

January 2014, Rev 01

## **22 4500 – Emergency Showers and Eyewash Stations**

### **PART 1. - GENERAL**

#### 1.01 General

- A. All new, planned for and renovated laboratories where hazardous materials will be or potentially be used, shall have emergency showers and eyewash stations evaluated and approved by A&E Services and Environmental Health and Safety.

#### 1.02 Regulatory Documents

- A. 77 Illinois Administrative Code, Part 890
- B. ANSI/IESA Z358.1-2009

#### 1.03 Related Documents

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.04 Summary

- A. This Section includes the following emergency plumbing fixtures:
  - 1. Emergency showers.
  - 2. Eye/face wash equipment.
  - 3. Combination units.
  - 4. Water-tempering equipment

- B. Related Sections include the following:

- 1. Other Standards of Division 22 may apply.

#### 1.05 Definitions

- A. Accessible Fixture: Emergency plumbing fixture that can be approached, entered, and used by people with disabilities.
- B. Plumbed Emergency Plumbing Fixture: Fixture with fixed, potable-water supply.
- C. Tepid: Moderately warm (ANSI Z358.1-2009 - 60° - 100° F)

#### 1.06 Action Submittals

- A. Product Data: For each type of product indicated. Include flow rates and capacities, furnished specialties, and accessories.
- 1.07 Informational Submittals
- A. Field quality-control test reports.
- 1.08 Closeout Submittals
- A. Operation and Maintenance Data: For emergency plumbing fixtures to include in maintenance manuals.
- 1.09 Quality Assurance
- A. 77 Illinois Administrative Code, Part 890, Section 890.1180 “Flushing/Disinfecting of Potable Water System”
  - B. ANSI Standard: Comply with ANSI Z358.1, "Emergency Eyewash and Shower Equipment."
  - C. NSF Standard: Comply with NSF 61, "Drinking Water System Components-- Health Effects," for fixture materials that will be in contact with potable water.
  - D. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities"; Public Law 90-480, "Architectural Barriers Act"; and Public Law 101-336, "Americans with Disabilities Act"; for plumbing fixtures for people with disabilities.

## PART 2. - PRODUCTS

- 2.01 All emergency stations shall be Emergency Shower/Eyewash combinations unless approved by Environmental Health & Safety and A&E Services. Emergency eyewash stations shall not be installed on a faucet spout (77 Illinois Administrative Code, Part 890, Section 890.800 b))
- 2.02 Emergency Showers/Eye/Face Wash Equipment
- A. Barrier Free Emergency Showers/Eye/Face wash Equipment
    - 1. Products and design approved by A&E services
    - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equivalent:
      - a. Bradley Plumbing Fixtures <http://www.bradleycorp.com/products>
      - b. Haws Corporation <http://www.hawscor.com/emergency-equipment>
      - c. Speakman Company <http://www.speakmancompany.com/>

3. Description: Station with ABS plastic shower head, 1" NPTF chrome-plated brass stay-open ball valve, stainless steel actuating arm, heavy duty aluminum pull rod, 1-1/4" galvanized steel pipe stanchion and fittings with cast aluminum floor flange, two fine spray outlet heads, stainless steel receptor, and stay-open ball valve activated by epoxy coated cast aluminum flag handle. Each outlet head shall have including removable delrin spray cover, polyurethane filter, self-regulating flow control, and float-off dust cover. Include emergency sign. **Aerated outlets will not be accepted.**

### 2.03 Water Tempering Equipment:

- A. **Water tempering equipment is required for emergency showers where water source temperature does not meet the ANSI definition of tepid water (60°-100° F).**

#### B. Hot and Cold Water, Water Tempering Equipment:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equivalent:
  - a. Lawler Manufacturing Co., Inc. <http://www.lawlervalve.com/>
  - b. Leonard Valve Company <http://www.leonardvalve.com/>
  - c. Powers, a Watts Industries Co. <http://www.powerscontrols.com/>
  - d. Speakman Company <http://www.speakmancompany.com/>
2. Description: Factory fabricated, hot and cold water tempering equipment with thermostatic mixing valve.
  - a. Thermostatic Mixing Valve: Designed to provide 85 deg F tepid, potable water at emergency plumbing fixtures, to maintain temperature at plus or minus 5 deg F throughout required 15 minute test period, and in case of unit failure to continue cold water flow, with union connections, controls, metal piping, and corrosion resistant enclosure.
  - b. Supply Connections: For hot and cold water.

## PART 3. - EXECUTION

- 3.01 Connections of Emergency Shower/Eye Wash stations to the waste and or sanitary drain systems are neither necessary nor desired due to the possibility of hazardous chemicals/material entering the drainage system.
- 3.02 Emergency Plumbing Fixture Installation
  - A. Install according to manufacturer's instructions and at locations indicated in the project drawings.
  - B. Ensure dielectric fittings are installed as necessary

- C. Install thermometers in supply and outlet piping connections to water-tempering equipment.
  - D. Emergency Showers: Pull rod handle shall not be higher than 69" from the surface on which the user stands (ADA requires no higher than 48"). Showerhead shall be between 82" and 96" from the surface on which the user stands.
- 3.03 Connections
- A. Connect hot and cold water supply piping to hot and cold water, water tempering equipment. Connect output from water tempering equipment to emergency plumbing fixtures. (see 77 Illinois Administrative Code, Part 890, Section 890.800 a)
  - B. Where installing piping adjacent to emergency plumbing fixtures, allow space for service and maintenance of fixtures.
- 3.04 Identification
- A. Install equipment nameplates or equipment markers on emergency plumbing fixtures and equipment and equipment signs on water-tempering equipment.
- 3.05 Field-Quality Control
- A. Mechanical-Component Testing: After plumbing connections have been made, test for compliance with requirements. Verify ability to achieve indicated capacities and temperatures.
  - B. Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.
  - C. Repaired, replaced or newly installed Emergency plumbing systems shall be flushed and disinfected according to 77 Illinois Administrative Code, Part 890.1180
  - D. Prepare test and inspection reports.
- 3.06 Adjusting
- A. Adjust or replace fixture flow regulators for proper flow.
  - B. Adjust equipment temperature settings.

End of Division 22 4500



**This section of the NIU Design Requirements establishes minimum requirements only.**

**It should not be used as a complete specification.**