

# COVID-19 Projects Championed by MakerSphere

## Mask Design General Notes

There are MANY different face mask designs available on the internet, so many in fact that it can be very confusing to select which one should be made. Waterbury's MakerSphere team worked with a local physician at Central Vermont Medical Center to help define needs and to review designs of DIY non-medical PPE for suitability.

This is a **TIE-ON SURGICAL MASK**. A design of this style of mask has many benefits:

- Easy to wear for an extended period of time
- It's a familiar design (M\*A\*S\*H 4077)
- Reduces potential for user cross-contamination compared to other mask styles
- Does NOT include wire across the nose, which requires the wearer to touch the mask
- Requires NO elastic bands, which are hard to find
- Made from 100% woven cotton, which is easy to find
- Simple to make
- Hot water washable and dryable
- One size fits most everyone
- Can be removed only touching the ties

### Patterns

Feel free to make either Pattern 1 or 2 since both meet the needs we're trying to fill. Steps for both patterns are provided in this document.

Pattern 1 – Ties are made from ribbon.

Pattern 2 – Ties are made with bias tape, which some folks report

is a little more time-consuming and challenging.

### Materials

Use a double layer of pre-washed/shrunk 100% woven cotton. 100% woven cotton is easily available from a wide range of sources, such as pillow cases and t-shirts. The color or pattern makes no difference to the performance of the mask. Some similar designs suggest that two different types of fabric be used; these designs MAY be beneficial for some users. But, again, we are working with a well-respected local doctor and we are doing our best to build to his wishes.

### Mask Fabric – Use For Both Pattern 1 and 2

JoAnn's fabric item #28325 (bleached muslin)

Or any clean, pre-washed/shrunk 100% woven cotton (quilting fabric, pillow cases, t-shirts, etc.)

### Strap Fabric

**Pattern 1** – ½ inch wide ribbon, preferably cotton grosgrain or another material that will withstand multiple hot water washes and drying. NO metallic or satin.

**Pattern 2** – ½ inch DIY cloth ties or bias tape. Commercial bias tape comes in ½" x 3 yard packs, which only make one mask. Since we need to make hundreds of masks, we decided to just make the bias tape style straps ourselves from the same material as the mask.

If you're willing to scour the internet to save some labor, we have seen large spools of bias tape available.

## Before You Start: Infection Prevention

Before starting this project, please verify that you **HAVE NOT**:

- Been in contact with anyone suspected or confirmed to have COVID-19 in the past 14 days.
- Been experiencing COVID-19 symptoms of fever, cough or shortness of breath.

*If either of these circumstances are the case, please self-quarantine rather than making masks*

### Please DO:

- Work in a secluded area away from other family/household members, children, pets, etc.
- The first mask you make should be for yourself. Wear a mask while creating masks for others.
- Wash your hands before and after making masks.
- Pre-wash fabrics, ribbon and/or bias tape in hot water and dry on hot before beginning.\*
- Use wipes or a sanitizing spray on your sewing machine and all work surfaces before starting and frequently while working.
- Do not donate masks that you have tried on or worn. Do not hold masks up to your face to take pictures. If you put a mask to your face, keep that mask for yourself.
- Wash and dry finished masks before packing in a clean plastic bag (preferably a sealed Ziplock) for pick up and sterilization.\*

\* These do not apply if you've received a pre-washed kit.



## IMPORTANT - Appropriate Mask Use

Use of these masks can provide you with a false sense of security, so it is important to understand the appropriate use of this mask.

- Put the mask on when you go to the grocery, pharmacy or hardware store, or are dropping groceries to a neighbor, etc.
- Once the mask is on your face, **DO NOT TOUCH THE MASK**.
- Upon leaving the store, take off your mask and place it within a container that can be safely carried into your house to be laundered.

### Sanitize your mask by:

- Washing it with soap and hot water and drying in a hot dryer;
- Drying without washing for 10 minutes; or
- Putting in a thick plastic Ziplock with a ½ tsp of water and microwave for 30 seconds.

# PATTERN 1: Face Mask with **RIBBON TIES** (Revised 4/13/20)

## Materials

Front: 100% woven cotton fabric – no metallic fabrics

Back: 100% woven cotton fabric

Straps: 1/2" or 5/8" grosgrain ribbon, any color (no satin or decorative ribbons with metal or glitter)

## How to Make the Mask

*Note: Waterbury MakerSphere is only making one size mask, designed to fit most adult faces. Patterns for smaller masks can be found on many sites on the internet.*

1) Cut one rectangle of fabric that is 12" x 9"

2) Cut two 40" strips of ribbon



3) Fold the mask in half so it measures 6" x 9". If you're using patterned materials, fold patterned sides toward each other.

4) Sew all edges, leaving a 3-inch unstitched gap along one edge. Clip corners.



5) Turn right side out and press.



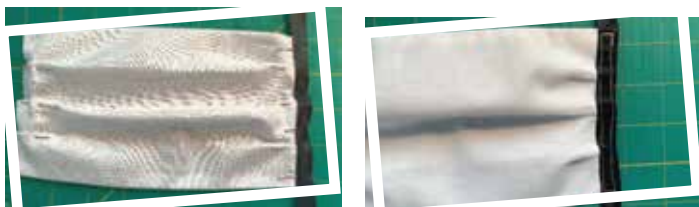
6) Fold and pin your first pleat of about 1/4" of overlapping fabric.



7) Make two more pleats and pin in place, ensuring all pleats are folded in the same direction.



8) Attach ribbon to edges of mask and stitch as shown in photos.



9) Stitch ends of ribbon.



Great work!



# PATTERN 2: Face Mask with **DIY TIES/BIAS TAPE** (Revised 4/13/20)

## Materials

Front: 100% woven cotton fabric, solid or pattern – no metallic fabrics

Back: 100% woven cotton fabric, solid or pattern

DIY Straps: 100% woven cotton fabric, solid or pattern (feel free to use your own bias tape to make 1/2" wide straps)

A video for making Pattern 2 (masks with DIY TIES/BIAS TAPE STRAPS) can be found here:

<https://www.youtube.com/watch?v=1T01oRG0q-l&feature=youtu.be>

Note: Waterbury MakerSphere is only making one size mask, designed to fit most adult faces. Patterns for smaller masks can be found on many sites on the internet.

1) Cut one rectangle of fabric that is 12" x 9"

2) Make the bias tape straps. Cut two 40"x 2" wide strips of fabric and iron as follows:

To make your own bias tape style straps:

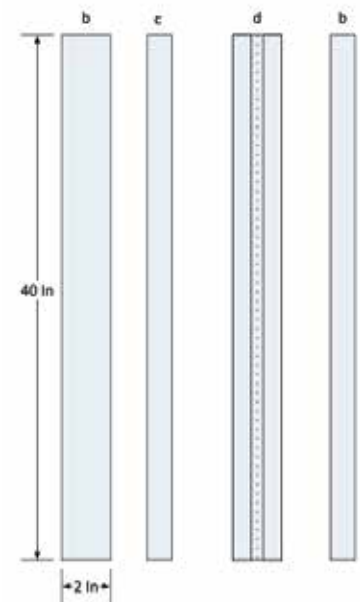
- Preheat your Iron
- Press the entire strap pattern to flatten it
- Fold the strap material in half and press with Iron
- Fold the sides in to the centerline and press with Iron
- Fold again at the centerline and press with Iron to complete



5) Turn right side out and press. Short edges will be raw.



6) Fold and pin your first pleat of about 1/4" of overlapping fabric.



3) Fold the mask in half so it measures 6" x 9". If you're using patterned materials, fold patterned sides toward each other.

4) Sew only the long edge across from the fold.



## PATTERN 2: Face Mask with **DIY TIES/BIAS TAPE CNTD**

7) Make two more pleats and pin in place, ensuring all pleats are folded in the same direction.



8) Enclose both raw edges of mask fabric in bias tape straps and stitch length of the tape, starting at the end of the bias tape strap and sewing close to the edge of the strap. Stitch ends of the strap.



9) Great work!

