

3D MODEL ONLY



Prusa Face Shield



Prusa Research

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Summary

A prototype face shield that we developed.

[Healthcare](#) > [Home Medical Tools](#)

Tags: [shield](#) [faceshield](#) [prusafaceshield](#)

A prototype face shield that we developed. In three days, we went through dozens of prototypes and two verifications with the Czech Ministry of Health.

On May 14 2020, this RC3 version received the CE certification and it complies with the EU regulation about personal protective equipment. It can, therefore, be officially used as a protection against mechanical impact. We state that the purpose of the use is to provide the wearer with frontal protection against flying drops. **Unfortunately, every manufacturer has to go through the certification procedure individually.** For more information read the article [How to get a certification for face shields](#).

Useful links

- [All about 3D printed Face Shields](#)
- [Stacked versions of the Shield](#) - 1h 20min per pcs
- [Prusa Face Shield - US version](#)
- [How to get a certification for face shields](#)

- Learn [How to coordinate](#) (not only) the protective face shields printing
- [Discover Groups near you](#)
- [How to STERILIZE](#) the face shields
- Visor PDF drawing: [Normal size](#), [Extended version \(dentists\)](#)
- Article: [From Design to Mass 3D printing of Medical Shields in Three Days](#)
- [FAQs](#) (frequently asked questions)
- [Official statement from Czech Ministry of Health](#) approving the use of our Face shields

Version [PRUSA PRO](#) (RC4) changelog

Changes from RC3:

- Larger visor that provides complete protection of the entire face (flying drops, sprayed liquids)
- 2 pins on the side for a better fixation of the visor
- Visor cutouts for shoulders
- meets the standard of EN 166:2001

Version RC3 changelog

Changes from RC2:

- Removed hexagonal holes for faster printing speeds
 - With faster printing we use on our farm, some pieces had sharp points and based on testing, the venting is not needed as much
- Several optimizations for stack printing
- New print files with [4 headbands stacked](#) on top of each other
 - Stacking headbands is a great idea by the community, especially useful for overnight printing



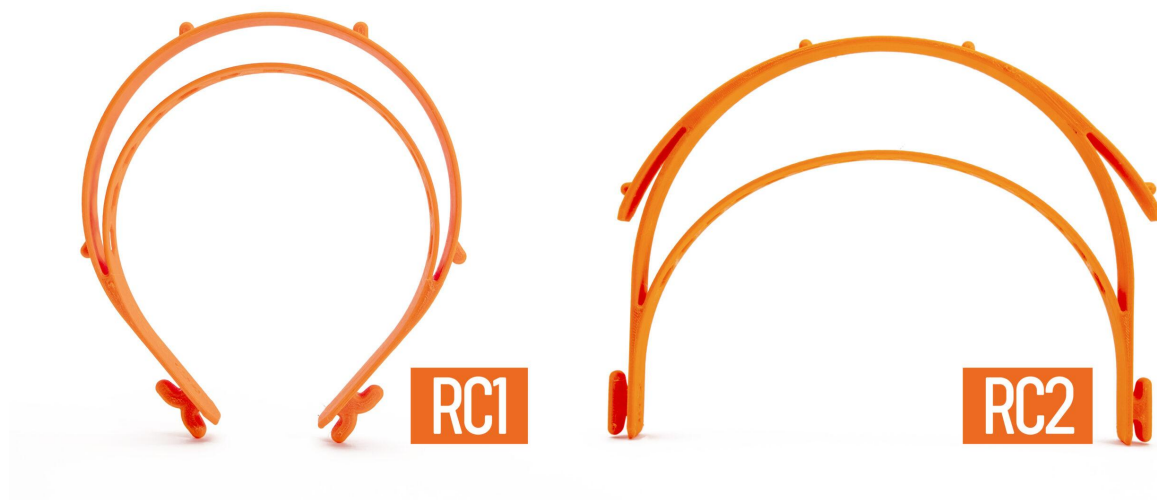
Version RC2

Changes from RC1:

- Increased wall thickness (slightly stiffer and more durable)
 - Inner wall from 1.5 mm to 2 mm
 - Outer wall from 2 mm to 2.5 mm
- The headband is no longer printed compressed - Lower pressure on the temple
- The visor was moved further away from the forehead - This allows a better fit over bigger respirators and protective goggles
- The printed part now has an extension for the visor (the visor curves less than the headband).

For now, both RC1 and RC2 versions are relevant. RC1 lets you fit more printed parts on a single print bed. However, if maximum yield isn't the priority, RC2 provides slightly better protection and is more comfortable to

wear.



If you want to manufacture shields for others PLEASE READ THIS CAREFULLY

- **Act as if you were infected by the COVID-19 virus.** Wear a face mask and a fresh pair of gloves when collecting each batch of printed parts. Store the parts immediately in a sealable bag.
- Talk with whoever you're making the shields for, let them know about your manufacturing environment
- There is still debate about how long the virus survives on plastic, but most sources mention 2-3 days. That means that by letting the packed face shields sit for 2-3 days before distributing them, you'll greatly reduce risk of transmission
- **Do not store the entire stock in one place**, minimize the risk of cross contamination

Assembly manual:

Note that assembly instructions are for the EU version, however, the US version is apart from the number of the pins the same.

- Online: [English version](#), [English Community version using a laminating foil](#), [Czech version](#)
- PDF: [English version \(shorter\)](#)
- Video:

Rubber band

You can either use a thicker one and make a hole in it at each end (make at least 10 mm cut) or use a thin one and tie it to both ends of the shield.

Visor / front plate

- there is a DXF drawing in the File section (and an alternative longer version)

- visor PDF drawing: [Normal size](#), [Extended version \(dentists\)](#)
- the holes can be made with a standard office hole puncher
- we used 0.5 mm thick petg sheet (Covestro VIVAK), but you should be able to use any clear laser cuttable plastic with similar thickness.

Top cover for the headband

[A cover for the headband](#), which is useful for very high-risk environments as they provide even better protection.

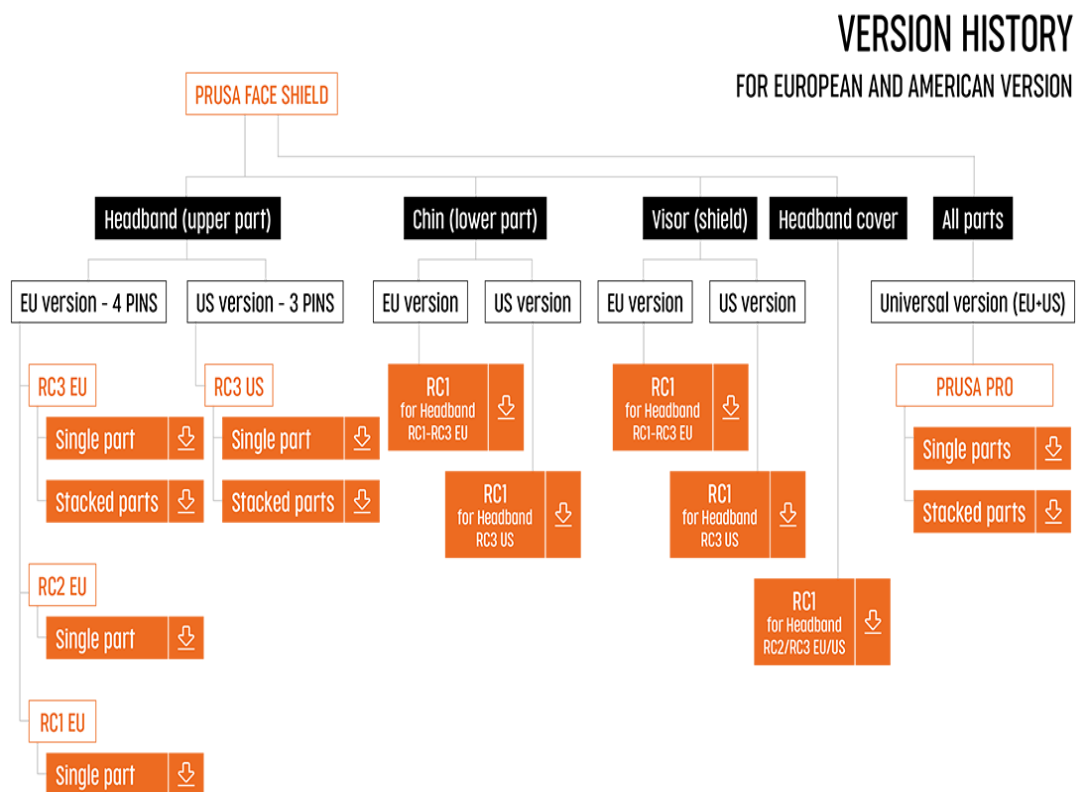


Fast print files for 4 stacked RC3 headbands

If you own an Original Prusa printer, you can use our [Speed optimized print files for the RC3 stacked version \(1h 20min per pcs\)](#).

Licence and selling of face shields

We share these files under non-commercial licence. It would be great if you donated these shields to those in need for free. If you need to cover your production costs, we are ok with you selling the shields for production cost. However, we do not want to see these shields on eBay for \$50.



Print instructions

Supports are not necessary.
 Print with at least 3 perimeters, about 30% infill.
 Ideally, print it from PETG.

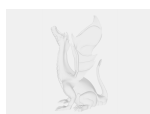
Model files



covid19_headband_rc3_1pcs.3mf



covid19_headband_rc3.stl



covid19_headband_rc3.stp



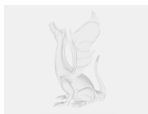
covid19_headband_rc2_1pcs.3mf



covid19_headband_rc2_2pcs.3mf



covid19_headband_rc2.stl



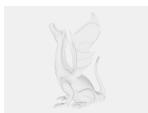
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covid19-shield.3mf



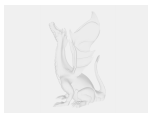
covid19_headband_rc1.stl



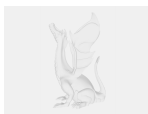
covid19_shiled_r1.stp



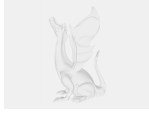
bottom_reinforcement.stl



bottom_reinforcement.step



shield_final.dxf



shield_longer_version.dxf

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