

Fit Testing during Urgent Use of New Respirator Models

This is a general document that is not specific to any particular airborne contaminant, including viruses and bacteria, and that is intended for a sophisticated occupational audience.

Background

Respirator fit testing is an important best practice and, in some countries, a legal requirement that helps confirm a respirator wearer can achieve an adequate fit, and therefore, can achieve the intended level of exposure reduction for a particular respirator. In addition, being trained, following donning instructions, and performing user seal check procedures according to each respirator model's User Instructions is vital to a wearer achieving an adequate fit.

About Fit Testing

Tight-fitting respirators, such as filtering facepiece respirators (sometimes called disposable respirators) and elastomeric (sometimes called reusable) respirators, are made to seal tightly to a wearer's face. The better the seal, the more inhaled air will travel through the respirator's filter.

Because each person has different facial features, each person may receive a different amount of exposure reduction with a particular respirator model. In situations where a respirator is used with the intention to reduce a wearer's exposure below a particular level (e.g. regulatory assigned protection factor (APF) or nominal protection factor (NPF)), a fit test can confirm that the desired level of reduction can be achieved.

Not every country requires respirator fit testing. In the United States, an individual fit test is required at least annually for each respirator model that the wearer will use; however, several other countries require fit testing the first time a new respirator model is used or every few years. **You should always follow the fit-testing regulatory requirements and guidance for your particular country or employer.**

Urgent Use of New Respirator Models

During times of extreme urgency and shortage of supply, such as during a natural disaster or disease outbreak, 3M has been asked whether a fit that a wearer achieves on a certain 3M respirator model is predictive of the fit that the wearer would achieve on a different 3M respirator model.

As of April 2020, no two 3M respirator models have identical construction. Even respirator models that look very similar have construction differences, which could mean that one model fits an individual's face differently than another model. **It cannot be guaranteed that an individual who passed a fit test on one model would also pass a fit test on another model, no matter how similar the two models are.**

In times of extreme urgency, some organizations might need to decide if workers should wear a respirator when the worker has not completed a fit test for an available model. Examples of such extreme situations may include:

- The respirators that a workforce was fit tested on are temporarily unavailable due to a pandemic event that is creating a significant strain on the global supply of disposable respirators
- Fit test supplies are not available due to unusually high demand
- A healthcare organization is due to receive a supply of respirators from a relevant stockpile, and due to significant demands on the stockpile, authorities cannot guarantee the availability of a particular model, or the respirators received are needed for use immediately upon receipt, and there is not time to fit test workers on a new respirator model



During one such event, the 2020 COVID-19 outbreak, the U.S. National Institute for Occupational Safety and Health (NIOSH) has published a blog, [Proper N95 Respirator Use for Respiratory Protection Preparedness](#), in which NIOSH acknowledged that during a crisis, it may not be possible to obtain a fit test before using a respirator. NIOSH stated, “*While fit testing is ideal to confirm if a respirator does or does not fit, healthcare professionals should be able to obtain a good fit if they have had training and they perform a user seal check prior to each use of the respirator.*”

While fit testing prior to wearing a new respirator model is a 3M-recommended best practice and, in some countries, a legal requirement, if an organization must decide whether a new respirator model can be worn without fit testing in exigent circumstances, here are some points to consider:

- It is possible that some wearers may not receive the expected level of protection
- Fit testing should be performed as soon as it is possible to do so
- If multiple respirator options are available, it may be advantageous to select the available respirator that is most similar to the respirator that wearers are already familiar with and robustly trained on
- Wearers should read and follow the respirator *User Instructions*, and be trained, and receive careful oversight during respirator use

Always follow all applicable legal requirements. For more information, refer to the following 3M resources:

- [3M Center for Respiratory Protection - Fit Testing](#)
- [Disposable Respirator Quick Reference Guide](#)
- [3M Filtering Facepiece Respirators - Tips for Use](#)

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