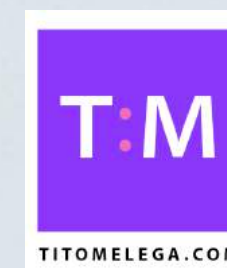


AMASKFORALL.COM

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.

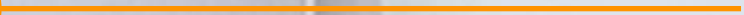
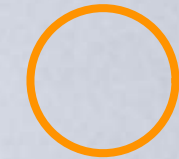
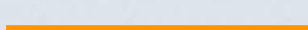


Developed by a team of experts to be easily 3D printable, this face mask was created to provide quick and easy access to anyone with a 3D printer and their communities.

The design requires no support structures.

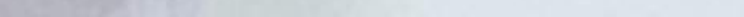
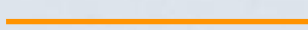
FEATURES

Large robust loops



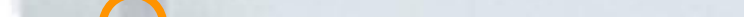
Capable of being sanitized between uses

Ergonomic design for extended use



Large breathing port

Filter media can be replaced without touching inside the mask



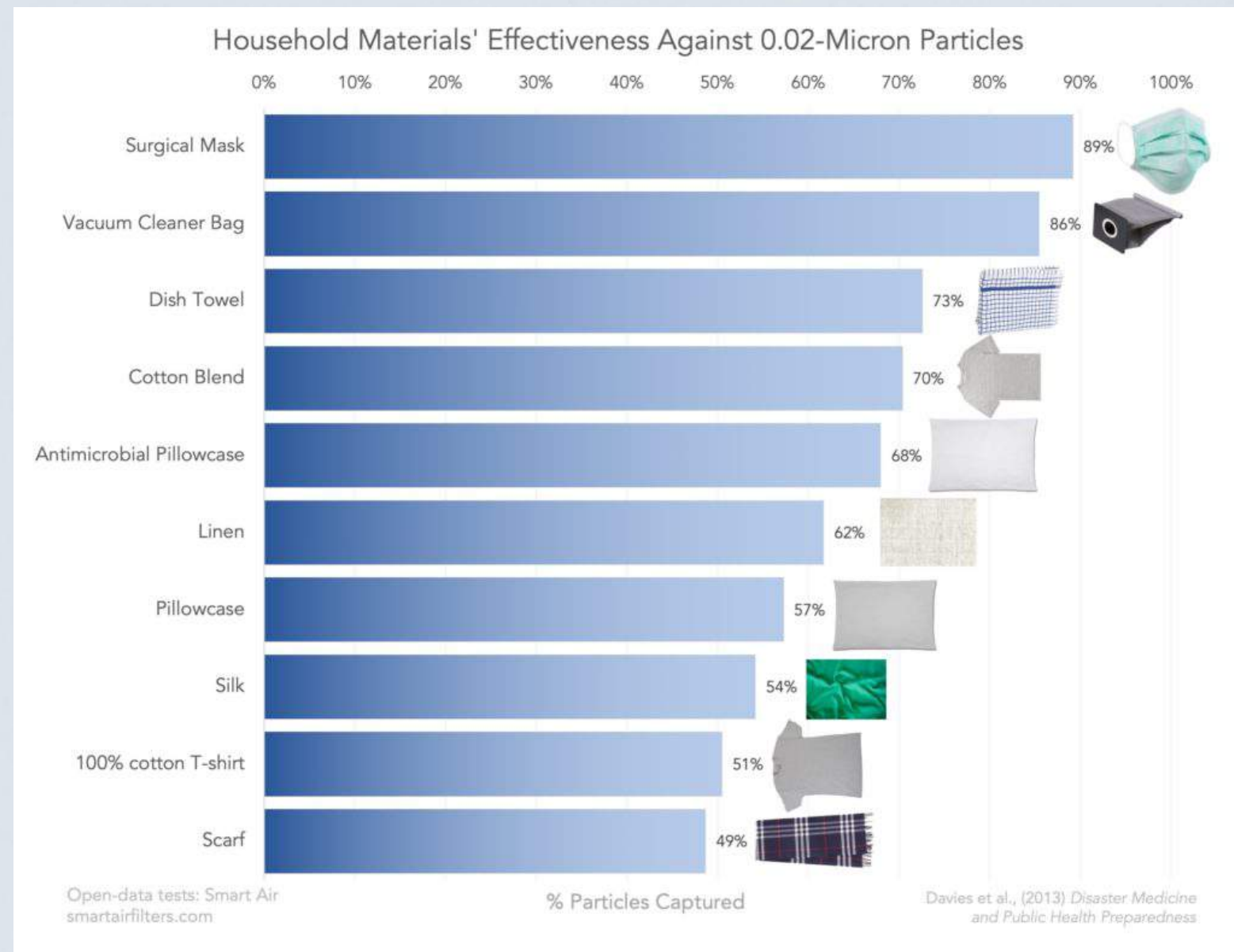
Removable filter insert with self-lock bump outs

HOW TO USE IT



- Make sure to properly fit the mask to maximize the amount of air that enters the mask through the filter. Everyone's face is slightly different.
- LOOPS: Tie two elastic straps or rubber bands around the four loops. Do not use string, it can make it difficult to make and maintain a tight fit against your face.
- FIT: 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.
- CUSTOM FIT: Place the mask in 2" of hot water for a few seconds. Be careful as mask will be hot. Cover inside edge with a cloth, before bending it. When safe to do so, press it against face until it hardens.
- FILTER: Cut a rectangle of the most suitable and safest filter media available that is slightly larger than the filter pod insert itself.
- BREATHING PORT: Cover the filter port insert with the filter media and insert it into the breathing port, making sure to line up the "bump-outs" on the insert with the indents inside the breathing port.
- DISPOSAL: After each use of the mask, or whenever the filter media gets moist, remove the filter insert by pulling from its tab and dispose of the filter media into a closed trash container.

WHAT TO USE



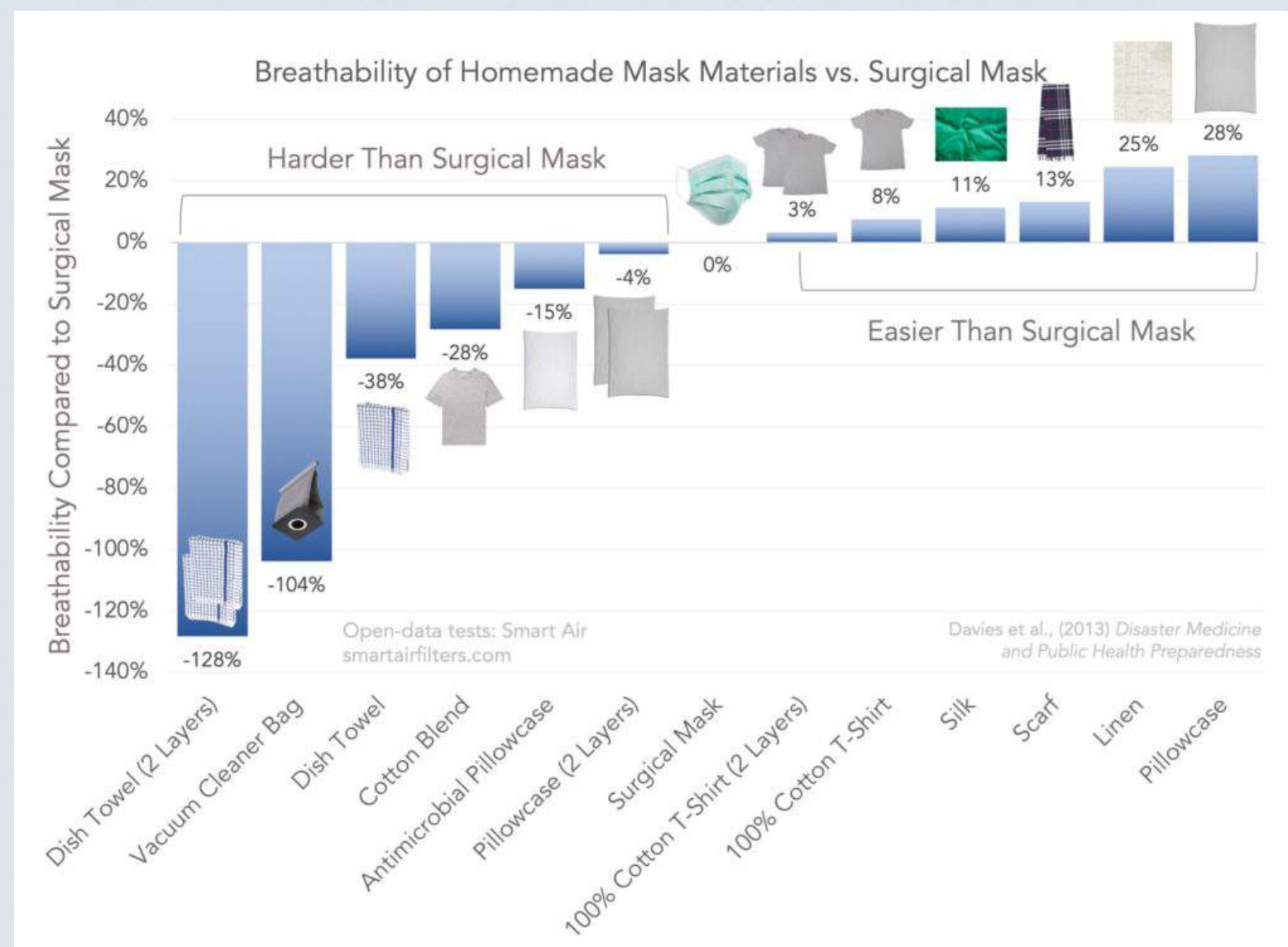
Use materials that you have available to construct a filter with the included filter insert. Cut a square of the material that is slightly larger than the filter insert itself.

HOSPITALS:

- Upcycle sterile wrapping like two-ply spun polypropylene
- Devide medical non-woven masks

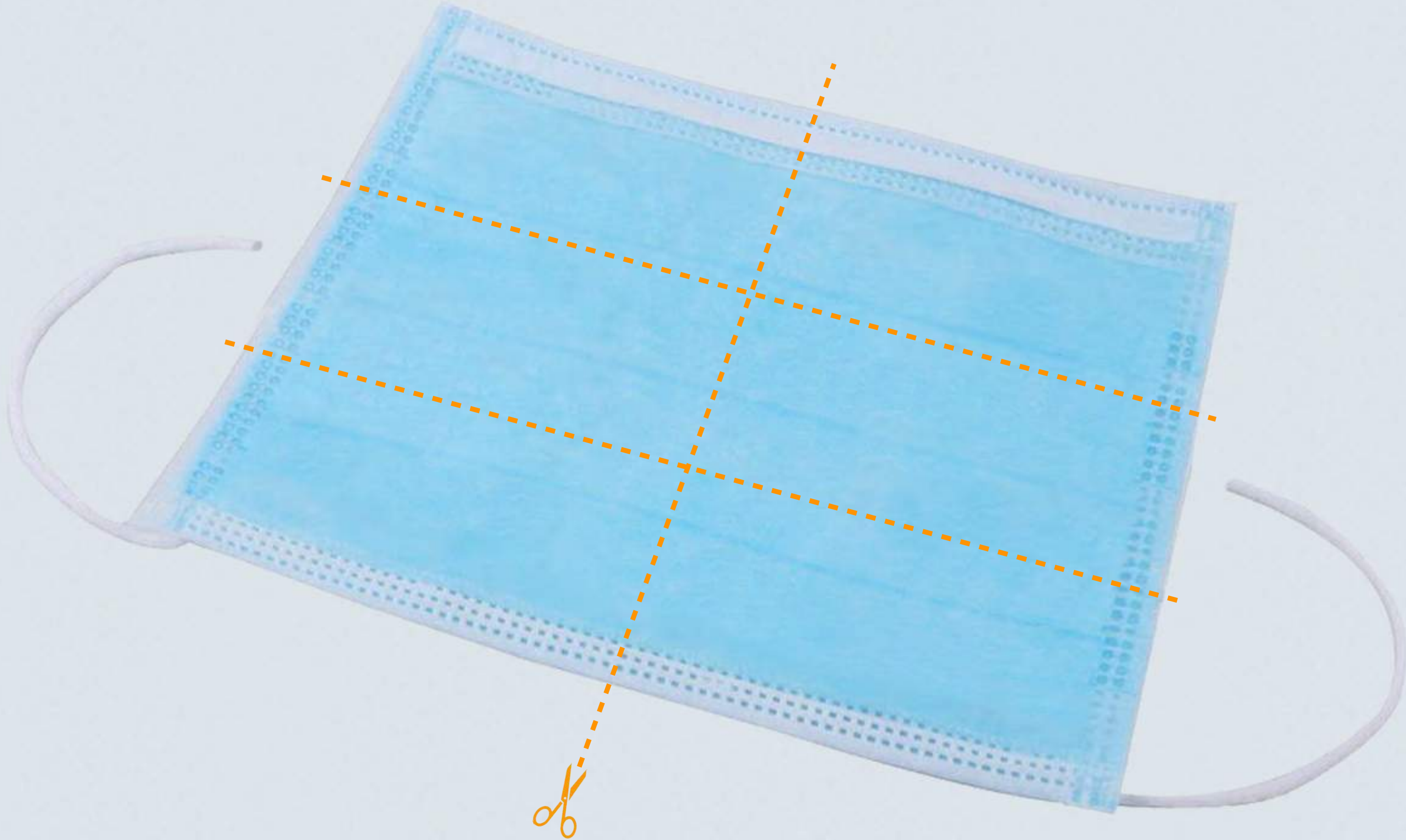
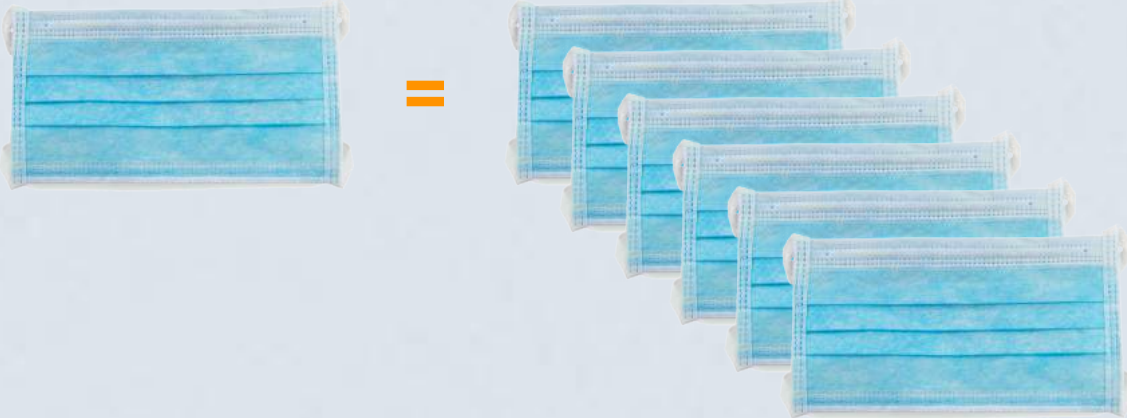
HOME:

- 100% Cotton T-Shirt
- Pillow Case
- Facial issue
- Paper towel
- Cotton

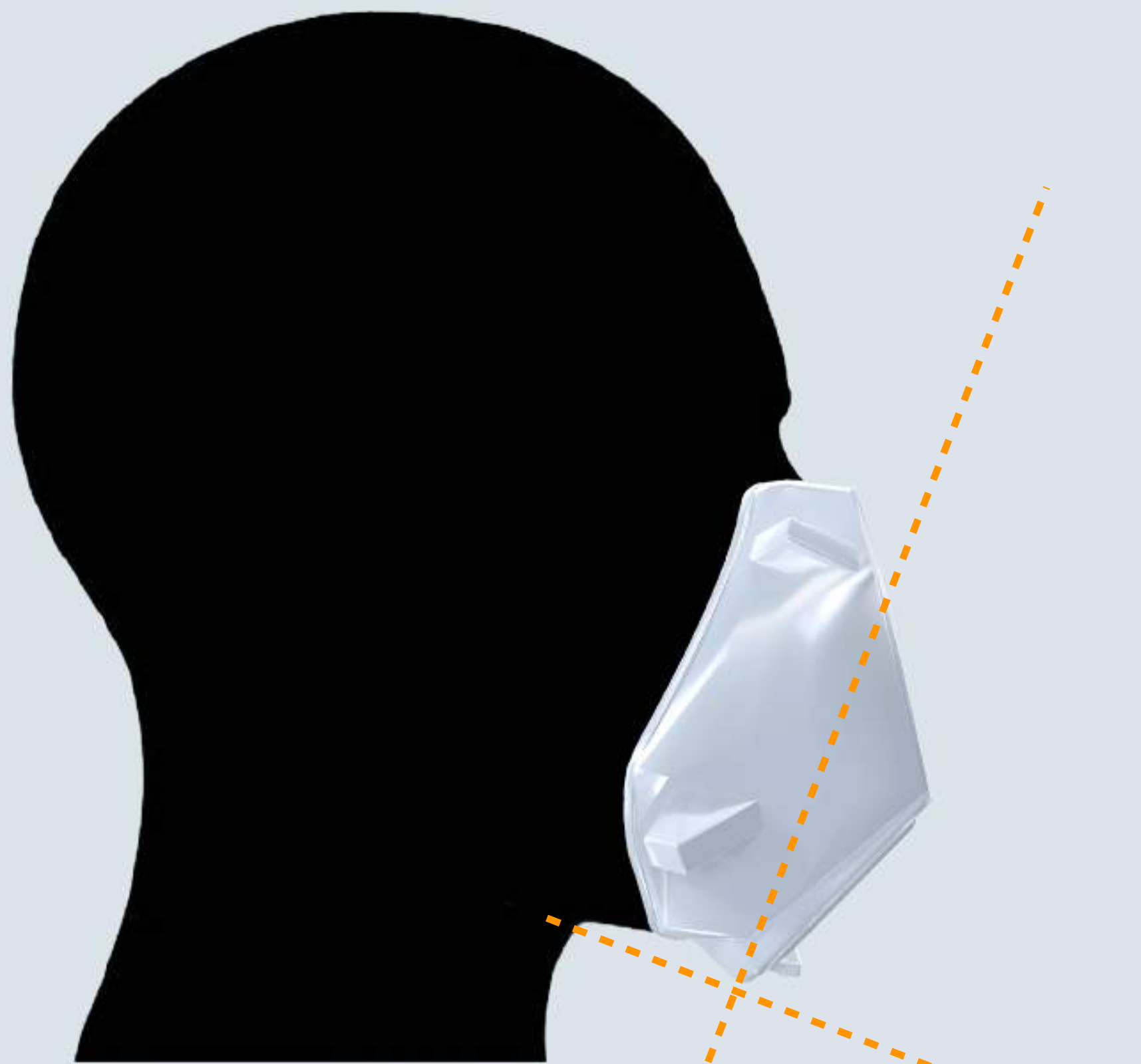
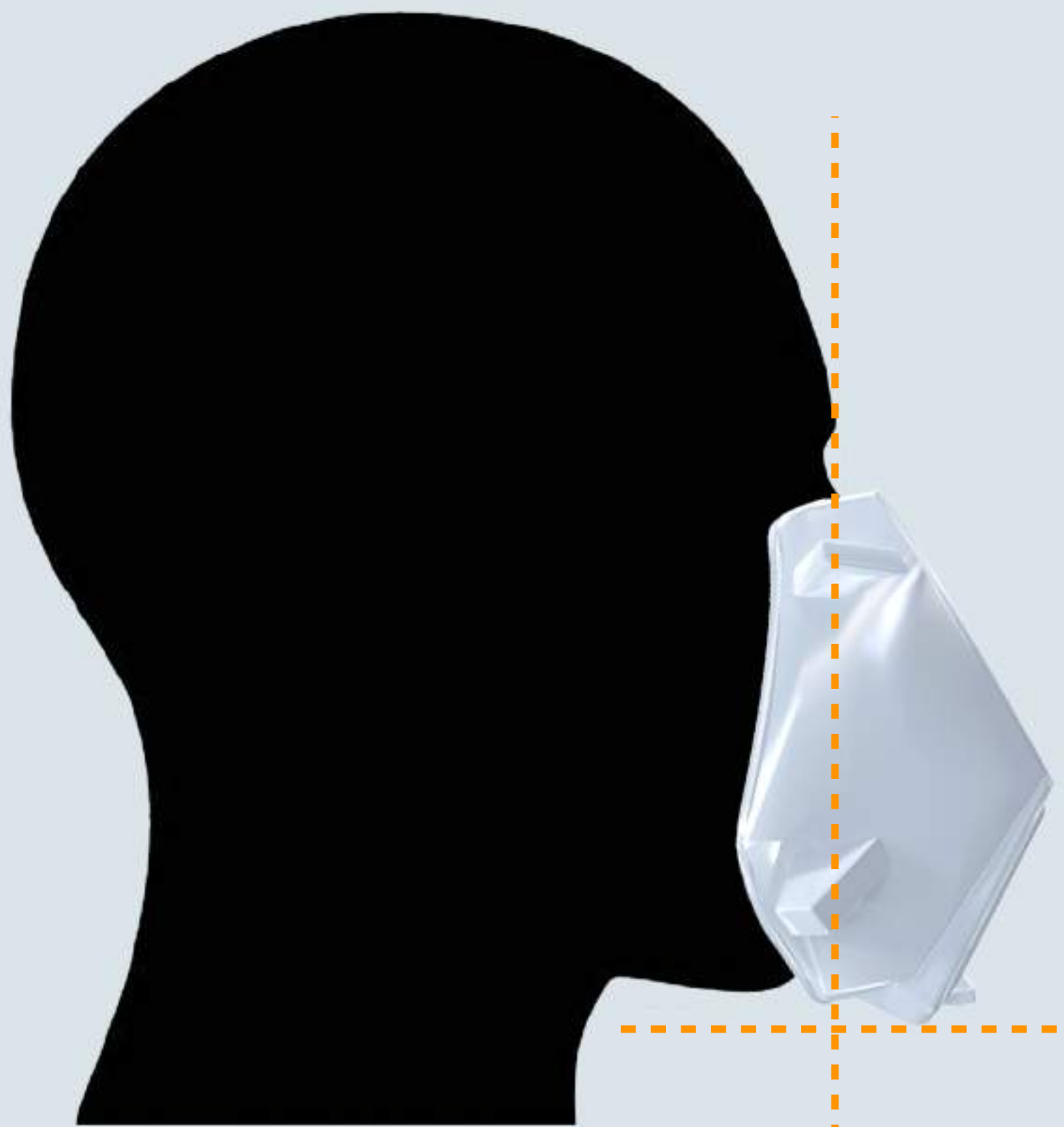


⊕ Pay special attention to how easy it is to breathe through your mask.

MAKE SEVERAL FILTERS
OUT OF ONE MASK



RECOMMENDED FIT



HOW TO DISINFECT |

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:

<https://www.cdc.gov/coronavirus/2019-ncov/prepare/cleaning-disinfection.html>

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!



ADDITIONAL RECOMMENDATIONS

- 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.



- ⊕ It should be noted that this mask is not meant to replace N95 respirators or surgical masks.

Masks, such as procedure masks, fit loosely to the face and are made to act as barriers to splashes or aerosols (such as the moisture from a sneeze). Respirators create a seal around the mouth and nose and filter out airborne particles such as viruses.

- ⊕ No government approved testing has been conducted to prove the effectivity of this mask.

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

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 barrier— assist in catching aerosol particles that may contain the COVID-19 virus.

- ⊕ 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.

WE ARE |



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Amine is a Product Strategy and Autonomous Systems Specialist mixing art and technology and a designer by passion.



Tito Melega
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Tito is the former Chief Creative Officer for all Ford advertising. He has overseen some of the most innovative and awarded advertising and brand experiences today.



Justin Nussbaum, Ph.D.
Founder & CEO
Ascend Manufacturing LLC.

Justin is an inventor of a novel high-performance additive manufacturing technology and Innovation Crossroads fellow.

THANK YOU

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