New York University shared a sample of the Covid-19 room visor, which everyone can make at home

One of the current essential needs focuses on personal safety tools and devices (PPE). And a research team at New York University recently developed and launched an effective mask design that can prevent the corona virus droplet shot by Covid-19 patients.

The United States is currently the country with the highest number of Covid-19 patients in the world, with more than 104,000 cases of the 617,000 cases globally. In the state of emergency that they have declared, businesses and academic institutions in the US have constantly joined hands to find all measures to help the federal government to control the disease.

One of the current essential needs focuses on personal safety tools and devices (PPE). And a team at New York University recently developed and launched an effective mask design that can prevent the corona virus droplets from being spread by Covid-19 patients.

What is even better is that they shared this design for free, so that any business, anywhere in the world can produce it in large quantities. A New York University guide can also help you create your own face shields at home.

Their blueprint specifies each material you need, their size, the steps to cut each part and use.

As one of the open source projects supporting the production of personal protective equipment, New York University has targeted a simple, cheap, and scalable method to implement Create mask masks.

This direction is different from some other projects that are based on 3D printing technology. Theoretically, when someone designs a mask print and shares it for free on the internet, any hospital, company and individual that owns a 3D printer can print it. them to use according to your needs.

However, 3D printing depends very much on the source of ink materials that each person has. The printing process is also very time-consuming - a mask may take half an hour to complete.

In contrast, New York University's approach only requires basic materials, including two pieces of clear, flexible plastic and elastic bands. A mask can be assembled in less than a minute, as long as you have purchased enough materials.

The team also provided the appropriate design files to load into laser or CNC cutting machines so that the needed units could produce in large quantities. For individuals and consumers, you can also use this pattern to cut yourself a mask shield, which only requires a pair of scissors.

The following is a guide of New York University:

Materials:

Shield part: 1 transparent PET or polycarbonate sheet (0.007 to 0.01 inch thick) size: 12.5 x 10.25 inches (equivalent to 31.75x26 cm)

Band section: similar material 1x 1 x 10.75 inch (equivalent to 2.54x27.3 cm)

Strap part: elastic band 3/8 or ½ inch (equivalent to 9.5 mm or 12.7 mm), 16 inches long (equivalent to 40.64 cm).

Making:

Sản xuất tấm chắn mặt

Vật liệu

Nhựa

Vật liệu: Phim nhựa PET trong suốt dày 0,25 mm

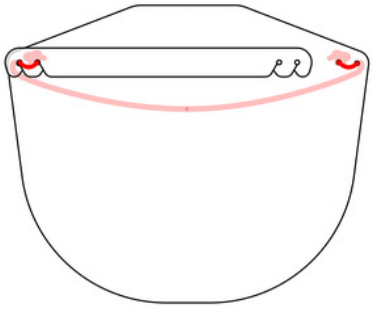
*Hoặc bất cứ vật liệu trong, dẻo nào.

Để làm: Tấm chắn và băng đầu

Dây thun

Vật liệu: Dây thun bản rộng 9,5 mm hoặc 12,7 mm

Để làm: Quai đeo

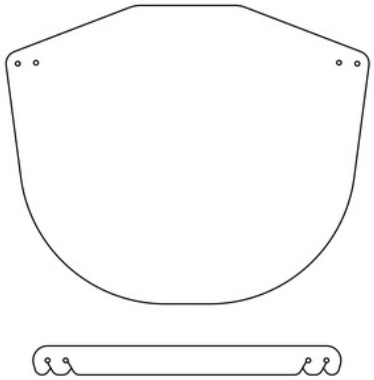


Vận chuyển

Tấm chắn mặt được thiết kế có thể để phẳng khi đóng gói. Nó sẽ trông như thế này khi thành phẩm.
Khi đeo, bạn mới phải uốn cong tấm chắn lại và cài khóa băng đầu.

Chúng tôi khuyến cáo nên vận chuyển sản phẩm trong túi bảo vệ, để giữ nó vô trùng và đặt giấy vào giữa mỗi tấm để giữ cho chúng khỏi trầy xước.

Sản xuất tấm chắn mặt



1. Cắt nhựa

Cắt tấm chắn mặt và băng đầu
theo các file dưới đây.
Kích thước của mỗi phần là:
12,5 x 10,25 inch (31,75x26 cm)
và 1x 10,75 inch (2,54x27,3 cm)

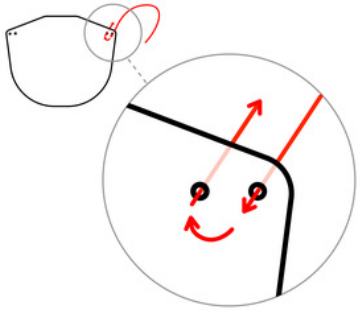
https://bit.ly/shieldcutfile

https://bit.ly/3agdvEP

*File này có thể dùng để cắt bằng:
máy cắt laser, khung cắt, máy CNC,
dao dọc giấy, kéo hoặc bấm đục lỗ.

2. Cắt thun

Đo và cắt dây thun theo đoạn dài
16 inch (40,64 cm). Cắt vát 45 độ
ở hai đầu.



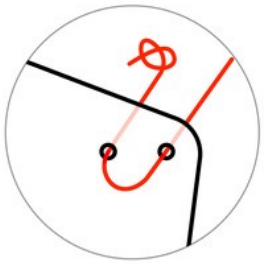
3. Xỏ dây

Xỏ dây thun qua lỗ bên ngoài trước,
rồi luồn ngược lại từ lỗ bên trong
ra ngoài.

Please refer to https://bit.ly/open-face-shield for latest designs

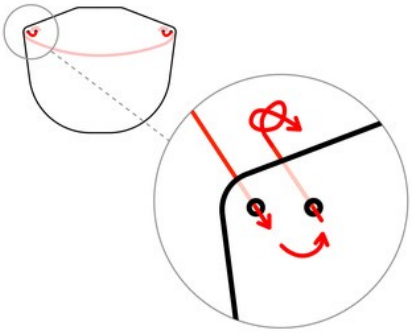
How to produce face shield

Sản xuất tấm chắn mặt



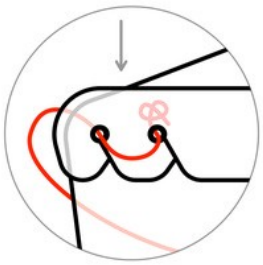
4. Thắt dây tấm nhựa

Khi dây đã được xỏ qua hai lỗ, thắt nút đầu dây lại để giữ nó. Kéo chặt nút và chỉnh nó về sát phía đầu nhất có thể.



5. Xỏ + thắt lỗ bên kia

Lặp lại bước 3 và bước 4 với hai lỗ bên đối diện của tấm chắn nhựa. Đảm bảo cả hai nút dây đều ở phía ngoài của tấm chắn.

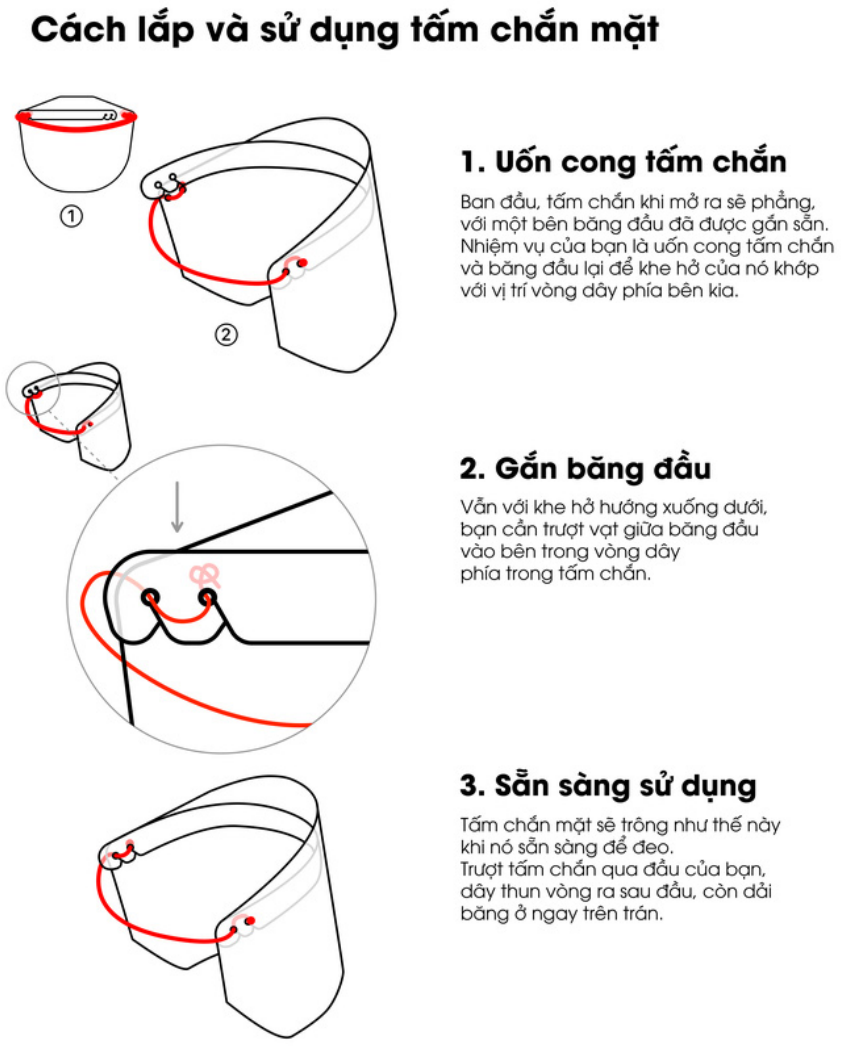


6. Gắn băng đầu

Đặt băng đầu với khe hở hướng xuống dưới, gắn vạt giữa một bên vào vòng dây, ở phía bên trong tấm chắn.

Please refer to https://bit.ly/open-face-shield for latest designs

How to install and use the shield



Face shields are an important device for frontline doctors, nurses, and paramedics when they come into contact with Covid-19 patients. Essentially, they are a large, transparent piece of plastic that covers the wearer's entire face.

Face shields must be used in conjunction with a medical mask or an N95 respirator to protect medical personnel from virus-containing droplets of a Covid-19 infected patient.

Viral droplets are droplets of mucus in the airways of an infected person, which can be spread through the nose, mouth, and even the eyes when they cough, sneeze, talk and . breathe.

Research shows that when an infected person sneezes, they can spread into the air 40,000 splashes. These droplets can travel up to 6 m at a speed of 50 m / s.

When a person coughs or talks for 5 minutes, they can spread 3,000 drops of shot. Cough drops when coughing can travel over a range of 2 m at a speed of 10 m / s. And even when an infected person breathes, they can spread droplets over a range of 1 m at a velocity of 1m / s.

If unprotected, a health worker can breathe in his or her airways more than 30,000 virus particles in a single breath after the patient coughs.

Currently New York University has distributed more than 100 masks to doctors in Mount Sinai Hospital System. It has been successfully tested and confirmed with basic clinical function. The team said they can produce about 50,000 screens each week, starting in late March, once the material is supplied by the partner.

They also strongly welcome any company, organization or individual to copy this design to create more products to meet the needs of the health system and the individuals who need it. New York University also expressed its desire to cooperate with companies that can help them increase their production scale even bigger.

Many other companies in the US and around the world are also working to address the general shortage of medical devices and personal protection in the Covid-19 epidemic, including free production and sharing of designs. ventilator or breathing apparatus.

These are all great examples of how we can work together to work towards a common interest in the crisis caused by the Covid-19 epidemic.