

Mask Printing Instructions:

There are 4 files, 2 are for the mask itself and 2 are for the mould for pouring the silicone gasket for the masks. If you want to pour the moulds yourself, you will need to print enough moulds to keep up with the number of masks you are expecting to print. The moulds are reusable and they take about an hour for the silicone to set once poured.

- PLA or PETG are the preferred materials. ABS should work too.
- for mask and mold bottom, print on the side of filter. The filter can print flat. The mold lid should be printed by its flat face, which is the lid top side.
- no support is required
- layer 0.1 can give a smoother surface, which is suggested when efficiency is not a concern. I am printing with 0.2mm layer height with 0.4mm nozzle. infill at 20%.
- all masks will be sterilized by UV afterwards upon delivery

Bring us 10 masks, and we will give you 1KG of plastic to replace what you used. If you have larger quantities, we can arrange a pickup as well.

To pour your own, I use the “Ecoflex 00-30” silicone – there are two solutions that you mix, 1 to 1

<https://www.benam.co.uk/products/silicone/addition/ecoflex/ecoflex-00-30>

<https://www.reynoldsam.com/product/ecoflex/>

<https://www.amazon.com/Ecoflex-00-30-Super-Platinum-Silicone/dp/B00CA5VY3U>

Filters:

Each filter sandwich is made up of 2.5 inch squares of:

- 2 x 100% polypropylene spunbound non-woven fabric, which must be on either outward facing sides of the sandwich (PP)
- 3 x Merv13-rated filters, that are in the middle of the sandwich (M13)
- The configuration is thus: [PP]-[M13]-[M13]-[M13]-[PP]
- Place in the inside center of the mask, then center the Filter Brace, and push the filters into place (a hammer may need to be used since it is a tight fit)
- Visually inspect to make sure the filter is sealed
- For end user only: Do a fit test on your face by placing mask on your face, cover the filters with your hand and ensure that when covered, you cannot inhale / breath

Additional Instructions for clarification:

Print mask and filter holder

Print the mold for the silicone

Pour Ecoflex 00-30 Super-Soft Platinum Silicone into mold to create the gasket.

Let gasket mold sit for two hours to let the silicone set.

Remove silicone from mold for later assembly.

Acquire MERV 13-rated filter material.

Cut the filter material in 2-1/2 inch squares.

A triple layer is needed.

Additionally, two 2-1/2 inches square of 100% Polypropylenes Spunbound Nonwoven Fabric will be needed.

The filter consists of:

One 2-1/2 inches square of 100% Polypropylenes Spunbound Nonwoven Fabric

Three 2-1/2 inches square of MERV 13-rated filter material

One 2-1/2 inches square of 100% Polypropylenes Spunbound Nonwoven Fabric

The 100% Polypropylenes Spunbound Nonwoven Fabric would be placed as one sheet in front of the three layered filter material, and one behind the filter material.

String to tie the mask to your head is 67-inches without scunci's.

Strings to tie the mask to your head is 20-inches and 41-inches with the use of two scunci's.



