SECTION 224500 - EMERGENCY PLUMBING FIXTURES

TIPS:

To view non-printing Editor's Notes that provide guidance for editing, click on MasterWorks/Single-File Formatting/Toggle/Editor's Notes.

To read detailed research, technical information about products and materials, and coordination checklists, click on MasterWorks/Supporting Information.

Content Requests:

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS

Retain or delete this article in all Sections of Project Manual.

* + - * 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			1. SUMMARY
				1. Section Includes:

Emergency showers.

Eyewash equipment.

Eye/face wash equipment.

Combination units.

Supplemental equipment.

Water-tempering equipment.

* + - 1. DEFINITIONS

Definitions in this article are from standards, references, and model plumbing codes.

Retain terms that remain after this Section has been edited for a project.

* + - * 1. Accessible Fixture: Emergency plumbing fixture that can be approached, entered, and used by people with disabilities.
				2. Plumbed Emergency Plumbing Fixture: Fixture with fixed, potable-water supply.
				3. Self-Contained Emergency Plumbing Fixture: Fixture with flushing-fluid-solution supply.
				4. Tepid: Moderately warm.
			1. ACTION SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer's installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product indicated. Include flow rates and capacities, furnished specialties, and accessories.
				5. Shop Drawings:

Include plans, elevations, sections, and [**mounting**] [**attachment**] details.

Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.

Retain subparagraph below if fixtures include electrical components and wiring.

Include diagrams for power, signal, and control wiring.

* + - * 1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer's installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. INFORMATIONAL SUBMITTALS

Retain "Product Certificates" Paragraphparagraph below only if third-party certification is required.

* + - * 1. Product Certificates: Submit certificates of performance testing specified in "Source Quality Control" Article.
				2. Field quality-control test reports.
			1. CLOSEOUT SUBMITTALS
				1. Operation and Maintenance Data: For emergency plumbing fixtures to include in operation and maintenance manuals.
			2. MAINTENANCE MATERIAL SUBMITTALS
				1. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Flushing-Fluid Solution: Separate lot and equal to at least [**200**] <**Insert number**> percent of amount of solution installed for each self-contained unit.

1. PRODUCTS

Manufacturers and products listed in SpecAgent and MasterWorks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications. For definitions of terms and requirements for Contractor's product selection, see Section 016000 "Product Requirements."

* + - 1. PERFORMANCE REQUIREMENTS

Retain "Electrical Components, Devices, and Accessories" Paragraphparagraph below for electrical components.

* + - * 1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70 “Standard for Electrical Safety in the Workplace”, by a qualified testing agency, and marked for intended location and application.
				2. ISEA Standard: Comply with ISEA Z358.1 “Emergency Eyewash & Shower Standard”.
				3. NSF Standard: Comply with NSF 61 “Drinking Water Systems Components - Health Effects” and NSF 372 “Drinking Water System Components - Lead Content”, for fixture materials that will be in contact with potable water.

Retain "Regulatory Requirements" Paragraphparagraph below if fixtures include accessible emergency plumbing fixtures. There are similar Federal Government standards for accessibility; verify requirements with authorities having jurisdiction.

* + - * 1. Regulatory Requirements: Comply with requirements in ICCUNIFORM CODE 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.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - 1. EMERGENCY SHOWERS

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Freestanding, Plumbed Emergency Showers, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2742) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199436).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199444).

Approved equivalent.

Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: [**NPS 1 (DN 25)**] [**NPS 1-1/4 (DN 32)**] [galvanized steel] [chrome-plated brass or stainless steel] [PVC] with flow regulator and stay-open control valve.

Control-Valve Actuator: [Pull rod] [Foot treadle] <Insert actuator>.

Shower Head: 8-inch- (200-mm-) minimum-diameter, [chrome-plated brass, stainless steel, or plastic] <Insert material>.

Mounting: Pedestal.

* + - * 1. Off-Floor, Plumbed Emergency Showers, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2744) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199463).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199467).

Approved equivalent.

Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: NPS 1 (DN 25) [**galvanized steel**] [**chrome-plated brass or stainless steel**] [**PVC**] with flow regulator and stay-open control valve.

Control-Valve Actuator: Pull rod.

Shower Head: 8-inch- (200-mm-) minimum-diameter, [chrome-plated brass, stainless steel, or plastic] <Insert material>.

Mounting: [**Horizontal from wall**] [**Vertical from ceiling**] and supported from piping.

Emergency shower in "Freeze-Protected, Plumbed Emergency Showers" Paragraphparagraph below requires data for ambient temperature or heating capacity.

* + - * 1. Freeze-Protected, Plumbed Emergency Showers, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2745) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199473).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199474).

Approved equivalent.

Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: NPS 1-1/4 (DN 32) galvanized steel with flow regulator and stay-open control valve.

Control-Valve Actuator: Pull rod.

Shower Head: 8-inch- (200-mm-) minimum-diameter, [chrome-plated brass, stainless steel, or plastic] <Insert material>.

Heating System: [**120**] [**240**] V ac electric; insulation enclosed in a protective jacket.

Mounting: Pedestal.

* + - 1. EYEWASH EQUIPMENT

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Standard, Freestanding, Plumbed Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2747) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199484).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199487).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [Paddle] [Treadle] <Insert actuator>.

Spray-Head Assembly: Two receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] [Plastic] bowl.

Retain one of two "Drain Piping" subparagraphs below.

Drain Piping:

Size: NPS 1-1/4 (DN 32) minimum.

Finish: Chrome-plated brass.

Fittings: Receptor drain, P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”.

Drain Piping: Include galvanized-steel indirect connection to drainage system.

Mounting: Pedestal.

* + - * 1. Accessible, Freestanding, Plumbed Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2748) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199488).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199493).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Spray-Head Assembly: Two receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] [Plastic] bowl.

Drain Piping:

Size: NPS 1-1/4 (DN 32) minimum.

Finish: Chrome-plated brass.

Fittings: Receptor drain, P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”.

Mounting: Offset pedestal.

Special Construction: Comply with ICCUNIFORM CODE A117.1 “Accessible and Usable Buildings and Facilities”.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - * 1. Standard, Wall-Mounted, Plumbed Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2749) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199494).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199498).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199502).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Spray-Head Assembly: Two receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] <Insert material> bowl.

Drain Piping:

Size: NPS 1-1/4 (DN 32) minimum.

Finish: Chrome-plated brass.

Fittings: Receptor drain, P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”.

Mounting: Wall bracket.

* + - * 1. Accessible, Wall-Mounted, Plumbed Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2750) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199505).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199507).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199679).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Spray-Head Assembly: Two receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] <Insert material> bowl.

Drain Piping:

Size: NPS 1-1/4 (DN 32) minimum.

Finish: Chrome-plated brass.

Fittings: Receptor drain, P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”.

Mounting: Wall bracket.

Special Construction: Comply with ICC A117.1 “Buildings and Facilities”.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - * 1. Sink, Fixed-Position, Plumbed Eyewash Unit, <**Insert drawing designation**>:

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: Paddle.

Spray-Head Assembly: Two spray heads positioned over sink.

Mounting: Attached to sink receptor.

* + - * 1. Sink, Swivel-Type, Plumbed Eyewash Unit, <**Insert drawing designation**>:

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: Movement of spray-head assembly to position over sink.

Spray-Head Assembly: Two spray heads with offset piping.

Mounting: Deck next to sink.

* + - * 1. Portable, Self-Contained Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2758) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199513).

[Encon Safety Products](http://www.specagent.com/Lookup?uid=123457199509).

[Guardian Equipment Co](http://www.specagent.com/Lookup?uid=123457199510).

[Sellstrom Manufacturing Company](http://www.specagent.com/Lookup?uid=123457199514).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199929).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Pressure Tank: [**10 gal. (38 L)**] <**Insert value**>, stainless steel, cylindrical, with pressure gage, and suitable for on-floor installation.

Flushing Fluid: Medically acceptable solution manufactured and labeled according to applicable regulations.

Spray-Head Assembly: Chrome-plated copper alloy or stainless-steel piping with flow regulator; paddle-actuated, stay-open control valve; and two spray heads mounted on tank.

Drench hose in "Drench Hose" Subparagraphsubparagraph below is an optional component.

Drench Hose: Hand-held spray head with squeeze-handle actuation and hose attached to tank.

* + - * 1. Standard, Self-Contained Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2759) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199515).

[Encon Safety Products](http://www.specagent.com/Lookup?uid=123457199516).

[Guardian Equipment Co](http://www.specagent.com/Lookup?uid=123457199521).

[Honeywell Industrial Safety; Honeywell International, Inc](http://www.specagent.com/Lookup?uid=123457199517).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Gravity Tank: [**14 gal. (53 L) minimum**] <**Insert value**>, plastic, and suitable for shelf mounting.

Flushing Fluid: Medically acceptable solution manufactured and labeled according to applicable regulations.

Actuator: Pull-down front panel.

Spray Heads: Protected, two mounted on tank.

* + - * 1. Freeze-Protected, Self-Contained Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2761) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199523).

[Encon Safety Products](http://www.specagent.com/Lookup?uid=123457199524).

[Guardian Equipment Co](http://www.specagent.com/Lookup?uid=123457199526).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199528).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Gravity Tank: [**14 gal. (53 L) minimum**] [**20 gal. (76 L) minimum**] <**Insert value**>, plastic, and suitable for shelf mounting.

Flushing Fluid: Medically acceptable solution manufactured and labeled according to applicable regulations.

Actuator: Pull-down front panel.

Spray Heads: Protected, two mounted on tank.

Heating System: Electric, 120 V ac; insulation enclosed in a protective jacket.

* + - 1. EYE/FACE WASH EQUIPMENT

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Standard, Freestanding, Plumbed Eye/Face Wash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2762) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199530).

[Guardian Equipment Co](http://www.specagent.com/Lookup?uid=123457199533).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199535).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199537).

Approved equivalent.

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] [**Treadle**] <**Insert actuator**>.

Spray-Head Assembly: Two or four receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] [Plastic] bowl.

Retain one of two "Drain Piping" subparagraphs below.

Drain Piping:

Size: NPS 1-1/4 (DN 32) minimum.

Finish: Chrome-plated brass.

Fittings: Receptor drain, P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”.

Drain Piping: Include galvanized-steel indirect connection to drainage system.

Mounting: Pedestal.

* + - * 1. Accessible, Freestanding, Plumbed Eye/Face Wash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2763) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Acorn Safety; a Division of Morris Group International](http://www.specagent.com/Lookup?uid=123457199542).

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199540).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199935).

Approved equivalent.

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Spray-Head Assembly: Two or four receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] [Plastic] bowl.

Retain one of two "Drain Piping" subparagraphs below.

Drain Piping:

Size: NPS 1-1/4 (DN 32) minimum.

Finish: Chrome-plated brass.

Fittings: Receptor drain, P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”.

Drain Piping: Include galvanized-steel indirect connection to drainage system.

Mounting: Offset pedestal.

Special Construction: Comply with ICC A117.1 “Buildings and Facilities”.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - * 1. Standard, Wall-Mounted, Plumbed Eye/Face Wash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2765) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199546).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199552).

Approved equivalent.

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Spray-Head Assembly: Two or four receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] <Insert material> bowl.

Drain Piping:

Size: NPS 1-1/4 (DN 32) minimum.

Finish: Chrome-plated brass.

Fittings: Receptor drain, P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”.

Mounting: Wall bracket.

* + - * 1. Accessible, Wall-Mounted, Plumbed Eye/Face Wash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2766) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199553).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199556).

Approved equivalent.

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Spray-Head Assembly: Two or four receptor-mounted spray heads.

Receptor: [Chrome-plated brass or stainless-steel] <Insert material> bowl.

Mounting: Wall bracket.

Special Construction: Comply with ICCUNIFORM CODE A117.1 “Accessible and Usable Buildings and Facilities”.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - * 1. Sink, Fixed-Position, Plumbed Eye/Face Wash Unit, <**Insert drawing designation**>:

Capacity: Not less than 3 gpm (11.4 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) chrome-plated brass or stainless steel with flow regulator and stay-open control valve.

Control-Valve Actuator: Paddle.

Spray-Head Assembly: Two or four spray heads positioned over sink.

Receptor: [Chrome-plated brass or stainless-steel] <Insert material> bowl.

Mounting: Attached to sink receptor.

* + - 1. COMBINATION UNITS

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Standard, Plumbed Emergency Shower with Eyewash Combination Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2768) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199558).

[Encon Safety Products](http://www.specagent.com/Lookup?uid=123457199559).

[Guardian Equipment Co](http://www.specagent.com/Lookup?uid=123457199560).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199563).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457200008).

Approved equivalent.

Piping:

Material: [**Galvanized steel**] [**Chrome-plated brass or stainless steel**] [**PVC**].

Unit Supply: [**NPS 1-1/4 (DN 32) minimum**] [**NPS 1-1/2 (DN 40)**].

Unit Drain: Outlet at back or side near bottom.

Shower:

Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: NPS 1 (DN 25) with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Pull rod**] [**Treadle**] <**Insert actuator**>.

Shower Head: 8-inch- (200-mm-) minimum diameter, [**chrome-plated brass or stainless steel**] [**plastic**].

Mounting: Pedestal.

Eyewash Unit:

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) with flow regulator and stay-open control valve.

Control-Valve Actuator: Paddle.

Spray-Head Assembly: Two receptor-mounted spray heads.

Receptor: [**Chrome-plated brass or stainless-steel**] [**Plastic**] bowl.

Mounting: Attached shower pedestal.

Retain "Drench-Hose Option" Subparagraphsubparagraph below if a drench hose is permitted in place of the eyewash unit.

Drench-Hose Option: May be provided instead of eyewash unit.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Drench Hose: Hand-held spray head with squeeze-handle actuator and hose.

Mounting: Bracket on shower pedestal.

* + - * 1. Accessible, Plumbed Emergency Shower with Eyewash Combination Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2770) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199569).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199566).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457200013).

Approved equivalent.

Piping:

Material: [**Galvanized steel**] [**Chrome-plated brass or stainless steel**] [**PVC**].

Unit Supply: [**NPS 1-1/4 (DN 32) minimum**] [**NPS 1-1/2 (DN 40)**].

Unit Drain: Outlet at back or side near bottom.

Shower:

Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: NPS 1 (DN 25) with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Pull rod**] <**Insert actuator**>.

Shower Head: 8-inch- (200-mm-) minimum diameter, [**chrome-plated brass or stainless steel**] [**plastic**].

Mounting: Pedestal.

Eyewash Unit:

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) with flow regulator and stay-open control valve.

Control-Valve Actuator: Paddle.

Spray-Head Assembly: Two receptor-mounted spray heads.

Receptor: [**Chrome-plated brass or stainless-steel**] [**Plastic**] bowl.

Mounting: Attached shower pedestal.

Retain "Drench-Hose Option" Subparagraphsubparagraph below if a drench hose is permitted in place of the eyewash unit.

Drench-Hose Option: May be provided instead of eyewash unit.

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Drench Hose: Hand-held spray head with squeeze-handle actuator and hose.

Mounting: Bracket on shower pedestal.

* + - * 1. Standard, Plumbed Emergency Shower with Eye/Face Wash Combination Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2772) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199574).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199577).

[Stingray Systems LLC](http://www.specagent.com/Lookup?uid=123457199582).

Approved equivalent.

Piping:

Material: [**Galvanized steel**] [**Chrome-plated brass or stainless steel**] [**PVC**].

Unit Supply: [**NPS 1-1/4 (DN 32) minimum**] [**NPS 1-1/2 (DN 40)**].

Unit Drain: Outlet at back or side near bottom.

Shower:

Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: NPS 1 (DN 25) with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Pull rod**] [**Treadle**] <**Insert actuator**>.

Shower Head: 8-inch- (200-mm-) minimum diameter, [**chrome-plated brass or stainless steel**] [**plastic**].

Mounting: Pedestal.

Eye/Face Wash Unit:

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) with flow regulator and stay-open control valve.

Control-Valve Actuator: Paddle.

Spray-Head Assembly: Two or four receptor-mounted spray heads.

Receptor: [**Chrome-plated brass or stainless-steel**] [**Plastic**] bowl.

Mounting: Attached shower pedestal.

Retain "Drench-Hose Option" Subparagraphsubparagraph below if a drench hose is permitted in place of the eye/face wash unit.

Drench-Hose Option: May be provided instead of eye/face wash unit.

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Drench Hose: Hand-held spray head with squeeze-handle actuator and hose.

Mounting: Bracket on shower pedestal.

* + - * 1. Accessible, Plumbed Emergency Shower with Eye/Face Wash Combination Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2773) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199585).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199587).

Approved equivalent.

Piping:

Material: [**Galvanized steel**] [**Chrome-plated brass or stainless steel**] [**PVC**].

Unit Supply: [**NPS 1-1/4 (DN 32) minimum**] [**NPS 1-1/2 (DN 40)**].

Unit Drain: Outlet at back or side near bottom.

Shower:

Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: NPS 1 (DN 25) with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Pull rod**] <**Insert actuator**>.

Shower Head: 8-inch- (200-mm-) minimum diameter, [**chrome-plated brass or stainless steel**] [**plastic**].

Mounting: Pedestal.

Eye/Face Wash Unit:

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) with flow regulator and stay-open control valve.

Control-Valve Actuator: Paddle.

Spray-Head Assembly: Two or four receptor-mounted spray heads.

Receptor: [**Chrome-plated brass or stainless-steel**] [**Plastic**] bowl.

Mounting: Attached to shower pedestal.

Retain "Drench-Hose Option" Subparagraphsubparagraph below if a drench hose is permitted in place of the eye/face wash unit.

Drench-Hose Option: May be provided instead of eye/face wash unit.

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Drench Hose: Hand-held spray head with squeeze-handle actuator and hose.

Mounting: Bracket on shower pedestal.

* + - * 1. Freeze-Protected, Plumbed Emergency Shower with Eyewash Combination Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2775) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199594).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199595).

Approved equivalent.

Piping: Galvanized steel.

Unit Supply: [**NPS 1-1/4 (DN 32) minimum**] [**NPS 1-1/2 (DN 40)**] from bottom.

System in "Heating System" Subparagraphsubparagraph below requires data for ambient temperature or heating capacity.

Heating System: Electric, [120] [240] V ac; insulation enclosed in a protective jacket with thermometer.

Heating Capacity: [**10 deg F (6 deg C)**] <**Insert temperature**> minimum above ambient temperature.

Design Ambient Temperature: <**Insert temperature**>.

Shower:

Shower Capacity: Not less than 20 gpm (76 L/min.) for at least 15 minutes.

Supply Piping: NPS 1 (DN 25) with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Pull rod**] <**Insert actuator**>.

Shower Head: 8-inch- (200-mm-) minimum diameter, [**chrome-plated brass or stainless steel**] [**plastic**].

Mounting: Pedestal.

Retain "Eyewash Unit" or "Eye/Face Wash Unit" Subparagraphsubparagraph below.

Eyewash Unit:

Capacity: Not less than 0.4 gpm (1.5 L/min.) for at least 15 minutes.

Supply Piping: NPS 1/2 (DN 15) with flow regulator and stay-open control valve.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Eye/Face Wash Unit:

Capacity: Not less than 3 gpm (11.4 L/min.) for at least 15 minutes.

Control-Valve Actuator: [**Paddle**] <**Insert actuator**>.

Appurtenances:

Insert appurtenances, such as alarms, drench hose, and lights, required for application.

<**Insert appurtenances**>.

* + - 1. SUPPLEMENTAL EQUIPMENT

Equipment in this article does not have capacity requirements. This equipment is provided in addition to, but not in place of, normally required equipment.

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Self-Contained, Personal Eyewash Units, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2776) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199597).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.).

Pressure Tank: [**5 gal. (19 L)**] <**Insert value**>, stainless steel, cylindrical, with pressure gage and base suitable for on-floor installation.

Flushing Fluid: Medically acceptable solution manufactured and labeled according to applicable regulations.

Spray-Head Assembly: Chrome-plated copper alloy or stainless-steel piping with flow regulator; paddle-actuated, stay-open control valve; and two spray heads mounted on tank.

* + - * 1. Deck-Mounted, Plumbed Drench Hoses, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2778) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199603).

[Guardian Equipment Co](http://www.specagent.com/Lookup?uid=123457199606).

Approved equivalent.

Capacity: Not less than 0.4 gpm (1.5 L/min.).

Supply Fitting: NPS 1/2 (DN 15) brass with flow regulator.

Drench Hose: Hand-held spray head with squeeze-handle actuation and hose.

Mounting: In hole in deck.

* + - * 1. Wall-Mounted, Plumbed Drench Hoses, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2779) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199611).

[Speakman Company](http://www.specagent.com/Lookup?uid=123457199616).

Approved equivalent.

Capacity: Not less than 3.0 gpm (11.4 L/min.) for at least 15 minutes.

Supply Fitting: NPS 1/2 (DN 15) brass with flow regulator.

Drench Hose: Hand-held spray head with squeeze-handle actuation and hose.

Mounting: Wall bracket.

* + - 1. WATER-TEMPERING EQUIPMENT

Use equipment in this article only for emergency plumbing fixtures without an integral tempered-water system. Do not use general-use, thermostatic mixing valves or tempering valves. Revise temperatures to suit Project. Indicate capacities on Drawings.

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. Hot- and Cold-Water, Water-Tempering Equipment, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2781) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Acorn Safety; a Division of Morris Group International.

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457199447).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199449).

[WATTS; A Watts Water Technologies Company](http://www.specagent.com/Lookup?uid=123457199456).

Approved equivalent.

Description: Factory-fabricated equipment with thermostatic mixing valve.

Thermostatic Mixing Valve: Designed to provide [**85 deg F (29 deg C)**] <**Insert temperature**> tepid, potable water at emergency plumbing fixtures, to maintain temperature at plus or minus [**5 deg F (3 deg C)**] <**Insert temperature**> 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.

Supply Connections: For hot and cold water.

* + - * 1. Steam and Cold-Water, Water-Tempering Equipment, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2783) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Encon Safety Products](http://www.specagent.com/Lookup?uid=123457199457).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199459).

Approved equivalent.

Description: Factory-fabricated equipment with thermostatic mixing valve.

Thermostatic Mixing Valve: Designed to provide [**85 deg F (29 deg C)**] <**Insert** temperature> tepid, potable water at emergency plumbing fixtures, to maintain temperature at plus or minus [**5 deg F (3 deg C)**] <**Insert temperature**> throughout required 15-minute test period, and in case of unit failure to continue cold-water flow, with union connections, steam controls, heat exchanger, high-temperature-limit and freeze-protection devices, metal piping, and corrosion-resistant enclosure.

Supply Connections: For steam and cold water.

* + - * 1. Electric Water-Tempering Equipment, <**Insert drawing designation**>:

[Manufacturers:](http://www.specagent.com/Lookup?ulid=2784) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Bradley Corporation](http://www.specagent.com/Lookup?uid=123457200020).

[Haws Corporation](http://www.specagent.com/Lookup?uid=123457199462).

Approved equivalent.

Description: Factory-fabricated equipment with electric heating.

Heating System: Electric, designed to provide [**85 deg F (29 deg C)**] <**Insert temperature**> tepid, potable water at emergency plumbing fixtures, to maintain temperature at plus or minus [**5 deg F (3 deg C)**] <**Insert temperature**> throughout required 15-minute test period, and in case of unit failure to continue cold-water flow, with union connections, controls, heating coils, high-temperature-limit device, metal piping, and corrosion-resistant enclosure.

Electrical Characteristics: [**208 V ac, 38**] [**220 V ac, 40**] [**277 V ac, 32**] A, single phase, 60 Hz.

* + - 1. SOURCE QUALITY CONTROL

Retain this article if certification is required for emergency plumbing fixtures; revise to suit Project. Some manufacturers do not offer third-party certification of compliance with ISEA Z358.1 for some or all of their fixtures.

* + - * 1. Certify performance of emergency plumbing fixtures by independent testing organization acceptable to authorities having jurisdiction.

Manufacturer's products in this Section comply with ISEA Z358.1 for performance, but not all products are certified by an independent testing organization. List manufacturers, if any, whose products are not required to be so certified.

Exception: <Insert manufacturer's name>.

1. EXECUTION
	* + 1. EXAMINATION

Retain this article for plumbed emergency plumbing fixtures. Delete option in first paragraph below if no direct-connection drain piping is required.

* + - * 1. Examine roughing-in for water[**and waste**] piping systems to verify actual locations of piping connections before plumbed emergency plumbing fixture installation.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			1. INSTALLATION OF EMERGENCY PLUMBING FIXTURE INSTALLATION
				1. Assemble emergency plumbing fixture piping, fittings, control valves, and other components.
				2. Install fixtures level and plumb.
				3. Fasten fixtures to substrate.
				4. Install shutoff valves in water-supply piping to fixtures, to facilitate maintenance of the equipment. Use ball or gate valve if specific type valve is not indicated. Install valves chained or locked in open position if permitted. Install valves in locations where they can easily be reached for operation. Comply with requirements for valves specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."

Retain one or both "Exception" subparagraphs below if applicable.

Exception: Omit shutoff valve on supply to group of plumbing fixtures that includes emergency equipment.

Exception: Omit shutoff valve on supply to emergency equipment if prohibited by authorities having jurisdiction.

Retain first paragraph below if steam-mixing valve is used.

* + - * 1. Install shutoff valve and strainer in steam piping and shutoff valve in condensate return piping. Comply with requirements for steam and condensate piping specified in Section 232213 "Steam and Condensate Heating Piping" and Section 232216 "Steam and Condensate Heating Piping Specialties."
				2. Install dielectric fitting in supply piping to emergency equipment if piping and equipment connections are made of different metals. Comply with requirements for dielectric fittings specified in Section 221116 "Domestic Water Piping."
				3. Install thermometers in supply and outlet piping connections to water-tempering equipment. Comply with requirements for thermometers specified in Section 220519 "Meters and Gages for Plumbing Piping."

Retain first paragraph below if emergency equipment has a direct connection drain.

* + - * 1. Install trap and waste piping 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 Section 221316 "Sanitary Waste and Vent Piping."

Retain first paragraph below if emergency equipment has an indirect waste connection.

* + - * 1. 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 Section 221316 "Sanitary Waste and Vent Piping."
				2. Install escutcheons on piping wall and ceiling penetrations in exposed, finished locations. Comply with requirements for escutcheons specified in Section 220518 "Escutcheons for Plumbing Piping."
				3. Fill self-contained fixtures with flushing fluid.
			1. CONNECTIONS

Coordinate piping installations and specialty arrangements with schematics on Drawings and with requirements specified in piping systems. If Drawings are explicit enough, these requirements may be reduced or omitted.

Retain, revise, or delete first six paragraphs below to suit Project.

* + - * 1. Connect cold-water-supply piping to plumbed emergency plumbing fixtures not having water-tempering equipment. Comply with requirements for cold-water piping specified in Section 221116 "Domestic Water Piping."
				2. 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 Section 221116 "Domestic Water Piping."

Retain first paragraph below if steam mixing valve is used.

* + - * 1. Connect steam and cold-water-supply and condensate return piping to steam and cold water-tempering equipment. Connect output from water-tempering equipment to emergency plumbing fixtures. Comply with requirements for cold-water piping specified in Section 221116 "Domestic Water Piping" and comply with requirements for steam and condensate piping specified in Section 232213 "Steam and Condensate Heating Piping" and Section 232216 "Steam and Condensate Heating Piping Specialties."
				2. Connect cold water and electrical power to electric heating water-tempering equipment. Comply with requirements for cold-water piping specified in Section 221116 "Domestic Water Piping."
				3. Directly connect emergency plumbing fixture receptors with trapped drain outlet to sanitary waste and vent piping. Comply with requirements for waste piping specified in Section 221316 "Sanitary Waste and Vent Piping."
				4. Indirectly connect emergency plumbing fixture receptors without trapped drain outlet to sanitary waste or storm drainage piping.
				5. Where installing piping adjacent to emergency plumbing fixtures, allow space for service and maintenance of fixtures.
			1. IDENTIFICATION
				1. 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 Section 220553 "Identification for Plumbing Piping and Equipment."
			2. FIELD QUALITY CONTROL
				1. Mechanical-Component Testing: After plumbing connections have been made, test for compliance with requirements. Verify ability to achieve indicated capacities.

Retain "Test and Inspections" Paragraphparagraph below to describe tests and inspections to be performed.

* + - * 1. Tests and Inspections:

Perform each visual and mechanical inspection.

Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.

Operational Test: After electrical circuitry has been energized, start units to confirm proper unit operation.

Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

see section 014000 “quality requirements” for retesting and reinspecting requirements and section 017300 “execution” for requirements for correcting the work.

* + - * 1. Emergency plumbing fixtures[**and water-tempering equipment**] will be considered defective if they do not pass tests and inspections.
				2. Prepare test and inspection reports.
			1. ADJUSTING
				1. Adjust or replace fixture flow regulators for proper flow.
				2. Adjust equipment temperature settings.

END OF SECTION 224500