A 3D-PRINTED FACE MASK
FROM THE PEOPLE, FOR THE PEOPLE

Dr. Amine Arezki - Justin Nussbaum - Tito Melega
As the COVID-19 pandemic rages throughout the world, a second issue of significant magnitude has surfaced: the global shortage of N95 masks, loose-fitting procedure masks, and PPE, which are desperately needed on the front lines of the COVID-19 health war.

Like many other concerned citizens, we wanted to help.

We have joined forces to develop a different kind of face mask; one that can be “printed” by anyone with a 3d-printer, anywhere.
It should be noted that no government approved testing has been conducted to prove the effectivity of this mask.

Anyone associated with the conception and design of it makes no medical claims that it will prevent anyone from catching COVID-19 or other viruses.

However, considering that something is better than nothing, the purpose of this design is to provide a quick and easy way for someone to get access to a mask that could potentially —when used with the appropriate filter media— assist in catching airborne particles that may contain the COVID-19 virus.
Developed by a team of experts to be easily 3D printable, this face mask was created to provide quick and easy access to anyone with a 3D printer and their communities.

The design requires no support structures.
Capable of being sanitized between uses

Filter media can be replaced without touching inside the mask

Ergonomic design for extended use

Large breathing port

Large robust loops

Removable filter insert with self-lock bump outs
Tie two elastic straps or rubber bands around the four loops. Do not use string, it would make it difficult to make and maintain a tight fit against your face.

Confirm that every edge of the mask fits firmly against your face. The goal is to get as much air as possible to enter the mask through the filter.

Cut a square of the most suitable filter media available that is slightly larger than the filter insert itself.

Cover the filter insert with the filter media and insert it into the mask, making sure to line up the “bump outs” in the insert with the indents inside the breathing port.

After using the mask, remove the filter insert and media by pulling on the filter insert tab. Replace frequently.
MAKE SEVERAL FILTERS OUT OF ONE MASK
RECOMMENDED FIT
The USA government’s Center for Disease Control (CDC) website recommends using a bleach solution or alcohol with greater than 70% alcohol content as a disinfectant against the COVID-19 virus. Details can be found here:


A bleach solution can be produced by (cdc.gov) 5 tablespoons, (1/3rd cup) bleach per gallon of water, or 4 teaspoons bleach per quart of water.

Thoroughly clean out any disinfectant after soaking the mask with plenty of clean water!
The quality of everyone’s mask will be slightly different depending on the print settings, the type of printer and the printing filament used.

We recommend sealing the mask to cover up any holes that may not be visible to the human eye.

Please note that almost all fused deposition modeling printers (FDM, the type that uses a spool of filament) are somewhat permeable to air.

Use a sealant that will fully dry and does not produce toxic fumes.

Always follow the instructions provided by the sealant’s manufacturer.
While this mask is meant to be reusable, depending on the material used and type of disinfectant used, the mask may begin to deteriorate. Once the mask shows signs of deterioration, it should be disposed of.
Dr. Amine Arezki
Autonomy Leader Co Founder
Ixerabot.com

Tito Melega
Chief Creative Officer / ECD
titomelega.com
Former Global Chief Creative Officer for all Ford advertising, marketing, and content. Creator of some of the biggest brand/media integrations in the last decade.

Rick Watson, Ph.D.
Founder & CEO
Ascend Manufacturing LLC.
THANK YOU

Dr. Amine Arezki
amine.arezki@ixerabot.com

Justin Nussbaum
Justin@ascendmanufacturing3d.com

Tito Melega
tito@titomelega.com
310-570-9619