

Emergency Shower and Eye Wash Station Requirements

[OSHA/ANSI Eye Wash Station Requirements](#)

The Occupational Safety and Health Administration (OSHA) has two different types of regulations, general and specific, which apply to emergency shower and eye wash station equipment designed to promote eye safety under certain work conditions. The first is a general requirement for emergency showers and eye wash stations. The second is specific to certain industries.

OSHA's general regulation is applicable to all facilities that require the installation of an emergency shower or eye wash station equipment as a form of first aid. [[29 CFR 1910.151 \(c\)](#)]. It states that:

"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 second OSHA regulation in this area specifies certain industries that must include emergency eye wash equipment in every facility. These industries include: Activities Utilizing an Open Surface Tank, Storage and Handling of Anhydrous Ammonia, Powered Industrial Trucks, Pulp, Paper and Paperboard Manufacturing, Telecommunications, and Hazardous Materials.

Both OSHA regulations specify where and when emergency eye wash and shower equipment must be available. However, they do not specify minimum operating requirements or installation set-up requirements.

The American National Standards Institute (ANSI) developed the ANSI standard Z358.1-1990 to do just that. While it doesn't have the full force of an OSHA regulation, the ANSI standard covers situations when employees are exposed to hazardous materials. ANSI's definition of "hazardous material" would include caustics, as well as additional substances and compounds that have the capability of producing adverse effects on the health and safety of humans.

Note: The standard was revised in 2004 and 2009. Changes made for 2009 that affect this document are noted with an *. The 2009 standard was prepared by the International Safety Equipment Association (ISEA) and approved by ANSI. It is now known as ANSI/ISEA Z358.1-2009.

This "Emergency Eye Wash and Shower Equipment" standard helps the user select and install emergency equipment to meet OSHA requirements. The following eye wash station requirements are taken directly from the ANSI/ISEA Z358.1-2009 standard.

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[Emergency Shower Requirements](#)

There are two types of [Emergency Showers](#):

- **Plumbed Shower:** An emergency shower permanently connected to a source of potable water
- **Self-Contained Shower:** A shower that contains its own flushing fluid, and must be refilled or replaced after use

The specifications below are for plumbed showers only.

- **Heads**
 - Positioned 82"—96" from floor
 - Spray pattern will have a minimum diameter of 20" at 60" above the floor
 - Flow Rate=20 gallons per minute (GPM) at 30 pounds per square inch (PSI)
 - The center of the spray pattern shall be located at least 16 inches from any obstruction
- **Valves**
 - Activate in 1 second or less
 - Stay-open valve (no use of hands)
 - Valve remains on until the user shuts it off
- **Installation**
 - Emergency Shower shall 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)*
 - Shower location shall be in a well-lit area and identified with a sign
 - Shower shall be located on the same level as the hazard
- **Maintenance and Training**
 - Plumbed emergency showers will be activated weekly to verify correct operation
 - All employees who might be exposed to a chemical splash shall be trained in the use of the equipment
 - All showers shall be inspected annually to make sure they meet with ANSI Z358.1 requirements

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[Eye Wash Station Requirements](#)

There are two types of [Eye Wash Stations](#):

- **[Plumbed Eye Wash Station](#):** An eye wash unit permanently connected to a source of potable water

- **Gravity-Feed Eye Wash Station:** An eye wash device that contains its own flushing fluid and must be refilled or replaced after use
- **Heads**
 - Positioned 33"—45" from floor
 - Positioned 6" from wall or nearest obstruction
 - 0.4 gallons per minute (GPM) for 15 minutes for plumbed units shall provide flushing fluid at 30 PSI
 - 0.4 gallons per minute (GPM) for 15 minutes for gravity-feed units
- **Valves**
 - Activate in 1 second or less
 - Stay-open valve (leaving hands free)
- **Installation**
 - Eye wash station shall 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)*
 - The location of the eye wash station shall be in a well-lit area and identified with a sign
 - Eye wash stations shall be on the same level as the hazard
- **Maintenance and Training**
 - A plumbed eye wash station shall be activated weekly to verify proper operation
 - Gravity-feed units shall be maintained according to the manufacturer's instructions
 - All employees who might be exposed to a chemical splash shall be trained in the use of the equipment
 - All eye/face wash stations shall be inspected annually to make sure they meet ANSI Z358.1 requirements

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Eye/Face Wash Station Requirements

An Eye/Face Wash Station is a device used to irrigate and flush both the face and the eyes. ANSI requirements for its installation include:

- **Heads**
 - Positioned 33"—45" from floor
 - 6" from wall or nearest obstruction
 - Large heads to cover both eyes and face or regular size eye wash heads plus a face spray ring
 - 3 gallons per minute (GPM) for 15 minutes
- **Valves**
 - Activate in 1 second or less
 - Stay-open valve (leaving hands free)

- **Installation**
 - Eye/face wash shall 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)*
 - The location of the eye/face wash station shall be in a well-lit area and identified with a sign
 - Eye/face wash stations shall be on the same level as the hazard
- **Maintenance and Training**
 - A plumbed eye/face wash station shall be activated weekly to verify proper operation
 - Gravity-feed units shall be maintained according to the manufacturer's instructions
 - All employees who might be exposed to a chemical splash shall be trained in the use of the equipment
 - All eye/face wash stations shall be inspected annually to make sure they meet ANSI Z358.1 requirements

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Personal Eye Wash and Eyesaline Requirements

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

NOTE: Personal eye wash units can provide immediate flushing when they are located near the workstations. Personal eye wash equipment does not meet the requirements of plumbed or gravity-feed eye wash equipment. Personal eye wash units can support plumbed or gravity-feed eye wash units, but cannot be a substitute.

Personal eye wash can be delivered through bottles of saline solution designed to simulate human tears. Individual bottles can be carried by workers and provide relief until in the crucial seconds until an approved eye wash station installation can be reached.

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Drench Hose Requirements

A [drench hose](#) is a flexible hose connected to a water supply and used to irrigate and flush eyes, face and body areas. Hand-held drench hoses support shower and eyewash units but shall not replace them according to the ANSI standards. Requirements for their installation include:

- **Heads**
 - 3 gallons per minute (GPM)
- **Valve**

- Activate in 1 second or less
- **Installation**
 - Assemble per the manufacturer's instructions
 - The location of the drench hose shall be in a well-lit area and identified with a sign
- **Maintenance and Training**
 - Activate each drench hose weekly to verify proper operation
 - All employees who might be exposed to a chemical splash shall be trained in the use of the equipment
 - All drench hose equipment shall be inspected annually to make sure they meet ANSI Z358.1 requirements

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[Emergency Eye Wash Questions and Requirements Sources](#)

Commonly Asked Questions

Q. What water temperature is required?

A. The ANSI/ISEA Z358.1-2009 Standard states the use of tepid water.* Appendix B6 defines tepid water as 60°F for the lower limit and 100°F as the upper limit.

Q. Are there advantages to using eyesaline flushing solution instead of water in a gravity fed or personal eyewash station?

A. Eyesaline is a buffered, isotonic saline solution. Buffered to the same pH balance of the human eye. It also contains a preservative to help reduce the bacterial growth. Tap water can contain chlorine and other chemicals. This can cause further irritation to the eyes. It also has the potential for bacteria growth. When tap water is used, weekly solution replacement is strongly recommended as bacteria can grow rapidly in standing water. Eyesaline only needs to be replaced every six months.

Q. What other significant changes to the standard were there for 2009?

A. Other changes made to the Z358.1-2009 standard were to the certification procedures. The procedures were clarified to allow freedom in designing compliant equipment and expanded the criteria for personal washes. Illustrations were also updated.

* ANSI/ISEA Z358.1-2009 Revision

Emergency Eye Wash Requirements Sources

29 CFR 1910.151(c)

ANSI/ISEA Z358.1-2009

American National Standards Institute
11 W. 42nd St.
New York, NY 10036
(212) 642-4900
www.ansi.org