Activated Charcoal Mask with Flexible Filter Options

By Andrew Mott - April 30, 2020

Overview

Thanks for printing this mask. Since designing this mask, I have personally made this for dozens of my neighbors for free and has been printed and used around the world. The cotton/charcoal portion can be replaced with a filter of your choosing, and was designed to accommodate a wide variety of material thicknesses. Please refer to the above image for the nomenclature used in this set of instructions.

This design features a clamping system that applies pressure to the outer rim of the filter that is inserted, ensuring proper filter assembly.

Instruction Guide

1) Print one of each part using PLA.
2) Cut and place your desired filter to fit on the inside of the receptacle. The correct diameter is 2.2 inches. If you wish to build your own activated charcoal filter, do the following:
a) Place one cotton makeup remover pad in the receptacle.
b) Sprinkle a very small amount or activated charcoal powder on the center of the pad, then tap on the sides of the receptacle to distribute the powder, leaving the rim of the pad clean.
c) Place a second pad on top of the charcoal

3) Place the grate on top of the filter

4) Screw the clamp into place.

5) You have now assembled a filter module. You can preassemble multiple modules to easily swap in when convenient.
6) Screw the filter module into the mask.

7) Attach elastic straps to the four attach points on the mask. Cut and knotted rubber bands seem to work quite well for this.

**Additional Notes**

Some have preferred to install a small amount of weather stripping to improve the comfort and fit for the mask, while others have deformed their mask using a hair dryer to match their face. Enjoy and stay safe!