



Safety

Choosing the Best Industrial Face Masks and Coverings for Manufacturing: 3 Things to Know

Roland Jones | Mar 11, 2021

Industrial face coverings, masks and respirators are important tools for protecting workers in potentially dangerous settings. Used in conjunction with social distancing and physical barriers, they can help protect employees and prevent the spread of the coronavirus. Here's a look at what you need to know about respiratory protection.

In everyday life, face masks have now become fashionable, with interesting fabrics and patterns expressing the wearer's personality.

But in manufacturing, where hazards exist besides infectious diseases, cuteness won't cut it.

To help ensure the wearer's safety and protection of others, the respirators and face masks worn in manufacturing settings are tested for performance, based on regulatory standards.

"The standard helps to benchmark products and will inform consumers when selecting face coverings for their intended use."

Kathie Morgan
ASTM International

Understanding those regulations and the various types of protection can be difficult. There are several features of face masks that you'll need for various work environments—from dust filtration to smoke protection and protection from hazardous materials. And you should also consider factors such as fit and comfort.

You may be required to wear a face covering, mask or respirator at work to lessen the risk of spreading the coronavirus, or you may use one to protect you from potentially dangerous particulate matter, such as dust, or chemical fumes.

Whatever the scenario, here's what you need to know about respiratory protective equipment:

No. 1: Types of Respiratory Protection



Personal protective equipment (PPE), including face masks and respirators, protects individuals in the workplace from a broad range of injuries and illnesses that may arise due to contact with chemical, radiological, electrical, biological or similar hazards.

Here's a basic overview of the types of *respiratory protection* available:

- A **cloth face covering** helps keep the particles you exhale from escaping into the air around you but is not considered PPE, as it will not adequately protect you from particles already in the air, such as those carrying viruses.
- A **face mask** is usually more protective than a cloth face covering, but it won't generally offer a high level of protection because most are not designed nor approved to protect against airborne particles. A face mask's filtration effectiveness is **certified by the National Institute for Occupational Safety and Health (NIOSH)** and efficacy varies widely.
- A **respirator** is worn over the nose and mouth to protect the wearer from hazardous materials in the surrounding air. It is also **certified by NIOSH** and typically offers a higher degree of protection than a mask or a face covering.
- Other protective barriers include **face shields**, which are plastic barriers that guard against splashes and direct coughs or sneezes. They are more comfortable than masks but provide minimal protection against small droplets.

Air-purifying respirators that are approved by NIOSH protect the wearer by filtering particles out of the air the user is breathing.

There are seven classes of filters available, shown below, with 95 percent being the minimal amount of filtration that NIOSH will approve (the designations N, R and P refer to the filter's oil resistance).

- N95: Filters at least 95 percent of airborne particles. Not resistant to oil.
 - *Surgical N95: A NIOSH-approved N95 respirator that has also been cleared by the Food and Drug Administration (FDA) as a surgical mask.*
- N99: Filters at least 99 percent of airborne particles. Not resistant to oil.
- N100: Filters at least 99.97 percent of airborne particles. Not resistant to oil.
- R95: Filters at least 95 percent of airborne particles. Somewhat resistant to oil.

- P95: Filters at least 95 percent of airborne particles. Strongly resistant to oil.
- P99: Filters at least 99 percent of airborne particles. Strongly resistant to oil.
- P100: Filters at least 99.97 percent of airborne particles. Strongly resistant to oil.

Read more: [How to Communicate Effectively in Loud Workplaces While Wearing a Mask](#)

No. 2: Assessing Your Risk



The type of face covering you use depends on the level of risk you expect to face.

The Occupational Safety and Health Administration (OSHA) publishes guidelines for conducting a hazard assessment of your workplace to determine the appropriate PPE and training.

A hazard assessment is used to identify potential risks of harm and how the risks of that harm can be mitigated.

OSHA uses standards put in place by the American National Standards Institute (ANSI) for PPE compliance requirements for such items as respirators and masks used in the workplace. Requirements for respiratory protection are found in *OSHA's 1910.134 standard*.

Employers are responsible for ensuring the air inside their facilities is not contaminated with such harmful matter as dust, gases or vapors, and when adequate ventilation cannot be achieved, they must provide a respirator to each employee to protect his or her health, *according to OSHA*.

The employer is also responsible for "the establishment and maintenance of a respiratory protection program," which should include "worksite-specific procedures and elements for required respirator use" and be administered by a suitably trained program administrator.

When it comes to protection from the coronavirus, OSHA has developed *four risk exposure levels* shown

below. Most American workers will likely fall in the lower or medium exposure risk levels.

- **Low exposure risk:** Jobs that do not require contact with people known to be, or suspected of being, infected.
- **Medium exposure risk:** Jobs that require frequent/close contact with people who may be infected but who are not known or suspected patients.
- **High exposure risk:** Jobs with a high potential for exposure to known or suspected sources of COVID-19.
- **Very high exposure risk:** Jobs with a high potential for exposure to known or suspected sources of COVID-19 during specific medical, postmortem or laboratory procedures.

Read more: The Importance of Respirator Fit

No. 3: Proper Fit and Care



A **fit test** is a vital part of a company's respiratory protection program. It is conducted to ensure that a respirator or mask is both comfortable and correctly fits the user. These tests are done each year to make sure users continue to receive a good level of protection.

Workers using tight-fitting respirators, such as N95 masks, should check the seal around the face each time they put it on to make sure they have the best possible fit.

A reliably close fit around the edge of the mask and the user's face results in minimal leakage so that when the user inhales, the breathing air is being directed through the filter material to get the greatest amount of filtering possible.

An employer must provide workers with NIOSH-certified respirators when they are needed and follow requirements to ensure workers receive a medical evaluation, a fit test and proper training. The correct maintenance and storage of the PPE is also necessary, in accordance with OSHA's respiratory

protection standard 29 *CFR 1910.134*.

Read more: Confined Space Safety: What's the Correct PPE, Equipment for Working in Hazardous Locations?

How do you ensure your workers understand the proper use of respiratory protection? Share your thoughts in the comments below.

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