

Tips on How to Assess The Quality of a Face Mask

1. **Filtration**

What does the mask claim to have? Most masks will claim to have at least 3 layers (or 3-ply) - but what does that mean for you? The most important layer(s) are those that filter out the bad particles (ie dust / bacteria / virus). In order to do this the filtration layer(s) should be 'non-woven melt blown'. This simply means that the material used (usually polypropylene or sometimes referred to as PP) is created in a random pattern that ultimately acts as a filter to very fine particles, but still allowing oxygen to pass.

How can you know what you have without sending it to a lab? If you were to cut your mask and separate the layers for examination, and if the *filtration layer* has a fixed pattern – **this is not melt blown**. Melt blown fabric has no pattern and looks random. Think of woven non-melt blown fabric as being spaghetti in the package and non-woven melt-blown fabric as spaghetti on your plate after cooking / boiling -



Woven Spun Bond



Non-Woven Melt-blown

Your mask must have at least one layer of non-woven melt-blown PP fabric to be effective. The filtration layer(s) usually make up the interior layers while the function of the inner and outer layers are for comfort and moisture control and are often made from PP spun bonded fabric.

HELP IS AVAILABLE – IF YOU ARE IN DOUBT ABOUT WHAT YOU ARE BUYING, CONTACT US AND AS ONE OF OUR CUSTOMERS YOU WILL BE ABLE TO GIVE US YOUR SAMPLES FOR FREE TESTING AND EVALUATION

2. **Certification – Is your mask certified?**

Look for confirmation that your mask has been submitted to a laboratory for accreditation of its quality. Commonly acceptable standards include:

<u>USA</u>	<u>EUROPE</u>	<u>ASIA</u>
N95 (NIOSH-42C FR84)	DIN149 – FFP2 – FFP3 KN95 (GB2626-2006)	PRC-KN84 Korea – (KMOEL-2017-64) Japan – DS2 (Japan JMHLW-Notification 214,2018)

A reputable manufacturer will provide you with verification of passing the standard specified on the packaging. This is commonly done either on the packaging materials or via an internet link.

You can also check if proper accreditation has been obtained for your mask by searching the website of the cited standard.

No reference to an accreditation standard suggests that filtration levels quoted on the packaging may be false or misleading.

3. **Breathability**

It is of no value to you if your mask blocks 99.9% of particulate but you are unable to breathe **thru** the mask's filter. If the manufacturer uses solid vinyl as the filtration layer, this will filter 100% of the particulates however you will be inhaling unfiltered air from the sides of your mask! A good mask should allow you to breathe 'thru' the filter. Proper accreditation such as ASTM2100-19 or DIN149 tests for filtration levels **and** breathability of the mask. **Proper accreditation** is important for your protection!

4. Fit

In order for the mask to prevent air from going around the filter, it must fit properly. If your mask fits loosely on your nose and mouth then unfiltered air can easily bypass the mask filter.

At a minimum the mask should have -

1. Ear loops or head bands that securely pulls the mask to your face to make a secure fit. If the mask fits loosely on your face it is not giving you sufficient protection.
2. A metal nose clip that can be pressed to conform with the shape of your nose / cheek cavity as this is the most common area of air leakage. Make sure it is a metal strip, plastic strips are not as effective in maintaining shape.

Better masks may also include

- a metal strip on the lower part of the mask in the chin area that can also be used to create a seal by folding the metal strip to seal the mask in the chin / throat area.
- reinforced side ribs to prevent the sides of the mask from buckling and allowing air to by-pass the filter
- head bands are more comfortable and will sometimes include a cinch for adjusting the tension of head bands permitting the wearer to tighten the mask against the face for a better seal

5. Comfort

Apart from proper filtration the masks should be comfortable to wear. Less expensive masks usually use ear loops to affix the mask to the face however these masks are not comfortable because of the tension put on the back of the ears. Head bands are the preferable alternative for comfort and fit, and can be made adjustable for a tighter fit.