

# 3D-Print your own face shield

Learn how to fabricate and produce a general-purpose face shield for yourselves as well as others in the community to stay safer during the pandemic. The face shield is designed to offer a layer of protection against fluid splashes. This guide should be used by professionals or individuals with adequate knowledge of 3D-printing.

- You will minimally require a 3D printer for the frame of the face shield
- Protect your hands and eyes with appropriate gear at all times
- The steps and design can be modified where necessary to suit your needs

- 1 Download our design files for FaceProtect+ 3D frame and visor template
  - [.STL File](#) (download and print)
  - [.STP File](#) (if you wish to modify and customise the frame)
  - [Visor Template](#) (A3 size, ideal)
  - [Visor Template](#) (A4 size)
- 2 Don protective gear such as mask and gloves
- 3 Using recommended 3D printer settings in the table below, print the frame
  - One-piece design with no assembly required
  - Recommended print orientation is the default in the 3D model
  - Minor post-processing to remove additional support material (depending on printer)
- 4 Print the visor template with a normal printer, either in A3 or A4 size
- 5 Overlay and secure the visor template onto a clear plastic sheet
- 6 Trim edges and punch a few holes to test
- 7 Test the fit of the visor
  - Clip on the visor through the frame's mounting points
  - Adjust the size of holes, where necessary
- 8 Complete punching the rest of the holes and assemble the face shield
- 9 Try it on and adjust the fit of visor holes if required

## Recommended tools, materials and settings

Part	Tool	Material	Specifications / Settings
Frame	<u>3D printer</u> Bed dimensions of minimum 150 mm by 150 mm (eg. Original Prusa Mk3s, Ultimaker UM3, Creality CR-10)	Polylactic Acid (PLA) Polyethylene Terephthalate (PETG) Acrylonitrile Butadiene Styrene (ABS)	Nozzle Diameter: 0.4mm Rafts: No Supports: Yes Layer Height: 0.15 to 0.25 mm Infill: 20% Perimeters: not less than 3
Visor	<u>Trimming and hole-punching tools</u> (eg. Scissors, penknife, screwdriver, needle, ballpoint pen)	Transparent & water-resistant plastic sheet. It should be optically clear and not crack or crease when bent to form a U-shape. There should not be scratches or holes.	0.2-0.3mm thickness A3-sized ideally A4-sized otherwise

\*Alternative tools and materials can be used as long as safety is not compromised.

### To Note

After each use, wash face shield with soap and water.  
Do not expose to high heat.  
The equipment does not provide particulate filtration.

In collaboration with Siege Advanced Manufacturing.



#### Disclaimer:

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