

Cotton Tee Mask

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This is a design of a simple facemask made from everyday materials and requires basic sewing skills.

The emphasis is purely on function, not aesthetics. This mask does not offer the same level of protection as an N95 mask. **Do not use if an official N95 mask is available.** Use only as a last resort if no other form of PPE is available.



Equipment Used:

- Pinking Scissors/Pinking Shears (can also use standard scissors but material will fray more quickly)
- Pliers with wire cutting function.
- Sewing machine (can also use needle and thread to hand sew)
- Measuring tape
- Sewing pins
- Fine tip marker or fabric pen

Material required:

- One (1) 100% cotton t-shirt (Using an adult size XL was enough to make 3 masks. Patterned material is fine but a heavy print may restrict airflow.)
- 14G solid copper wire (plastic covered wires will work as well; can purchase from any hardware store)
- Sewing thread

Step 1.

Cut out a 10" x 12" rectangular section from the t-shirt. Cut the 10" side from the hemmed bottom edge to utilize a ready-made hem along one 10" side.



Note the existing hem from the t-shirt running down the left-hand side of the above picture. The other three edges are cut with pinking scissors. No great precision is required.

Step 2.

Fold the rectangle in half to form a smaller rectangle (10" x 6") with the existing hem along the top. Pin it to hold it in place for sewing.



Sew along this edge about one inch down from the top. This leaves existing hem intact.

Step 3.



Cut four (4) 22" x 1.5" strips from a remaining part of the t-shirt. This is a good place to use any sections of the shirt with heavy printing. Again, exact size is not critical.

Fold the strips in half lengthwise and fold over about $\frac{3}{4}$ of an inch at one end and pin as shown.

Repeat with a second strip at on the same side.



Make sure the open end of the existing hem is closed off and a line of stitching can be run down the 6" side.

Step 4.

Cut an approximately 9" inch length of the copper wire and then curl the ends around as shown (this ensures they will not cut through the fabric).



Slide the wire into the open end of the existing hem.



Sew the other two ties as shown.



Ensure the end of the existing hem is closed off to secure the copper wire in place.

Step 5.

Adding a gusset on either side will improve the fit of the mask and make it more comfortable to wear. The gussets are on the outside as this is more comfortable

Mark out where to sew the gussets as shown using a fine tip marker. They are positioned about 1/3 of the way up the side of the mask.



The position of the gussets are pictured above. The hem with the copper strip is at the top side.



Step 6.

Bend the copper wire to approximately the shape shown. The user can form it more closely to their nose and face. Don't re-bend the wire too much as it will harden and become difficult to form again and could eventually break.



The intention is that this helps form a tighter seal around the nose and makes the mask more comfortable for the user.



The mask is fitted as shown. The long ties make it relatively easy for the user to tie onto their own face and remove.

Once on, form the wire to make a snug but comfortable fit on the nose and cheeks. Note how the gussets improve the fit at the side.

Mask can be machine washed and dried then reused. Sizes given in instructions are for a large adult, but design can be easily scaled down for smaller adults and children. Use only for a maximum of 2-3 hours, and then machine wash and dry. If a mask must be worn longer, make several masks and change as needed. Machine wash and dry after each period of use.

References:

<https://smartairfilters.com/en/blog/best-materials-make-diy-face-mask-virus/>