

Fabric Masks — What's effective?

I've been making masks for a few weeks now. At this point, there is a lot of contradictory information on the web. I'd like to share the best of what I have found, in the hope that you, too, can make masks with some confidence that they will be as effective as possible.

Heather
GVWSG Program Coordinator 2019/20
program.coordinator.gvws@shaw.ca
April 16, 2020

Fabrics

Labs are testing fabrics for their ability to block Covid 19-sized particles and posting the results on the web. It is important to pay attention to these. Some sewers are posting mask patterns made with polyester or cotton with spandex, or interfaced with who-knows-what. All synthetics should be avoided — Covid 19 virus particles live (i.e. are viable) longer on polyester, spandex, etc. Cotton knit is also touted on the web, but its ability to stretch makes it ineffective.

The best fabric, it turns out is two layers of 100% cotton with a thread count of 180 or more. This cotton has been found in labs to block 70-79% of virus-sized particles, according to recent research:

“The study used instruments that detected a fabric’s effectiveness at filtering small particles. Quilters’ cotton, a tightly woven high-thread-count fabric, can filter out some 70% to 79% of small particles including viruses, according to Segal’s research, which has not been submitted for publication and has not been peer-reviewed. That’s better than surgical masks, which Segal said filter out 65% of particles. (N95 masks offer the highest level of protection — filtering out 95% of air particles.)”

From

<https://www.marketwatch.com/story/some-fabrics-are-more-effective-than-others-for-making-diy-face-masks-heres-which-ones-are-best-2020-04-07>

See also

<https://newsroom.wakehealth.edu/News-Releases/2020/04/Testing-Shows-Type-of-Cloth-Used-in-Homemade-Masks-Makes-a-Difference>

Where to buy 100% cotton with a thread count of 180 or more?

Fabricana's quilting batik is 100% cotton, and I have so far found that it has thread counts of 180 to 230. Fabricana is still setting up its online ordering system, but you can buy fabric by emailing your order and contact info to askus@fabricana.com. They will send you an invoice that can be paid through PayPal. If you live in the GVRD, you can arrange to pickup your order at curbside, rather than pay to have it shipped.

When I gave them my order, I mentioned a few colour preferences, and they emailed photos of a few possibilities. In the current circumstances, it may take a day or two for Fabricana to answer your email.

If you are using the batik (115cm wide) for the mask and the ties, 1m will make 5 masks.

If you have some cotton in your stash that you can use for the ties, 1m will make 10 masks.

An 18mm bias tape maker is super helpful for making ties.

Some sewers are using 100% cotton knit for the ties, as it is softer on the ears. I haven't tried that yet.

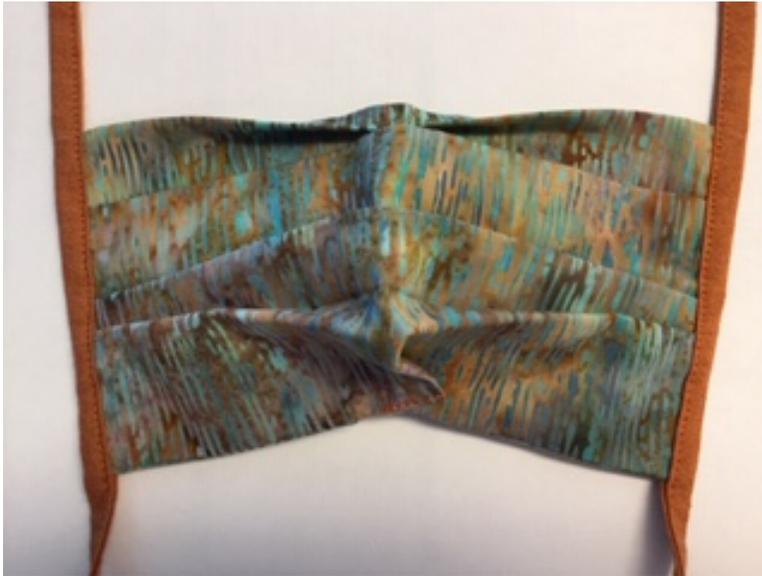
Patterns

I have tried out a few mask patterns. In my experience, this one results in the best fitting because it has an extra pleat.

https://about.kaiserpermanente.org/content/dam/internet/kp/comms/import/uploads/2020/03/02_COVID_Mask-Instructions_v9.pdf

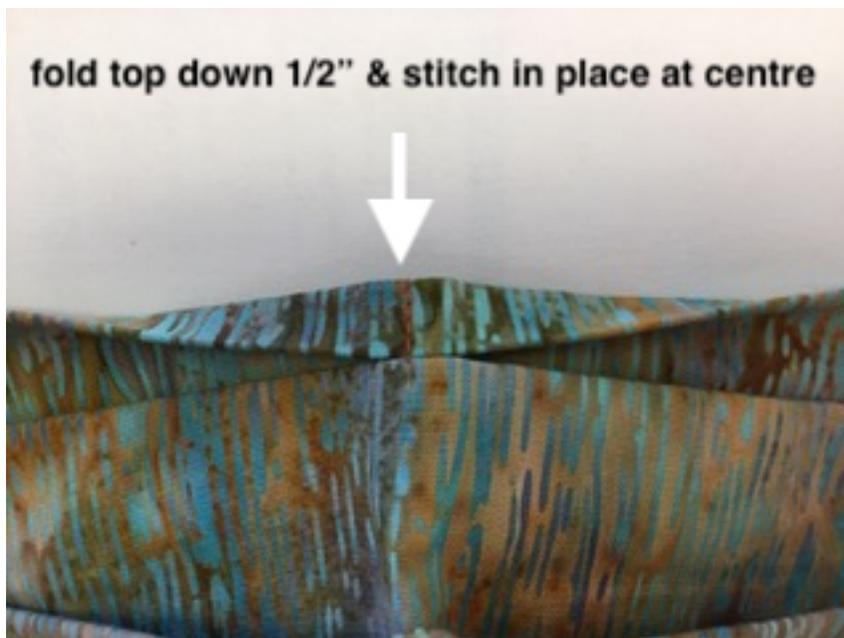
I have tweaked the pattern to improve the fit below the eyes and under the chin.

This photo shows my fold at the top of the mask, and my tuck for under your chin.



Improving Fit — With a Fold at the Top of the Mask

The fold at the top of the mask is easy. You simply fold down the top of the mask 1/2 inch and stitch it in place. This improves the contact between the top of the mask and the top of your cheeks. (Surgical masks have a metal strip that you can shape to your nose, but not having access to metal strips, I have found this fold improves contact significantly.)



You can experiment with this fold to find the best fit in relation to your face (and spectacles, if worn). What is best? No fold? One fold? Folding it over twice?

Improving Fit — With a Tuck at the Chin

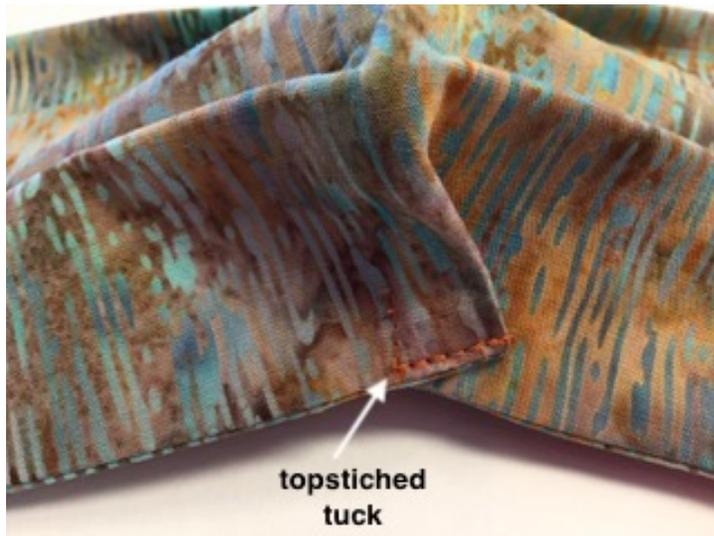
Making a tuck at the centre bottom of the mask also improves the fit of the mask.

For this, fold the mask in half, insides of mask together.

Hold the mask with the bottom of the mask (it has a seam) ready to enter the presser foot of your sewing machine.

Sew a tuck on that bottom mask edge. I start my sewing 1/2" from the centre fold, and angle my direction slightly so that I finish narrower than I started. My stitching is about 1/2-3/4" long.

Iron the tuck to one side so that the inside of the mask is as smooth as possible. Then topstitch the tuck to keep it neatly in place.



Giving it away?

When I give someone a mask, I also give them a description of how to wear and care for it. That pdf can also be found here, on the GVWSG website.