

Safety Showers and Eyewashes

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Safety Showers and Eyewashes

1.0 PURPOSE AND SCOPE

Occupational Safety and Health Administration (OSHA) standards 29 CFR 1910.151 (c), and 29 CFR 1926.50 (g) [*Medical Services and First Aid*] require provision of suitable facilities for quick drenching or flushing of the eyes and body when employees may be exposed to injurious corrosive materials. Through the General Duty Clause of OSHA (Public Law 91-956), the Mission Support Contract (MSC) applies consensus standard ANSI Z358.1 (*Emergency Eyewash and Shower Equipment*) for planning, design, construction, alteration, and acquisition specifications. The project/facility Safety and Health organization may be consulted with for issues relating to this subject area that are not directly addressed by this document.

This Level 2 Requirements Document is applicable to MSC Team employees involved in MSC scope of work, and include the following types of equipment:

- Plumbed and self-contained showers.
- Plumbed and self-contained eyewash equipment.
- Eye/Face wash equipment.
- Hand-held drench hoses.
- Combination units.

Personal eyewash devices (e.g., squeeze bottles) which are used solely as supplementary support to plumbed and/or self-contained units, and decontamination showers/units, are excluded from the scope of these requirements.

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2.0 REQUIREMENTS

2.1 Installation

NOTE: For the tables in this section under the requirement "type" column, "V" means verbatim and "I" means interpreted.

#	Requirement	Type V or I	Source
1.	<p>For installations of plumbed emergency eyewash and shower equipment, or in the provision of portable units, the design specifications of ANSI Z358.1 shall be followed.</p> <p>NOTE 1: <i>Eye wash equipment must meet the minimum specifications of ANSI Z358.1; however, the key highlights of the minimum requirements are:</i></p> <ul style="list-style-type: none"> • A means shall be provided to ensure that a controlled flow of flushing fluid is provided to both eyes simultaneously. • Nozzles shall be protected from airborne contaminants. • Once activated it can be used without requiring the use of the employee's hands. • Be capable of delivering flushing fluid to the eyes not less than .4gpm for 15 minutes. <p>NOTE 2: <i>Shower equipment must meet the minimum specifications of ANSI Z358.1; however, the key highlights of the minimum requirements are:</i></p> <ul style="list-style-type: none"> • A means shall be provided to ensure that a controlled flow of flushing fluid is provided at a velocity low enough to be non-injurious to the user. • The equipment shall be capable of delivering flushing fluid at a minimum of 20 gpm for a minimum of 15 minutes. • Stored flushing fluid shall be protected against airborne contaminants. <p>NOTE 3: <i>For multiple installations, uniformity in equipment type and style selection is encouraged to avoid confusion in operating technique during an emergency.</i></p>	I	<p>DOE Guide 420.1-1, Section 4.3.3;</p> <p>ANSI Z358 .1- 2004</p>

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2.	Equipment shall be assembled and installed in accordance with manufacturer instructions.	I	ANSI Z358.1 - 2004 Sections 4.5.1, 5.4.1,6.4.1, 7.4.1, 8.2.3.1
3.	<p>Equipment shall be located in work areas where eyes, face, and other body parts may be exposed to injurious chemicals.</p> <p>NOTE: <i>Eye wash and/or shower equipment should be available to employees in the following circumstances:</i></p> <ul style="list-style-type: none"> • <i>When there is a potential exposure to corrosive materials, eyewash that meets the minimum (ANSI Z358.1-2004) requirements shall be available.</i> • <i>When there is a potential for a chemical to splash in an employee's eye, an eye wash that meets the minimum (ANSI Z358.1-2004) requirements should be available. This should be evaluated by IH and Safety on a case by case basis.</i> • <i>Safety Showers shall be available if there is a possibility of getting dangerous quantities of corrosive/chemicals on the skin and there is no other means available for employees to wash the contaminated area.</i> 	I	29 CFR 1910.151 (c); 29 CFR 1926.50(g); ANSI Z358.1 - 2004
4.	Equipment shall be installed or placed in well-lit, easily reachable locations to provide accessibility within 55 ft. (10 second travel time) of the operation that requires the eye wash.	I	ANSI Z358.1 – 2004 Sections 4.5.2, 5.4.2, 6.4.2, 7.4.2
5.	<p>Emergency eyewash and shower stations shall be identified using a highly visible sign.</p> <p>NOTE: <i>Lights are an acceptable means for identification of installations completed prior to April 6, 1989, but are not recommended as the sole means for identification.</i></p>	I	ANSI Z358.1 – 2004 Sections 4.5.3, 5.4.3, 6.4.3, 7.4.3 and 8.2.3.2

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6.	<p>A water supply that is tepid/lukewarm in temperature shall be provided for plumbed units installed after April 16, 1998.</p> <p>NOTE 1: <i>Delivered water temperature for existing installations should not be at extremes that would reasonably be expected to prevent an employee from fully flushing the affected area(s) as a result of undue discomfort.</i></p> <p>NOTE 2: <i>The 2004 date reflects the publication of the revised ANSI Z358.1 Standard. With this revision, ANSI has defined “tepid/lukewarm” to mean not higher than 38° C (100° F) and not lower than 15.5° C (60° F).</i></p>	I	ANSI Z358.1 - 2004 Sections 4.5.6, 5.4.6, 6.4.6, 7.4.5, 8.2.3.4
7.	<p>New installations shall be tested to ensure proper operability.</p>	I	ANSI Z358.1 - 2004 Sections 4.5.7, 5.4.7, 6.4.7, 7.4.6

2.2 Maintenance and Pre-Use

1.	<p>Equipment that may be exposed to cold weather temperatures shall be protected against freezing.</p>	I	ANSI Z358.1 – 2004 Sections 4.5.5, 5.4.5, 6.4.5, 7.4.4, 8.2.3.3
2.	<p>Where accumulation of airborne contaminants may deter proper fluid flow or operation, nozzles of plumbed and self-contained eyewash equipment, and eye/face wash equipment shall be protected.</p>	I	OSHA General Duty Clause Public Law 91-956
3.	<p>A clear path of travel shall be maintained to equipment stations.</p>	I	29 CFR 1910.22 (a); ANSI Z358.1 – 2004 Appendix B5
4.	<p>The area around equipment stations shall be maintained free of obstructions.</p>	I	29 CFR 1910.22 (a); ANSI Z358.1 – 2004 Sections 4.5.2, 5.4.2, 6.4.2, 7.4.2, 8.2.3.2

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5.	<p>Plumbed eyewash and shower equipment shall be activated weekly for a period long enough to verify operation and ensure that flushing fluid is available.</p> <p>All eyewash and shower units shall be inspected/tested annually to assure conformance with ANSI358.1 requirements.</p> <p>The manufacturer instructions and responsible occupational safety and health representative should be consulted if the aforementioned testing and inspection frequencies cannot be followed.</p>	I	ANSI Z358.1 - 2004
6.	Self- contained shower, eyewash and combination units shall be visually checked to determine if flushing fluid needs to be changed or supplemented.	V	ANSI Z358.1 - 2004
7.	Manufacturer instructions shall be used, where applicable, in developing specific maintenance, inspection, and testing criteria.	I	ANSI Z358.1 - 2004
8.	After initial installation, performing repairs or making modifications eyewash and shower equipment should be tested to ensure proper operability prior to placing units back in service.	I	ANSI Z358.1 - 2004
9.	Shutoff valves installed between the sanitary water supply and the plumbed equipment in an "open" position shall be maintained during the performance of those work activities which require availability of emergency eyewash or shower equipment.	I	OSHA General Duty Clause Public Law 91-956

2.3 Training

1.	Affected employees shall be instructed in the location and proper use of the emergency eyewash and shower equipment located in their work areas.	I	29 CFR 1910.1200, (h)(3); ANSI Z358.1 – 2004 Sections 4.6.4, 5.5.4, 6.5.4, 7.5.4, 8.2.4.3
2.	Employees who are assigned to inspect and maintain emergency shower and eyewash equipment shall possess an adequate knowledge of manufacturer performance instructions.	I	ANSI Z358.1 – 2004 Sections 4.6.1, 5.5.1, 6.5.1, 7.5.1, 8.2.4.1

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3.0 REFERENCES

3.1 Source References

29 CFR 1910.22, *Walking-Working Surfaces* (General Requirements)

29 CFR 1910.151, *Medical Services and First Aid*

29 CFR 1910.1200, *Hazard Communications*

29 CFR 1926.50, *Medical Services and First Aid*

American National Standards Institute (ANSI) Z358.1 - 2004, *Emergency Eyewash and Shower Equipment*

DOE G 420.1-1, *Non Reactor Nuclear Safety Design Criteria and Explosives Safety Criteria Guide For Use with DOE O 420.1, Facility Safety*

Occupational Safety and Health Act of 1970, *General Duty Clause*, Public Law 91-956

10 CFR 851.23, *Worker Safety and Health Program*