

## Tech Info - Eyewash & Emergency Showers

### Reference ANSI Standard Z358.1-1998 Emergency Eyewash & Shower Equipment

**Flushing Fluid** - any of potable (drinking) water, preserved water, preserved buffered saline solution or other medically acceptable solutions.

**Flushing Time** - ANSI Z358.1-1998 says that the affected body part must be flushed immediately and thoroughly for at least 15 minutes using a large supply of clean fluid under low pressure. Longer times, such as 60 minutes for penetrating corrosive materials is recommended by other sources.

### Emergency Showers

- Be able to deliver a pattern of water with a diameter of at least 20 inches at 60 inches.
- Shower head be between 82 to 96 inches from the floor.
- Minimum volume of spray is 20 gallons/minute for a minimum time of 15 minutes.
- Shower activation time must be 1 second or less and not require continuous engagement of controls for continued operation.
- Actuating valve or lever should not be more than 69 inches from the floor.

### Eyewash Stations

- Be able to deliver fluid to both eyes simultaneously at a volume of not less than 0.4 gallons/minute for 15 minutes.
- Velocity of fluid should not be high enough to cause eye injury.
- Mounted 33 to 45 inches from the floor
- Mounted a minimum of 6 inches away from the wall or obstructions
- Activation time of 1 second or less and the unit should remain in operation without the need for continued activation.
- Actuating valve or lever should be in an easily located area and be highly visible
- Must have nozzle caps to prevent foreign matter from accumulating in the nozzle area.
- Nozzle caps should automatically separate from the nozzles when activated.

**Signs & Lighting** - highly visible signs must be posted in the area of emergency eyewash and shower stations. The location should be well lit.

**Location of Equipment** - ANSI requires that a person must be able to reach the equipment within 10 seconds after chemical exposure. Where a highly corrosive chemical is used, an emergency shower and eyewash station should be as close as 10-20 ft from the hazard.

Located as close to the hazard as possible

No separation by a partition from the hazardous work area

Unobstructed path from hazard to the eyewash or shower

Located where easily visible

Located on the same floor as the hazard

Near emergency exit to allow emergency response personnel to easily reach an exposed employee

Located in a non-hazardous area to prevent further contamination

Drainage system to remove excess water

Not near electrical equipment that could become wet

Freeze protection for outdoor units.

**Water temperature** - The 1998 ANSI standard states that water be "tepid" but does not give a specific temperature range. In general, water temperatures in the range about 80- 95F . Install temperature control valves. Consider that the initial temperature of the flushing water will be the ambient temperature of the piping system. Recirculation systems will keep water temperature at required range.

**Other considerations** -for selection and placement of emergency eyewash & shower stations

- Potentially hazardous substances in the immediate work area
- Number of workers in an area with a hazardous substance
- Isolated workers
- Quality of the Flushing Fluid

**Maintenance** - The ANSI standard recommends a complete inspection on an annual (yearly) basis. Keep a record of all inspections and maintenance. Inspect & maintain in accordance with manufacturers recommendations.