

Air-Purifying Respirators in Construction

Hazard Alert



You wear a respirator to protect you from breathing dangerous dusts, fumes, or gases – like silica, welding fumes, or carbon monoxide. Respirators come in different styles and with different filters or cartridges, depending on what you’re protecting against and how much is in the air.

Types of Respirators

There are two kinds of respirators – supplied air and air purifying.

Supplied-air respirators give you clean breathing air from a compressor or compressed-air cylinder. These respirators are used in some of the most dangerous conditions. There are self-contained breathing apparatuses (SCBAs) like firefighters wear on their backs or air-line respirators connected to a hose. If there is not enough oxygen or no one is sure what is in the air where you’re working, OSHA says you must use an SCBA or air-line respirator with a small compressed-air cylinder for backup. **If you use a supplied-air respirator without the right training, you can be killed.** (Most construction that requires breathing protection uses air-purifying respirators.)

Air-purifying respirators clean the air you breathe. Some have a blower to make it easier to breathe. But they do not provide oxygen.

Air-purifying respirators are disposable or rubber or rubber-like **masks**. One may cover your whole face or part of your face.

Each mask has 1 or 2 filters or cartridges that get changed. You must have the right filter or cartridge for each hazard.

Filters can protect against tiny particles, dusts, mists, or fumes. Filters have the letters “HEPA” or have a letter and number like P-100 or N-95. The letters tell if the filter works when there is oil in the air:

- N means Not resistant to oil
- R means **R**esistant to oil
- P means oil-**P**roof.

A bigger number after the letter means the filter protects better. (For dusts like asbestos, lead, and silica, you must use a HEPA or a 100 filter). You must change a filter when it is hard to breathe through.

Cartridges can protect against solvents, acid gases, or other gases and vapors. A cartridge for acid gases will not protect you if you are exposed to solvents. Some combination cartridges can protect against dusts and gases, but no cartridge can protect against all hazards. You and your employer must learn when to change the cartridges, depending on the type and amount of toxic gases or vapors in the air.

