

Chapter 29: [Respiratory Protection](#)

Use, Inspection, Maintenance, and Storage Requirements

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URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/respiratorReqUse.pdf>

1 Purpose

The purpose of these requirements is to ensure the safe use of respirators and dust masks. They cover use, inspection, maintenance, and storage. They apply to workers and supervisors.

2 Requirements

2.1 Use

Respirators are issued to individual workers for protection against airborne *contaminant(s)*, only after authorization and completion of required respiratory medical evaluation, training, and a practical *fit test*. Respirators must not be worn for any other purpose without the knowledge and approval of the supervisor and the ESH coordinator. Authorization to use a respirator, including medical evaluation, training, and fit testing, must be renewed each year. Changes in respirator used, work conditions, or the worker's physical condition may require repeating some of the authorization process. (See [Respiratory Protection: Evaluation and Certification Procedure](#).)

2.2 Inspection

Workers must inspect their respirators before and after use. Respirator inspections must include checking that

1. Sealing surface are clean and free of cracks and holes
2. Rubber and elastic parts have good pliability and no signs of deterioration
3. Inhalation and exhalation valves are clean and seated properly
4. Straps are sufficiently elastic and free of worn areas
5. If full face, face shield is cleaned and clear (no smudges, scratches, or other damage that may impede visibility)

Respirators that fail an inspection must be removed from service and replaced.

2.2.1 Pre-use Face Seal Check

Before using a respirator, the wearer must perform a positive and negative pressure check. The wearer must ensure current facial condition will allow an effective seal (for example the wearer must be clean shaven).

1. **Positive pressure check.** Close off exhalation valve with palms and exhale gently. No leakage outward around the seal should occur.
2. **Negative pressure check.** Close off cartridges and inhale. The respirator should collapse slightly on the face. No leakage around the face seal should occur while maintaining a negative pressure inside the respirator for several seconds.

2.3 Maintenance

2.3.1 Cleaning

Respirators must be cleaned and disinfected after each use as follows:

1. Remove filters or cartridges.
2. Disassemble and wash with mild dishwashing detergent in warm water, using a soft brush.
3. Thoroughly rinse to remove any detergent residue.
4. When the cleaner used does not contain a disinfecting agent, respirator components must be immersed for two minutes in a sodium hypochlorite (1 oz [30 ML] household bleach in 2 gallons [7.5L] of water) solution, or other disinfectant. The solution used to clean the respirator(s) should contain some type of biocide for disinfection. Rinse in fresh, warm water.
5. Air dry in a clean place.

Caution Do not use organic solvents to clean a respirator or high heat to dry it, as this may damage the elastomeric face piece.

Note Commercial respirator cleaning wipes are an acceptable alternative to this cleaning process.

2.3.2 Cartridges and Filters

1. Change cartridges and filters according to the specific schedule provided with the authorization, or sooner if you experience an increased resistance in breathing or when you detect contaminant odors or taste while wearing your respirator.
2. General guidance for organic vapor cartridges. Workers who use respirators intermittently and perhaps in different environments should never reuse organic vapor cartridges after one shift. This is due to chemical desorption of the vapors/gases and their migration through the cartridge charcoal bed. When this occurs, contaminants could be inhaled by the respirator wearer upon initial donning and the concentration could even be higher than contaminant concentrations found in the ambient workplace atmosphere.

2.3.3 Replacement and Repair

Repair of respirators may be done only by experienced personnel with parts designed for the specific respirator needing repair. No attempt may be made to replace parts or to make adjustments or repairs beyond the manufacturer's recommendations.

2.4 Storage

1. Store respirators away from dust, sunlight, heat, extreme cold, excessive moisture, damaging chemicals, or contamination.
2. Filters and cartridges must be removed from the respirator and stored in separate bags to prevent cross contamination.
3. Do not store items on top of respirators, which could deform the face piece shape.
4. Do not store respirators in such places as lockers or tool boxes unless they are on a separate shelf or in carrying cases or cartons to preserve face piece shape.
5. Respirators must be packed and stored according to the manufacturer's instructions.
6. Never store a respirator within a fume hood or at a work bench where contaminants are present.

2.5 Maintenance and Care of Dust Masks

Dust masks must be maintained in a clean and sanitary condition. Personnel who wear dust masks must

1. Store dust masks in a plastic bag or box in a secure location such as a locker or desk drawer, away from moisture and contamination.
2. Not share dust masks with others.
3. Not use a dust mask that is torn, distorted, or dirty.

3 Forms

The following are forms required by these requirements:

- None

4 Recordkeeping

The following recordkeeping requirements apply for these requirements:

- None

5 References

[SLAC Environment, Safety, and Health Manual](#) (SLAC-I-720-0A29Z-001)

- [Chapter 29, “Respiratory Protection”](#)
 - [Respiratory Protection: Evaluation and Certification Procedure](#) (SLAC-I-730-0A09C-004)