



intermountain3D

208-391-5570



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Co-developer Dr. Ilyas Colombowala

The reusable respirator has not been evaluated by the FDA, and Intermountain 3D makes no warranties as to its efficacy in any specific situation. It is being offered as a stopgap to healthcare providers in this time of shortage. However, great care has been taken to insure the safety of users of the mask.

Mask Components

The reusable respirator is comprised of a 3D printed mask, sealing strip, elastic straps and filter media made from Halyard H600 2-ply spun polypropylene (surgical wrap). Other N95 or equivalent media can also be used.

Respirator Specifications:

- Body of respirator is 3D printed using bio-compatible nylon 12 material which has passed the ISO 10993-5 (Biological evaluation of medical devices - Part 5: Tests for in vitro cytotoxicity) and ISO 10993-10 (Biological evaluation of medical devices - Part 10: Tests for irritation and skin sensitization) standards
- Respirator has been tested with an N95 filter using the N95 Respirator Fit Test with Challenging Agent at St Alphonsus Hospital, and passed all tests.
- Respirator has also been tested using filters made of Halyard H600 2-ply spun polypropylene (surgical wrap) and passed all N95 tests
- Respirator comes in two sizes, medium and small, and healthcare workers should complete a fit test to determine correct size

Care and Cleaning

- Respirator can be wiped clean with water (and soap, if needed) and then sprayed with isopropyl alcohol or hydrogen peroxide and air-dried. Do not immerse the seal in water. Respirator can be reused indefinitely so long as the foam seal is intact
- Filter can be reused. However, the filter should be changed after any aerosol-generating procedures, or if it has been contaminated with blood, respiratory or nasal secretions, or bodily fluids from patients

Mask Design

This design can only be printed using a commercial grade SLS printer, and requires specialized materials for assembly. If you are a manufacturer with SLS printing capabilities and would like to discuss the design and assembly, please contact lynn@intermountain3d.com.

If you're looking for something you can print with a filament printer, we adapted the original idea from the Billings Clinic whose clever design CAD is available to download on their website.

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Ordering

Because supply is limited, the masks are being made available to healthcare personnel and others on the front line of caring for victims of the virus. The masks are shipped with one filter, but medical personnel must have access to their own replacements as needed.

Price is \$19.50 each, fully assembled. For unassembled respirators in bulk volumes, special pricing is available.

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