

# Respiratory Protection

INFORMATION AND RESOURCES ON THE TYPES AND USES OF RESPIRATORY PROTECTION

Respirators are not “one-size-fits-all”. Employers must perform a hazard assessment in order to select the proper respirator based upon the specific hazards present and the respirator’s limitations. Like all personal protective equipment (PPE), respirators are a last resort because the hazard is still present and all solutions to eliminate or reduce hazards must be considered first.

Airborne hazards can be:

- **Solids** that get broken down into small particles like asbestos, lead, crystalline silica and welding fumes.
- **Liquids** that get into the air (vapors) like gasoline, paint thinner, and ammonia.
- **Aerosols**, which are droplets blown into the air from any liquid and can contain viruses or bacteria.
- **Gases** like carbon monoxide, chlorine and hydrogen sulfide.



N95

**Filtering Face Piece Respirators**  
Filtering face piece respirators are designed to reduce inhalation exposure to particulate contaminants. They must be NIOSH approved and show the NIOSH logo, testing and certification approval number, and the NIOSH filter series and filter efficiency level, e.g., N95, N99, N100, R95, P95, P99, P100.



P100



1/2 Face APR

**Air Purifying Respirators (APR)**  
APR “clean” the air and make it safe to breathe by filtering out contaminants. It is essential to know what the atmosphere contains to select the appropriate filter. APRs can only be worn if adequate oxygen is present. No single filter or respirator protects workers from every hazard, except for supplied air respirators. Powered Air Purifying Respirators (PAPR) can also be used but are not considered supplied air.



Full Face APR



SCBA

## Supplied Air Respirators

A **Self Contained Breathing Apparatus (SCBA)** is one type of supplied air respirators which provides a safe atmosphere to the worker. SCBA are very expensive to buy and maintain and require a high level of training to use correctly. These devices are used when the airborne concentration of toxic atmospheres are at or above the Immediately Dangerous to Life and Health (IDLH) limit, isn’t known or if there is simply not enough oxygen in the air to breathe (less than 19.5%).

# FIT TESTS AND FIT CHECKS

A “Fit Test” is a formal procedure completed by the employer before an employee is issued a respirator. Fit testing determines if a specific respirator can form an adequate face piece-to-face seal for the user.

- There are several fit-testing methods the employer can use.
- Several makes and sizes of respirators must be offered to ensure a good fit.
- Must be repeated if there is any changes to the face shape such as weight loss.

A “Fit Check” is a part of standard operating procedures and must be completed each time the respirator is put on. It is used to ensure that a respirator provides a proper seal before entering the hazardous atmosphere.



## Positive Pressure Check

- Cover the exhalation valve with your hand and gently exhale.
- If air escapes around the face seal, the device failed. Readjust the respirator and test again.
- If it raises slightly away from the face but holds the seal, it is adequate.



## Negative Pressure Check

- Cover both cartridges with the palms of your hands and sharply inhale.
- If air rushes in around the face seal the device failed.
- If it collapses toward the face the device passed.

For more information and resources visit:

[www.cseany.org/safety](http://www.cseany.org/safety)



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*The life you save could be YOUR OWN.*

