold.

Wait for the resin to fully seep into the mold before applying another small drop of resin. This will force any air out of the stem mold.

Continue until the stem mold is full with no air bubbles.





## Align Stem Mold

Be careful and precise with your placement so the two mold are properly aligned.

Allow the resin to overfill, it's a good sign you have used enough resin. If it's not overfilling you might not have enough.

Back into the UV lamp, you want to give each side 5 minutes to cure both sides.

If cutting off any resin after it fully cures, please wear eye protection.



## Pull Mold

Allow the mold to cool down.

Carefully pull out our keycap.

Any excess resin, or molding flash, will need to be removed and can be trimmed away.

We used our flush snips, just be sure to angle it down when cutting so the flash doesn't fly across the room.



You'll find the surface is a bit tacky so you can use some isopropyl alcohol to remove some of the stickiness.

If they still feel a bit sticky, you could also let them sit in direct sunlight for a few minutes.



And there you have it! Resin casted keycaps are really fun and definitely approachable.

We hope this inspires you to try out resin casting and hope this helps you learn the techniques with some of our tips and tricks.

So what ideas do you have for keycaps? Be sure to share your projects with us on Adafruit's Weekly [Show and Tell \(https://adafru.it/GDs\)](https://adafru.it/GDs)!

