Respirator
Fit Testing

What is
Respirator Fit Testing?

Respirator fit testing is an important method of ensuring the safety and health of workforce who rely on respirators for protection against airborne hazards. It verifies that the respirator fits properly and provides the intended level of protection, helping to prevent exposure to harmful contaminants. Employers must ensure fit testing is conducted as required to comply with safety regulations and protect their employees.

Why fit testing?

Tight-fitting respirators are designed to reduce the inhalation of airborne hazards. For them to be effective, they must seal properly to the wearer's face, ensuring air passes through the filter rather than through leaks in the faceseal. If leaks are present, contaminated air can enter, potentially exposing the wearer to harmful airborne contaminants. Thus, a proper fit is crucial.

Fit testing verifies that the respirator seals correctly to the wearer's face. It is a legal requirement in many countries, including the U.S., and is increasingly adopted as a best practice worldwide, even where not legally mandated. Fit testing not only confirms the respirator's suitability for the wearer but also provides an opportunity to educate users on proper usage, ensuring better protection against airborne hazards.

When is the Respirator Fit Testing required?

Respirator fit testing is essential to ensure that respirators provide adequate protection. It is required in the following situations:

- Before Initial Use
- When Changing Respirator Models
- If the Employee Reports Fit Issues
- After Changes in Workplace Conditions
- If the user's face profile changed

Fit testing should be performed at least once a year to ensure that the respirator continues to fit properly and provide the necessary protection.

Fit testing is a legal requirement in many countries, including the U.S., under OSHA regulations (29 CFR 1910.134). Employers must comply with these regulations and conduct fit testing as specified.

Types of Fit Testing

- Qualitative Fit Testing (QLFT)
- Quantitative Fit Testing (QNFT)

Qualitative
Fit Testing (QLFT)

Qualitative fit testing (QLFT) is a pass/fail test based on the wearer's subjective assessment of any leakage through the face seal region by detecting the introduction of bitter- or sweet-tasting aerosol as a test agent. QLFT methods are suitable for disposable and reusable half-facepiece respirators; they are not suitable for full-face respirators. Although this type of test is based on subjective detection and response by the wearer of the RPE, it is important that it is administered by a fit tester competent in using this method.
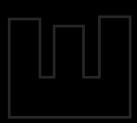
Quantitative
Fit Testing (QNFT)

Quantitative fit testing (QNFT) provides a numerical measure of how well a facepiece seals against a wearer's face; this is called a fit factor. These tests give an objective measure of face fit. QNFT methods are suitable for disposable and reusable half-facepiece and full-facepiece respirators.

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