**A picture containing coffee, cup, table, indoor

Description automatically generated**

**Mercer Mask Materials and Equipment Info**

Formlabs Form2 or Form3 SLA printer

Formlabs Durable resin

405nm UV lights

Isopropanol

HEPA material

* This is what we are using <https://www.homedepot.com/p/RIDGID-5-Layer-HEPA-Material-Pleated-Paper-Filter-for-Most-5-Gal-and-Larger-RIDGID-Wet-Dry-Shop-Vacuums-VF6000/100022800?MERCH=REC-_-pipsem-_-205728529-_-100022800-_-N>

Elastic straps (strap holes in STL file are ~.3in w x .1in h)

Silicone rubber tubing

This is what we are using 1/8” ID, ¼” OD <https://www.mcmaster.com/silicone-rubber-tubing>

Our tested mask and clip were printed on a Formlabs Form2 SLA printer using Durable resin. We used .5 density for print supports with .5mm touchpoint size and mini rafts to attach to the print head. All prints were washed in >99% isopropanol for 20 min in a Form2 wash station. Prints were cured for at least 30min with 405nm lights.

The silicone rubber tubing was split open and pushed onto the face edge of the mask. A thin bead of super glue was used on the outward facing surface of the mask to secure the tubing to the mask.

HEPA material was cut into circles to match the mask opening.

Once the superglue was completely dry, the mask could be worn.

The printed Durable material can be cleaned with isopropanol, soap, and/or a bleach-based cleaning solution. Repeated exposures to isopropanol is expected to cause the material to become more brittle.

The HEPA material can be replaced as needed.