

SECTION 224500 - EMERGENCY PLUMBING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following emergency plumbing fixtures:
 - 1. Emergency showers.
 - 2. Eye/face wash equipment.
 - 3. Hand-held drench hoses.
 - 4. Combination units.
 - 5. Water-tempering equipment.
- B. Related Sections include the following:
 - 1. Division 22 Section "Domestic Water Piping Specialties" for backflow preventers.
 - 2. Division 22 Section "Sanitary Waste Piping Specialties" for floor drains.
 - 3. Division 22 Section "Domestic Water Filtration Equipment" for water filters.

1.3 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.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include flow rates and capacities, furnished specialties, and accessories.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control test reports.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For emergency plumbing fixtures to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. ANSI Standard: Comply with ANSI Z358.1, "Emergency Eyewash and Shower Equipment."
- B. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.
- C. 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

2.1 EMERGENCY SHOWERS

- A. Barrier-Free Emergency Showers:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Haws Corporation.
 - b. Speakman Company.
 - c. WaterSaver Faucet Co.; Model ESBF671.
 - 2. Description: Recessed ceiling mounted chrome plated cast brass flanged showerhead with concealed stay-open ball valve, heavy-duty stainless steel actuating arm, and stainless steel cabinet with removable access panel. Include emergency sign.

2.2 EYE/FACE WASH EQUIPMENT

- A. Barrier-Free Eye/Face Wash Equipment:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Haws Corporation.
 - b. Speakman Company.
 - c. WaterSaver Faucet Co.; Model FEBF735.
 - 2. Description: Wall mounted swing-down with recessed stainless steel cabinet, two fine spray outlet heads, and concealed ½" IPS stay-open brass ball valve. Each outlet head shall

have including removable delrin spray cover, polyurethane filter, and self-regulating flow control. Include emergency sign.

B. Eye/Face Wash Equipment:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Haws Corporation.
 - b. Speakman Company.
 - c. WaterSaver Faucet Co.; FE750
2. Description: Wall mounted with 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. Aerated outlets will not be accepted. Include emergency sign.

2.3 HAND-HELD DRENCH HOSES

A. Hand-Held Drench Hoses:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Guardian Equipment Co.; G5028VB or approved equal
2. Description: Deck mounted with two spray outlet heads, PVC insulator handle, pressure reinforced PVC hose, vacuum breaker, chrome plated brass stay-open ball valve, epoxy coated cast aluminum flag handle, and emergency sign. Each outlet head shall have removable ABS plastic spray cover, polyurethane filter, self-regulating flow control, and integral flip-top dust cover.

2.4 COMBINATION UNITS

A. Emergency Eye/Face Wash and Shower Units:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Haws Corporation.
 - b. Speakman Company.
 - c. WaterSaver Faucet Co.; Model SS950.
2. 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.

2.5 WATER-TEMPERING EQUIPMENT

Water tempering equipment is required for emergency showers, but not for hand-held drench hoses.

- A. Hot- and Cold-Water, Water-Tempering Equipment:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Lawler Manufacturing Co., Inc.
 - b. Leonard Valve Company.
 - c. Powers, a Watts Industries Co.
 - d. Speakman Company.
 - e. Apollo Valves by Conbraco Industries, Inc.
 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

3.1 EXAMINATION

Retain this Article for plumbed emergency plumbing fixtures.

- A. Examine roughing-in for water and waste piping systems to verify actual locations of piping connections before plumbed emergency plumbing fixture installation. Review actual locations with MSU Environmental Health and Safety.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EMERGENCY PLUMBING FIXTURE INSTALLATION

- A. Assemble emergency plumbing fixture piping, fittings, control valves, and other components.
- B. Install fixtures level and plumb.
- C. Fasten fixtures to substrate.

- D. Install dielectric fitting in supply piping to fixture if piping and fixture connections are made of different metals. Dielectric fittings are specified in Division 22 Section "Domestic Water Piping."
- E. Install thermometers in supply and outlet piping connections to water-tempering equipment. Thermometers are specified in Division 22 Section "Meters and Gages for Plumbing Piping."

Retain paragraph below if fixtures have direct connection drain.

- A. Install trap and waste to wall on drain outlet of emergency equipment receptors that are indicated to be directly connected to drainage system. Comply with requirements for waste piping specified in Division 22 Section "Sanitary Waste and Vent Piping."

Retain first paragraph below if fixtures have indirect waste connection.

- A. Install indirect waste piping on drain outlet of emergency equipment receptors that are indicated to be indirectly connected to drainage system. Comply with requirements for waste piping specified in Division 22 Section "Sanitary Waste and Vent Piping."
- B. Install escutcheons on piping wall and ceiling penetrations in exposed, finished locations. Escutcheons are specified in Division 22 Section "Common Work Results for Plumbing."
- C. Emergency Eyewash / Drench Hose Units: Locate spray outlet heads no more than 12" horizontal distance from the edge of the countertop, between 33" and 45" vertical distance from the surface on which the user stands and at least 6" from the wall or the nearest obstruction.
- D. Emergency Showers: Pull rod handle shall not be higher than 69" from the surface on which the user stands. Showerhead shall be between 82" and 96" from the surface on which the user stands.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

Retain or delete paragraphs below to suit Project.

- B. Connect cold-water-supply piping to plumbed emergency plumbing fixtures not having water-tempering equipment. Comply with requirements for cold-water piping specified in Division 22 Section "Domestic Water Piping."
- C. 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. Comply with requirements for hot- and cold-water piping specified in Division 22 Section "Domestic Water Piping."
- D. Directly connect emergency plumbing fixture receptors with trapped drain outlet to sanitary drainage and vent piping. Comply with requirements for waste piping specified in Division 22 Section "Sanitary Waste and Vent Piping."
- E. Indirectly connect emergency plumbing fixture receptors without trapped drain outlet to sanitary or storm drainage piping.

- F. Where installing piping adjacent to emergency plumbing fixtures, allow space for service and maintenance of fixtures.

3.4 IDENTIFICATION

- A. Install equipment nameplates or equipment markers on emergency plumbing fixtures and equipment and equipment signs on water-tempering equipment. Comply with requirements for identification materials specified in Division 22 Section "Identification for Plumbing Piping and Equipment."

3.5 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. Prepare test and inspection reports.

3.6 ADJUSTING

- A. Adjust or replace fixture flow regulators for proper flow.
- B. Adjust equipment temperature settings.

END OF SECTION 224500