

# 3D PRINTABLE FACE SHIELD

Date: 27<sup>th</sup> March 2020

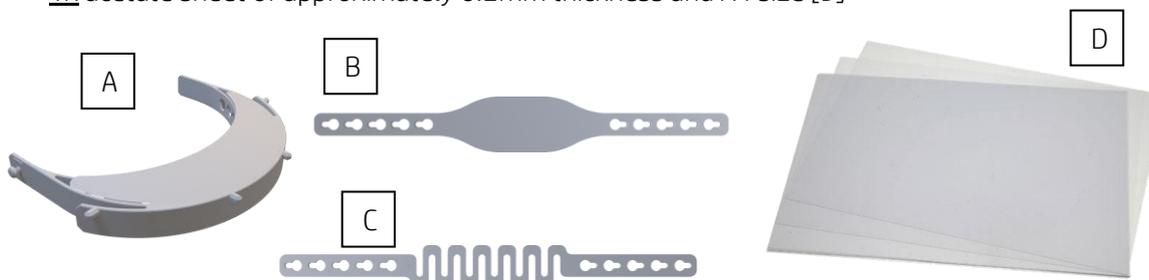


## Assembly Instructions and Operating Conditions



### Bill of Materials

- 3x HP Multi Jet Fusion parts
  - Structure with 1x HP MJF part printed in HP 3D High Reusability PA 12 [A in the image]
  - 1x string printed in HP 3D High Reusability PA 12 [B]
  - 1x string printed in ULTRASINT® TPU01 or ESTANE® 3D TPU M95A– as they need elasticity to move along in a zigzag course [C]
- 1x acetate sheet of approximately 0.2mm thickness and A4 size [D]



### Tools

- HP Jet Fusion 4200 / 5200 3D Printing Solution
- Standard office hole punch (shown on the right)
- Vinyl Gloves (use them through the whole process)



## Assembly Instructions

0. Use the hole punch to make the holes in the acetate sheet. Normally you can use a standard office hole punch as shown above. Make the holes at approximately at 38mm/1.5in from each of the short edges of the A4 acetate.

For better accuracy, use the template provided below. Try first with one sheet. **Once validated and properly assembled, repeat with the rest of sheets to prepare them for assembly.**

Ordered lists of steps:

1. Take part B and attach it to part A through the pins on the sides, perpendicular to it.  
*This will help the face shield to stay in place without falling.*
2. Take the string part (C) and attach it the same way as in the first step, through the same two pins on each end of part A.  
*Additional flexibility of this part to facilitate putting the face shield on and taking it off.*
3. Assemble the acetate sheet to the structure inserting the pins through the holes.

## Operating Conditions

In order to clean/sterilize this device, **autoclave cannot be used**; it is recommended to sterilize using a formaldehyde solution.

Another method that has been used to sterilize the product is by **submerging it in a dissolution of bleach in water**. The specifics used are: a pill of Sodium Dichloroisocyanurate (81%) dissolved in 8 liters of water. The product was submerged for 5 minutes and then dried.

Acetate - Hole Template for A4 sized sheets.

*Slightly different sizes should be ok as long as the distance between the holes is kept.*

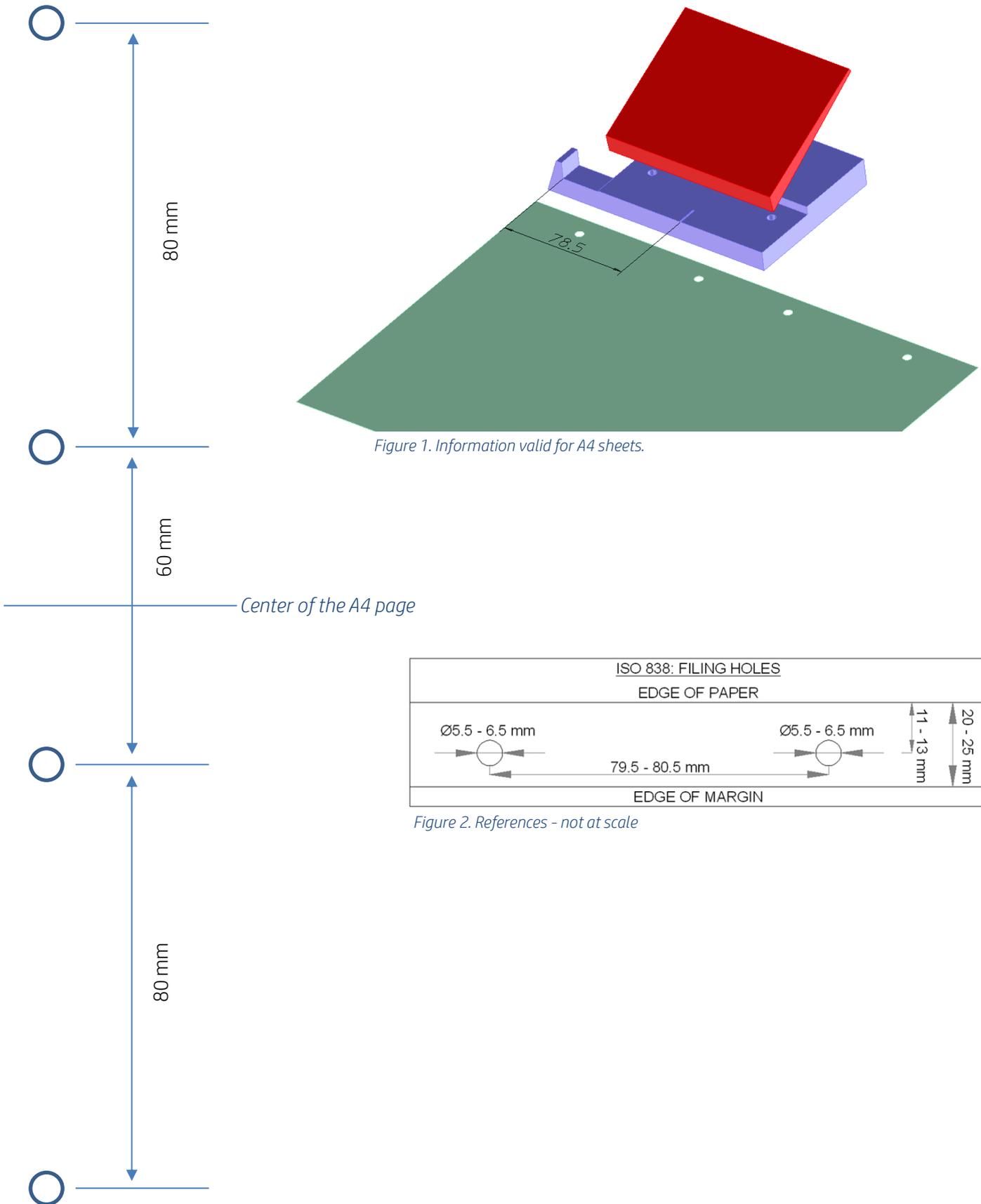


Figure 1. Information valid for A4 sheets.

ISO 838: FILING HOLES			
EDGE OF PAPER			
$\varnothing 5.5 - 6.5 \text{ mm}$	79.5 - 80.5 mm	$\varnothing 5.5 - 6.5 \text{ mm}$	11 - 13 mm
			20 - 25 mm
EDGE OF MARGIN			

Figure 2. References - not at scale

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