

MASKEARING

INSTRUCTIONS FOR FABRICATION

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MaskEaring is a project developed with the collaboration of Polifactory within the Distributed Design project co-funded by the Creative Europe Programme of the European Union. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

POLIFACTORY

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Design**



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1. Basic Info

MaskEaring is an -useful- object created to protect user's ears from skin irritations and injuries caused by the elastics of face masks if worn for long periods of time; especially during the Covid-19 era, as people are required to wear protective face masks in public.

This device was inspired by the very users wearing a mask, who would, silently, express discomfort and constantly try to adjust it behind their ears. The users would also try to diy various solutions in order to solve the problem.

MaskEaring changes the way you wear a face mask, you don't wear the elastic bands behind your ears anymore, but you place them behind the hooks of the device, so that the back of your ear is free, thus avoiding any kind of discomfort.

MaskEaring is also easy to wear, even if you wear glasses or hearing aids, since you can simply place them between the flaps of the back structure of the device.

BILL OF MATERIALS

The table below contains all the materials necessary for the reproduction of the product.

MAKE

Name	Material and Technology	Qty
maskearing_R.stl	Flexible resin SLA printing	1
maskearing_L.stl	Flexible resin SLA printing	1

TECHNOLOGY AND TOOLS USED

- Form 2 by FormLabs (SLA 3D printer) to print the flexible structure.

SECURITY TOOLS AND DEVICES

Gloves and face mask to manage the resin for the SLA printing.

2. Step By Step Explanation

Due to the small details, the flexible components have been printed in SLA but, If your printer has a direct drive extruder, you can also print them in TPU (we raccomandated a 80 shore polymer).

Step 01 - Select and extract maskearing_R.stl and maskearing_L.stl file from MaskEaring_digitalfiles.zip

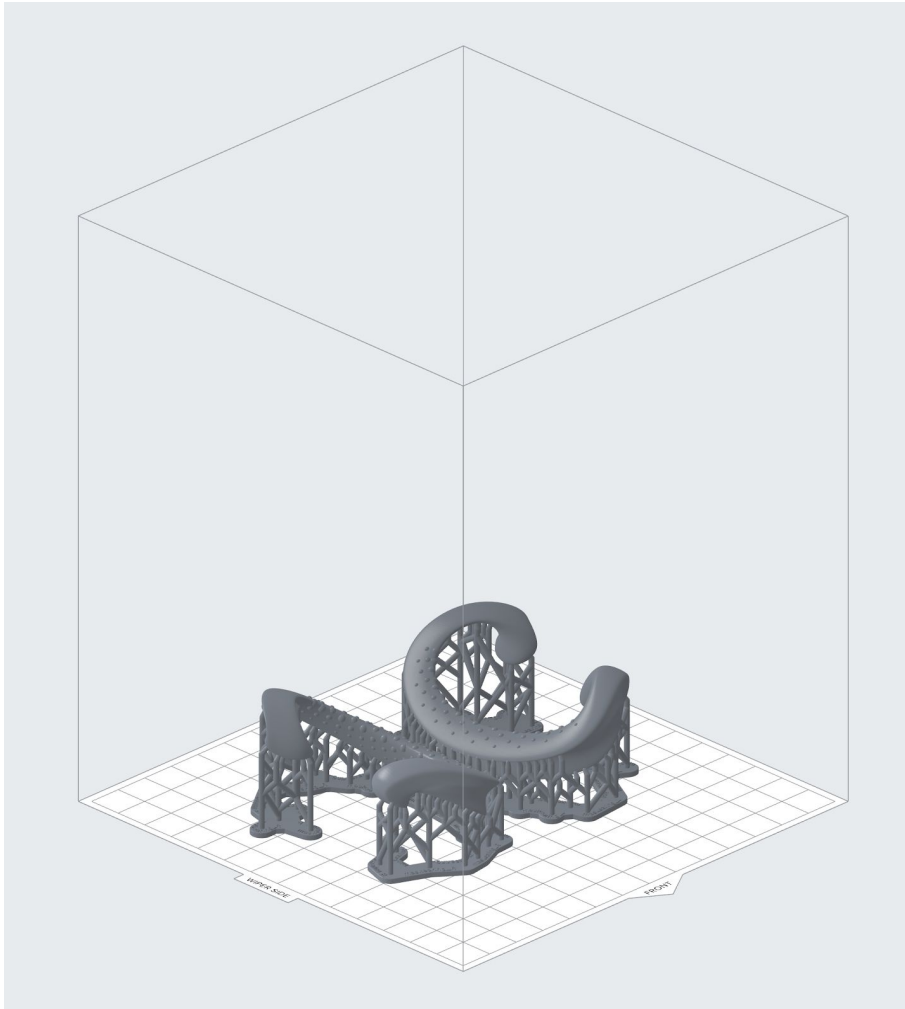


Fig. 1. The positioning on the plate in the slicer.

Step 02 - Proceed with the 3D printing operations

Proceed with the setting of the printer. For this project is recommended a flexible resin. We have opted for [this one](#).



Fig. 2. The end result of the SLA printing.

Step 03 - Wash and cure the parts

Material	Time	Temperature
Flexible V2	15 min	60 °C

% Gain in Tensile Strength over Cure Time at 60 °C for Flexible V2



Fig. 3. Settings from the FormLabs support to cure the resin.

Step 04 - Remove the supports

Use a pair of small cutters to remove the supports. They will come off easily.

3. Credits

MaskEaring is a project publicly released and made available in open source mode according to the **Creative Common License (CC-BY)** and promoted by Distributed Design with the related documentation.

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* POLIFACTORY and DD logos have to be inserted (a .svg file with the two logos is included in the .zip folder named MaskEaring_digitalfiles.zip)

4. Downloadable Files

MaskEaring files can be download at:

***www.polifactory.polimi.it/en/polifactory/delice

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