



STRIVE FOR BALANCE

## RESA 3D PRINTED HATBAND FOR FULL FACE VISOR



## Personal Protective Equipment from RESA

One of the challenges health care providers are experiencing around the globe is a shortage of Personal Protective Equipment (PPE), including full face visors. These devices are essential to keeping people safe during this crisis. In order to make more visors available Resa is sharing our design.

**<<< DISCLAIMER >>>**

**The design for this hatband, that can be used to create a full face visor using a baseball cap, has NOT been tested or certified by any agency. It is NOT intended to be used as PPE to protect the face from the impact of materials or debris. It was designed as a liquid barrier ONLY. Use it at your own risk if you do not have any other protection. The recommended measures to protect yourself from infection with the coronavirus COVID-19 are the following:**

- **Stay home and avoid contact with other people**
- **Avoid touching your face with your hands**

- Wash your hands very often

## PRINTING GUIDELINES



The STL file for the Hatband for a Full Face Visor can be found at:

<http://www.resawear.com/visor>

### 3D Printer Settings

This design was optimized for use with TPU filament which is soft and flexible. The flexibility permits the hatband to attach securely to the brim of the baseball cap.

- Nozzle = .4 mm
- Layer Height = .4 mm
- Line Width = .6 mm
- Shell Wall Thickness = 1.2 mm
- Top / Bottom Thickness = .8 mm
- 20% Infill with Grid Pattern
- Supports are NOT needed

## HATBAND FULL FACE VISOR USAGE & CLEANING

- These hatbands are reusable, but each person should have their own dedicated hatband unless batch sterilization is conducted.
  - The hatbands should be cleaned with hot soap and water and disinfected by cleansing with a 75% isopropyl alcohol wash for disinfecting after every use. If TPU material is used to make the hatband then it can be immersed in boiling water for 5 minutes to sanitize. The protective clear visor material should be discarded and replaced after every use.
  - Practice good hygiene by washing hands before and after changing the protective clear sheet of material and when attaching the hatband to the brim of a hat.
  - Clean the hatband and replace the protective clear visor material daily or more frequently if necessary / recommended.

## FACE SHIELD MATERIAL SUGGESTIONS

The face shield material can be sourced from a variety of suppliers depending on the desired stiffness of the clear sheet of material. Many traditional suppliers are low or have no inventory at this time so we looked at unconventional suppliers like office supply companies. We have provided a few links as examples of cover materials that we have explored.

We found that a basic clear protective document sleeve or a simple grade school 3 hole punched folder with a clear cover can be adapted to work well. The length can be cut to desired size.

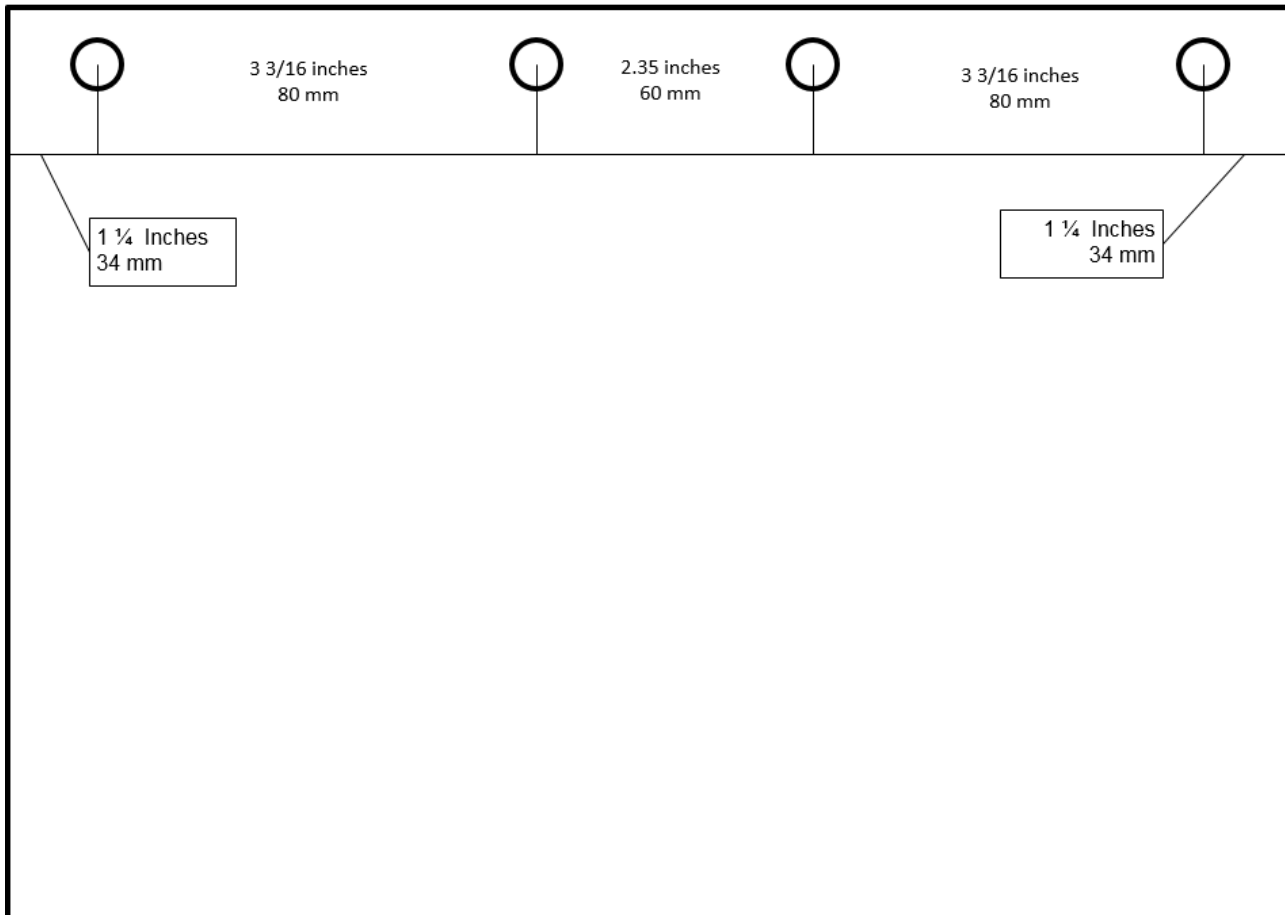


The dimensions for the hole pattern needed to attach the clear sheet of materials to the hatband can be found in the reference section of this document. There is also a link to a You Tube Video that demonstrates the assembly method.

## REFERENCES

### CLEAR FACE SHIELD MATERIAL HOLE PATTERN:

Holes were made with a single hole paper punch. The dimensions provided are from the edge of the sheet, starting on left side, of the clear sheet of material to the center of each hole.



### YOU TUBE ASSEMBLY VIDEO:

<https://www.youtube.com/watch?v=N4ZDQmJaZZg&feature=youtu.be>

### SUPPLIER LINKS:

[https://www.staples.com/GBC-Clear-View-Presentation-Covers-Clear-8-3-4-x-11-1-4-100-per-box/product\\_854762](https://www.staples.com/GBC-Clear-View-Presentation-Covers-Clear-8-3-4-x-11-1-4-100-per-box/product_854762)

<https://www.officedepot.com/a/products/412027/GBC-Clear-View-VeloBind-Economy-Presentation/>