Emergency Showers and Eyewash Station requirements

As per American National Standards Institute (ANSI) Standard Z358.1-2014 (R2020) "Emergency Eyewash and Shower Equipment"

Emergency showers and eyewash stations are vital for protecting workers after exposure to hazardous materials. The first 10 to 15 seconds following contact—especially with corrosive substances—are critical. Even brief delays in treatment can significantly increase the risk of serious injury. These stations provide immediate, on-the-spot decontamination, allowing workers to quickly flush away harmful substances before they cause further damage.

Even with proper engineering controls, safety procedures, and personal protective equipment in place, accidental exposures can still occur. For this reason, emergency showers and eyewash stations are essential safeguards that help reduce the severity of chemical exposures. In addition, emergency showers can be used to extinguish clothing fires or to rinse contaminants from clothing, further enhancing workplace safety.

The internationally recognized American National Standard, ANSI/ISEA Z358.1-2014 provides uniform minimum requirements for the performance, use, installation, testing, maintenance and training of emergency safety shower and eyewash equipment.

Water Temperature

- Water delivered by the emergency safety equipment should be tepid, between 16-38C (60-100F). At temperatures above 38C (100F) there is the added danger of scalding and increased absorption of harmful chemicals into the skin. Prolonged exposure to water below 16C (60F) increases the risk of thermal shock or hypothermia and prevents the casualty using the shower to decontaminate effectively for the full 15 minutes

Location

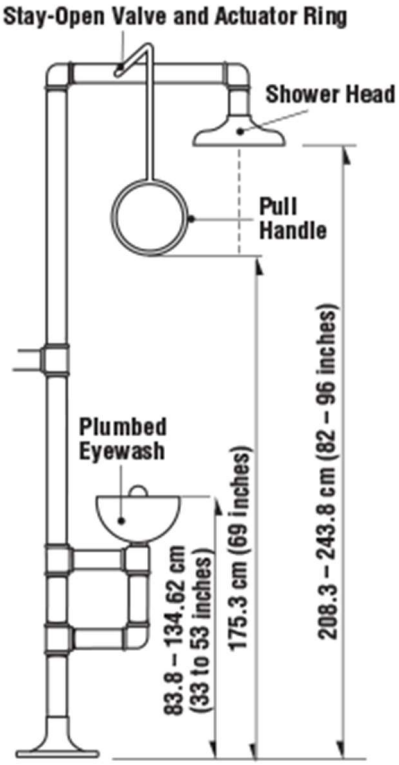
- Emergency safety equipment should be installed within 10 seconds reach, and on the same level as a potential hazard
- They must be situated in a prominent position, clearly visible, well-lit and free from any obstructions
- These units should be installed in such a way that they do not become contaminated by corrosive chemicals used nearby

Operation:

- Emergency safety showers should deliver a minimum of 76 litres (20 US gallons) per minute of potable water for up to 15 minutes in the required spray pattern.
  ****Please note the flow rate needs to be consistently 76 Litres per minute from start to finish****
- Eye/face wash units should deliver 12 litres (3 US gallons) per minute for up to 15 minutes to ensure a thorough decontamination
- Both emergency safety showers and eyewashes must be designed so that the valves remain open without the use of the operator's hands until intentionally closed
- The control valve must be simple to operate and go from 'off' to 'on' in 1 second or less.

Maintenance:

- Emergency safety equipment must be visually inspected and activated weekly along with an annual service to guarantee reliable and effective operation and conformance with the standard. Training
- Personnel who may be exposed to hazardous materials should be instructed on the safe and proper use of the emergency safety equipment and be advised of its location.

Design:

- Below are the required heights for Eyewash, Shower head and Pull handles