

Respirators Beyond Their Shelf Life – Considerations

Background

During times of extremely high demand on available supplies of respirators, such as during outbreaks of airborne infectious diseases and other public health events, 3M is often asked whether respirators can be used beyond their shelf lives. During such times, it is especially important to take into consideration all guidance published by relevant government and non-government health authorities. Here is some information to help organizations establish their own practices.

Most respirators have a limited shelf life, after which they are intended to be discarded. The longer a respirator is stored beyond its shelf life, or stored outside the recommended conditions, the less likely it is to perform at its full potential. It is important to note that shelf life and storage conditions are in place to help ensure that all respirator components – not only filter media but also headbands and nosefoam where applicable, which contribute to respirators' ability to seal effectively to the face – remain in good condition. Additionally, respirators that are beyond their shelf life may potentially no longer meet applicable requirements, such as the [certification and/or approval requirements](#) set by regulatory agencies.

For additional considerations in understanding shelf lives, these 3M resources may be helpful:

- [3M Blog Post: Why Do Disposable Respirators Have a Defined Shelf Life?](#)
- [3M Filtering Facepiece/Disposable Respirator Storage Conditions and Shelf Life - FAQs](#)
- [3M Healthcare Particulate Respirator and Surgical Masks Storage Conditions and Shelf Life - FAQs](#)

Relevant Guidelines

In early 2020, during the COVID-19 outbreak, the U.S. Centers for Disease Control and Prevention (CDC) published its guideline [Strategies for Optimizing the Supply of N95 Respirators](#), in which CDC states the following about the use of respirators after the end of their shelf life: “In times of increased demand and decreased supply, consideration can be made to use N95 respirators past their intended shelf life. However, the potential exists that the respirator will not perform to the requirements for which it was certified. Over time, components such as the strap and material may degrade, which can affect the quality of the fit and seal. Prior to use of N95 respirators, the HCP [healthcare professional] should inspect the respirator and perform a seal check. Additionally, expired respirators may potentially no longer meet the certification requirements set by NIOSH.”

Can respirators that are beyond their stated shelf life be used for training?

Training activities are a great use for filtering facepiece respirators that are beyond their shelf life. Before using a respirator model, wearers must be trained on correct donning techniques for that model, including headband placement, forming noseclips, and conducting user seal checks (fit checks). While wearers are learning these procedures, each wearer will use at least one respirator. If an organization has access to respirators that are past their shelf life and are the same model as those used by workers, it is preferred to use those respirators which are past their shelf life for training and preserve those respirators within their shelf life for use as respiratory protection.

Can respirators that are beyond their stated shelf life be used for fit testing?

Respirators that are beyond their stated shelf life may be used for fit testing in certain circumstances. Organizations that wish to consider using these respirators for fit testing need to determine whether this is appropriate for their organization and the selected respirators. In determining whether this is appropriate, several important considerations should be evaluated, including the following:

- Fit testing should only ever be performed with respirators that have been stored according to the storage conditions specified on the packaging.
- Before use in fit testing, respirators should be visually inspected to confirm the respirators are not distorted or damaged in any way. This includes respirator headbands, nose clip, nose foam, shell and all other components.
- The amount of time that has elapsed between the stated shelf life date and the date of the fit test. Shorter periods will likely be viewed as more reasonable, while longer periods may be viewed as less reasonable. It is unlikely that fit testing with respirators that are more than one year beyond the stated shelf life will be viewed as reasonable.

If an organization experiences lower-than-expected fit test pass rates while fit testing using respirators that are beyond their stated shelf life, then the organization should consider discontinuing use of such respirators for fit testing and instead use respirators that are within their stated shelf life for their fit testing operations.

Organizations that choose to use respirators beyond their stated shelf life for fit testing should ensure that such respirators are kept separate from, and not confused with, the organizations' inventory of respirators within the stated shelf life.