

Respirator Selection, Care and Maintenance

Proper selection and fit testing of respirators is important to ensure adequate protection against contaminants.

Respirator Types

Air-purifying respirators have filters, cartridges or canisters that remove contaminants from the air by passing the ambient air through the air-purifying element before it reaches the user.

Atmosphere-supplying respirators supply clean air directly to the user from a source other than the air surrounding the user.

Air-Purifying Respirators:

Particulate Respirators

- Protection from dusts, mists and fumes
- Require filters that must be replaced when user finds it difficult to breathe through them



Gas and Vapor Respirators

- Protection from specific hazardous gases or vapors
- Requires chemical filters (called cartridges or canisters) that only provide protection when the filter's absorbing capacity is not depleted



Combination Respirators

- Protection from particulates and gases -- normally used in atmospheres containing both
- Often heavier because they use both particulate filters and gas/vapor cartridges



Atmosphere-Supplying Respirators:

Airline-Supplied Respirators

- A hose delivers clean, safe air from a stationary source of compressed air
- Provides clean air for long periods of time and is lightweight



Self-Contained Breathing Apparatus (SCBA)

- A wearable, clean-air supply backpack
- Does not restrict movement with a hose connection
- Used when there is a short time needed to enter or escape from atmospheres which are or may be immediately dangerous to life and health (IDLH)



Combination Respirators

- Have an auxiliary self-contained air supply that can be used if the primary supply fails
- Used when extended work periods are required in atmospheres that are, or may be, IDLH



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Respirator Chemical Cartridges

- Color-coded, replaceable chemical cartridges/canisters for respirators that remove a specific contaminant
- More than one cartridge may be required to protect against multiple hazards
- Cartridges not interchangeable between brands

Color

White

Black

Green

Yellow

Olive

Magenta



Type

Acid Gas

Organic Vapors

Ammonia Gas

Organic Gas and Vapor

Multi-Gas

P100 Particulate Filter Cartridge (HEPA)

Care and Maintenance

Inspect respirators for basic function before each use. Clean them as often as necessary to prevent buildup and ensure they do not pose a hazard to the user.

Change Schedule – Respirator cartridges don't last forever!

- Develop a respirator change schedule as part of a written respirator program to include how often cartridges should be replaced and what information was used to decide the schedule.
- A cartridge's useful service life is how long provides adequate protection.
- The service life of a cartridge depends on environmental conditions, breathing rate, cartridge filtering capacity and the amount of contaminants in the air.
- Apply a safety factor to the service life estimate to ensure that the change schedule is conservative.

