

Apple face shield design share: material, fabrication, & files

These manufacturing instructions should only be used by an expert. Manufacturing the face shields requires professional level expertise in manufacturing and design, and should only be done by professional engineers or machinists in a factory environment.

Recommended materials

	Part	Material	Detail
1	Shield	Clear PET or PETG	0.50mm thickness
2	Forehead band	Clear PET or PETG	0.50mm thickness
3	Strap	Silicone (latex-free*)	1.4-1.6mm thickness, Shore 50A

*Contact with natural rubber latex may result in allergic reactions. Non-silicone materials may degrade quickly.

Using alternate materials

Follow this basic test when selecting materials:

Ensure the material you use is optically clear and does not crack when folded over onto itself 180° to form a crease (0mm bend radius).

Note: Do not use PC (Polycarbonate) in place of PET or PETG, it is too brittle.

Potential fabrication methods

Laser cutting, die cutting, water jetting, and drag knife are all potential methods for manufacturing the face shields, forehead bands, and silicone straps. Other 2D cutting methods may be suitable as well.

Each manufacturing method poses unique safety risks to machine operators. It is recommended only trained manufacturing professionals operate equipment with proper safety measures in place.

Method	Note
Laser cutting	Many materials release harmful vapors during the laser cut process. Edges of parts may burn, causing unwanted burrs.
Water jetting	Advantage of cutting multiple sheets simultaneously if kerf angle can be controlled. No burning or vapors released.
Die cutting	Highest throughput. Investment required.

Fabrication process

It is recommended to wear N95 respirator masks and nitrile gloves during any face shield fabrication or packaging activities.

① Inspect incoming material.

Check for scratches or other defects.

② Cut material.

Use one of the files provided below with the equipment of your choice.

③ Check parts.

Size: Measure key dimensions as shown in the manufacturing drawings.

Burr: Ensure the burr on both sides of the part is minimal (less than 0.1mm).

Strength: Feed the silicone strap through a forehead band and pull with 30N / 3kgf / 6.7lbf. Ensure the silicone strap does not break and forehead band slots do not enlarge.

If manufacturing large quantities of face shields, we recommend periodically checking your parts to ensure there is no drift in quality over time.

④ Test assembly.

Assemble a face shield and check for comfort or any fitment issues. Pay close attention to the burs and tune equipment settings if necessary.

⑤ Pack.

Consider tissue paper or protective films to prevent scratching during transport.

Design release files: support.apple.com/faceshieldmake

2D cut files available

DXF

PDF

Manufacturing drawings available

Face shield - PDF

Forehand band - PDF

Silicone strap - PDF

Instructions available

This document - PDF

Assembly - PDF

Copyright © 2020 Apple Inc. This document is licensed under the LICENSE (MIT) included with this package.

Disclaimer: Intended to be worn with personal protective equipment per your institution's standards. This product has not been tested or qualified to prevent or reduce infection, and does not provide particulate filtration. Not intended for use in surgical settings. This product has not been disinfected or cleaned. Non-sterile. Avoid exposure to high heat. Should not be shared with others. This product has been evaluated to be compatible with common cleaning chemicals. See website for more details.

This product has not been FDA cleared or approved. The product has been authorized by FDA under an EUA for use by healthcare providers as personal protective equipment. This product is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use under Section 564(b)(1) of the Act, 21 USC 360bbb-3(b)(1) unless the authorization is terminated or revoked sooner.

You are responsible for ensuring compliance with all applicable law, including regulatory authorizations, pertaining to the manufacture and distribution of this face shield.