

29 CFR 1910.151(c)

American National Standard for Emergency Eyewash and Shower Equipment standard ANSI/ISEA Z358.1 Standard Guidelines

The Occupational Safety and Health Administration (OSHA) has two different types of regulations that address emergency shower and eye wash station equipment needs. The first is a general requirement applicable to all facilities that require the installation of emergency shower or eye wash station equipment as a form of first aid [[29 Code of Federal Regulations \(CFR\) 1910.151\(c\)](#)]. The second type is specific to certain industries.

29 CFR 1910.151(c) states “Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.”

The industries referenced in the second type of OSHA regulations include: Activities Utilizing an Open Surface Tank; Storage and Handling of Anhydrous Ammonia; Powered Industrial Trucks; Pulp, Paper and Paperboard Manufacturing; Telecommunications; Formaldehyde Handling; Hazardous Materials; and Construction Industry.

Both regulation types specify where and when emergency eye wash and shower equipment must be available. Neither, however, specifies minimum selection, installation, operation or maintenance requirements. The American National Standards Institute (ANSI) and the International Safety Equipment Association (ISEA) developed the American National Standard for Emergency Eyewash and Shower Equipment standard (ANSI/ISEA Z358.1) to do that.

ANSI/ISEA Z358.1 is a national consensus standard that OSHA refers employers to as a recognized source for guidance. It helps users select, install, operate and maintain emergency eye wash and shower equipment.

Emergency Shower Requirements

There are two types of [emergency showers](#):

- **Plumbed Shower:** An emergency shower permanently connected to a continual source of potable water
- **Self-Contained Shower:** A stand-alone shower that contains its own flushing fluid

Key emergency shower features and specifications include:

Heads

- Positioned 82 to 96 inches in height from the work surface
- Spray pattern will have a minimum diameter of 20 inches at 60 inches above the work surface
- Must deliver tepid flushing fluid
- Flow rate equal to 20 gallons per minute (GPM) for a minimum of 15 minutes at 30 pounds per square inch (PSI) (plumbed units only)
- Flow rate equal to 20 GPM for a minimum of 15 minutes (self-contained units only)
- The center of the spray pattern must be located at least 16 inches from any obstruction

Valves

- Activate in one second or less
- Stay-open valve
- Valve remains on until the user shuts it off

Installation

- Must be located in an area that requires no more than 10 seconds to reach (consult a medical professional to determine the appropriate distance for harsh acids and caustics; high hazard=closer distance)
- Located in a well-lit area and identified with a sign
- Located on the same level as the hazard
- Path of travel must be free of obstructions
- If shut-off valves are installed in the supply line for maintenance purposes, provisions must be made to prevent unauthorized shut off

Maintenance and Training

- Plumbed emergency showers must be activated weekly to verify correct operation
- Self-contained showers must be visually checked weekly to determine if the flushing fluid needs to be changed or supplemented
- All employees who might be exposed to a chemical splash must be trained in the use of the equipment
- All showers must be inspected annually to make sure they meet ANSI Z358.1 performance requirements

*Click here for [Inspection / Maintenance tags](#).

Eye Wash Station Requirements

There are two types of [eye wash stations](#):

- **Plumbed eye wash station:** An eye wash unit permanently connected to a continual source of potable water
- **Gravity-fed (self-contained) eye wash station:** A stand-alone eye wash device that contains its own flushing fluid that must be refilled or replaced after use

Key eye wash station features and specifications include:

Heads

- Installed so the fluid flow pattern is no less than 33 inches but no greater than 53 inches from the work surface
- Positioned 6 inches from wall or nearest obstruction
- Deliver 0.4 GPM tepid flushing fluid for 15 minutes at 30 psi for plumbed units
- Deliver 0.4 GPM tepid flushing fluid for 15 minutes for gravity-fed units
- Heads and flushing fluid units must be protected from airborne contaminants and the removal of any protective device(s) must not require a separate motion by the user

Valves

- Activate in one second or less
- Stay-open valve
- Valve remains on until the user shuts it off

Installation

- Located in an area that requires no more than 10 seconds to reach (consult a medical professional to determine the appropriate distance for harsh acids and caustics; high hazard=closer distance)
- Located in a well-lit area and identified with a sign
- Located on the same level as the hazard
- Path of travel must be free of obstructions
- If shut-off valves are installed in the supply line for maintenance purposes, provisions must be made to prevent unauthorized shut off

Maintenance and Training

- Plumbed eye wash stations must be activated weekly to verify proper operation
- Gravity-fed units must be inspected weekly and maintained according to the manufacturer's instructions
- All employees who might be exposed to a chemical splash must be trained in the use of the equipment
- All eye/face wash stations must be inspected annually to make sure they meet ANSI Z358.1 requirements

Eye/Face Wash Station Requirements

An eye/face wash station is a device used to irrigate and flush both the face and the eyes. There are two types of eye/face wash stations: plumbed and self-contained. ANSI requirements for installation include:

Heads

- Installed so the fluid flow pattern is no less than 33 inches but no greater than 53 inches from the work surface
- Positioned 6 inches from wall or nearest obstruction
- Large heads to cover both eyes and face or regular size eye wash heads plus a face spray ring
- Deliver 3 GPM tepid flushing fluid for 15 minutes at 30 psi (plumbed units only)
- Deliver 3 GPM tepid flushing fluid for 15 minutes
- Heads and flushing fluid units must be protected from airborne contaminants and the removal of any protective device(s) must not require a separate motion by the user

Valves

- Activate in one second or less
- Stay-open valve
- Valve remains on until the user shuts it off

Installation

- Located in an area that requires no more than 10 seconds to reach (consult a medical professional to determine the appropriate distance for harsh acids and caustics; high hazard=closer distance)
- Located in a well-lit area and identified with a sign
- Located on the same level as the hazard
- Path of travel must be free of obstructions
- If shut-off valves are installed in the supply line for maintenance purposes, provisions must be made to prevent unauthorized shut off

Maintenance and Training

- A plumbed eye/face wash station must be activated weekly to verify proper operation
- Gravity-fed units must be inspected weekly and maintained according to the manufacturer's instructions
- All employees who might be exposed to a chemical splash must be trained in the use of the equipment
- All eye/face wash stations must be inspected annually to make sure they meet ANSI Z358.1 requirements

Personal Eye Wash and Eyesaline Requirements

A [Personal Eye Wash](#) is a supplementary eye wash that supports plumbed units, gravity-fed units or both by delivering immediate flushing fluid.

NOTE: Personal eye wash units do not meet the requirements of plumbed or self-contained eye wash equipment. Personal eye wash units can support plumbed or gravity-fed eye wash units, but cannot be a substitute.

Drench Hose Requirements

A [drench hose](#) is a supplemental device consisting of a flexible hose connected to a flushing fluid that's used to irrigate and flush eyes, face and body areas. Plumbed and self-contained options are available. Requirements for their installation include:

Valve

- Activate in one second or less

Installation

- Assembled per the manufacturer's instructions
- Deliver tepid flushing fluid
- If shut-off valves are installed in the supply line for maintenance purposes, provisions must be made to prevent unauthorized shut off
- Located in a well-lit area and identified with a sign

Maintenance and Training

- Activate plumbed drench hoses weekly to verify proper operation and visually check self-contained drench hoses weekly to determine if flushing fluid needs to be changed or supplemented
- All employees who might be exposed to a chemical splash must be trained in the use of the equipment
- All drench hose equipment must be inspected annually to make sure they meet ANSI Z358.1 requirements

NOTE: Drench hoses may be considered an eye wash or eye/face wash if the device meets the performance requirements discussed previously.