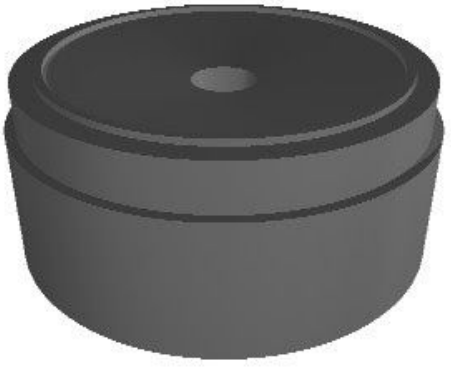
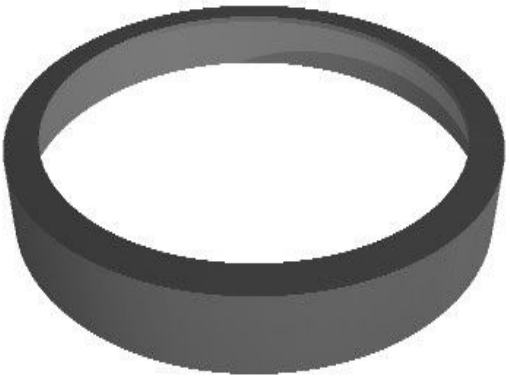
List of parts

1 Case

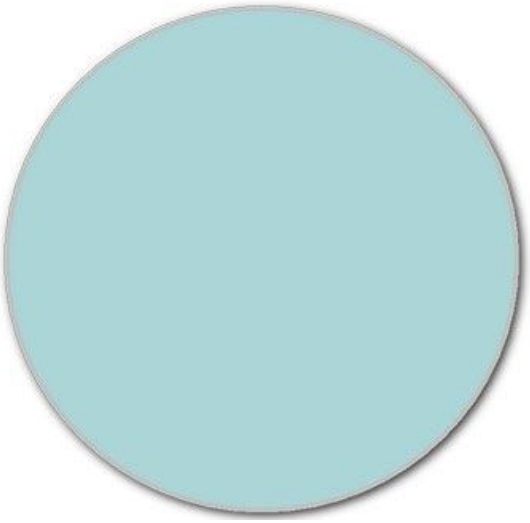
2 Foam rubber insertion



3 Stethoscope's head



4 Ring of the stethoscope's head



5 Membrane

Separate the bottom from the model body

Separate the bottom part from the model to simplify manufacturing the cover

Sending the case components to 3D printing

Put the cover horizontally on the 3D printer table.

Choose a photopolymer resin for printing.

NOTE: photopolymer resins fall under hazard class 3 in liquid state. In case of contact with skin they can cause irritation or an allergic reaction. In case of contact with eyes

they can cause irritation. It is recommended to print in a ventilated room using a mask and nitrile gloves.

To print these models, it is recommended to use Gorky Liquid: Simple resins as after the polymerization in the ultraviolet spectrum with the 405 nm radiation wavelength the material becomes elastic and obtains shock-proof properties.

You can find recommendations on the exposure time for printing as well as the description and characteristics of the plastic itself on the manufacturer's website https://gorkyliquid.ru.

When using photopolymers of other manufacturers, choose the ones with physico-chemical properties of the Gorky Liquid: Simple material.

The recommended exposure height is 100 micron.

The photopolymer resin is poured into a printer in a sunlight-proof room.

Calculate the volume of liquid poured into the printer's bath in advance so that it is enough for printing a set of parts and so that the resin does not flow outside the bath.

Taking the printed components out. Chemical treatment

When the printing of the parts is completed, you need to take them out of the printer. For this, you will need a protecting mask, nitrile gloves and plastic palette knife.

Never use a metal palette knife for taking out the parts as it can damage the table's surface and the resulting metal burrs can pierce through the FEP film in the bath, which will lead to the printer's malfunctioning.

Making a membrane for the stethoscope head

A membrane for the stethoscope head is cut from 300 micron PVC film.

Preparing the silicone case

For this smartphone model, separate the lower part from the silicone case.

Gluing the components

Glue the parts of the case together. If necessary, use some glue to attach the ring of the head.

Put the membrane into the stethoscope's ring and put the ring on the body of the stethoscope's head. If necessary, use some glue to attach the parts.

Notes

- Sand or wrap with scotch tape the connection between the case and the stethoscope’s head (if the head’s opening and sound duct have different diameters).

- To protect the microphone from parasitic noises, use a 1-2 mm thick foam rubber plate. Insert the plate into a special elliptical connector.