



BRADLEY ENCLOSED SAFETY SHOWERS –Outdoor Units

Guide Specification

Bradley's Enclosed Safety Showers utilize superior design standards, premium features, and innovative drenching technology to deliver safe initial treatment response under industry's harshest conditions. The exclusive 100 percent fiberglass reinforced plastic surround construction provides protection from UV-rays, exposure to chemicals and salt-laden air.

The enclosed safety showers provide a packaged solution for a wide range of indoor, outdoor, and extreme environment safety equipment for industrial operations world-wide. Outdoor units are insulated and weather stripped and equipped with unit heaters. UV- and corrosion- resistant enclosures are engineered to maintain safe interior temperatures in ambient conditions down to -54 deg. F.

Enclosures are designed for portability and rapid setup. They arrive pre-plumbed to accommodate the water supply circumstances needed in your industrial environment; options include self-contained units with treated water storage tank, tankless water heaters, and thermal mixing valve-controlled units utilizing standard hot water tanks or local hot and cold-water supply.

Bradley's enclosed safety showers utilize Bradley's state of the art emergency drench showers and options for eyewash and eye/face wash fixtures. All units have the option to add audible and visual alarms to alert first responders when the unit is being used. A variety of monitoring and control options are available.

A separate version of this guide specification is available for indoor use enclosed safety showers.

Architects, engineers, and specifiers look to Bradley Corporation for innovation in design and leadership in the development of environmentally conscious products. Bradley Corporation, a member of the U.S. Green Building Council, the Wisconsin Green Building Alliance, has several products earning certification by Greenguard Environmental Institute, and Greenguard Children and Schools program.

Bradley eases the specifying process with a seasoned customer service staff and a range of helpful information tools on an advanced website. For example, easy-to-use sizing software, available on Bradley's website, allows engineers to quickly determine the correct size Thermostatic Mixing Valves.

Contact Bradley Corporation, Menomonee Falls, WI 53051; Phone: 800-BRADLEY ((800)272-3539) or visit the Bradley web site www.bradleycorp.com. Bradley Corporation is an AIA/CES registered provider currently offering five programs providing one HS&W Learning Unit each.

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SECTION 22 45 33.01 – COMBINATION EMERGENCY FIXTURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Enclosed emergency showers for outdoor use equipped with:

Specifier: [Edit list below after editing section or delete detailed description here.](#)

1. Combination emergency shower and [eye wash] [eye/face wash] units.
2. Water [tempering] [heating] [storage] equipment.
3. Space heating equipment.
4. Lighting.
5. Alarm and control accessories.

Specifier: [If retaining optional "Related Sections" article, edit to include sections applicable to Project.](#)

1.2 RELATED SECTIONS

- A. Division 22 Section "Domestic Water Piping" for [hot and cold] [tempered] water piping.
- B. Division 22 Section "Sanitary Waste Piping Specialties" for floor drains.
- C. Division 26 sections for electrical power and control wiring.

Specifier: [If retaining optional "References" article, edit to include standards cited in edited Section.](#)

1.3 REFERENCES

- A. General: Applicable edition of references cited in this Section is current edition published on date of issue of Project specifications, unless otherwise required by building code in force.
- B. American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) www.pubs.asce.org:
1. Minimum Design Loads for Buildings and Other Structures.
- C. American National Standards Institute (ANSI) <http://webstore.ansi.org>:
1. ANSI Z358.1 – American National Standard for Emergency Eyewash and Shower Equipment.
- D. ASTM International (ASTM) www.astm.org:
1. ASTM E 84: Standard Test Method for Surface Burning Characteristics of Building Materials.
- E. CSA International (CSA) www.csa-international.org:
1. CSA Certified Product Listings for Industrial Control Equipment – Miscellaneous Apparatus – For Hazardous Locations.
- F. National Electrical Manufacturers Association (NEMA) www.global.nema.org:
1. NEMA Standards Publication 250, "Enclosures for Electrical Equipment (1000 Volts Maximum)."

- G. National Fire Protection Association (NFPA) www.nfpa.org:
 1. NFPA 70 – National Electrical Code.
- H. Underwriters Laboratories (UL) www.ul.com:
 1. UL 94 - Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances Testing.

1.4 ACTION SUBMITTALS

- A. Product Data: For each product:
 1. Manufacturer's data sheets indicating enclosure materials and construction, equipment, and accessories.
 2. Include details of electrical and mechanical operating parts.
 3. Provide mounting and securing requirements and utility connection requirements.

1.5 INFORMATION SUBMITTALS

Specifier: Retain paragraphs below when Project requirements include compliance with Federal Buy American provisions. Bradley manufactures enclosed emergency showers in both the US and Canada.

- A. Buy American Act Certification: Submit documentation certifying that products comply with provisions of the Buy American Act 41 U.S.C 10a – 10d.
- B. Manufacturer's Certificates: Submit certificates documenting factory testing of emergency shower units.
- C. Field quality-control test reports.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.7 MAINTENANCE SUBMITTALS

- A. Furnish indicated spare parts that are packaged with identifying labels listing associated products.

Specifier: Retain requirement below for self-contained units with 540-gal water storage tank.

- B. Water Preservative Treatment: Provide chemical dosage for three water tank treatments.

1.8 QUALITY ASSURANCE

- A. Source Limitations: Obtain emergency shower enclosures through a single source from a single manufacturer.
- B. Electrical Components: Listed and labeled per NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- C. ANSI Standard: Comply with ANSI/ISEA Z358.1.
- D. NSF Standard: Comply with NSF 61 for fixture components in contact with potable water.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide emergency shower enclosures manufactured by **The Bradley Corporation**, Menomonee Falls, WI 53051; (800)272-3539; Email info@BradleyCorp.com; Website www.bradleycorp.com.
1. Submit requests for substitution in accordance with Instructions to Bidders and Division 01 General Requirements.

2.2 PERFORMANCE REQUIREMENTS

Specifier: Edit design loads below to correspond to Project Requirements; delete those that do not apply.

- A. Structural Performance: Provide emergency shower enclosures that withstand the effects of the following loads in accordance with [ASCE/SEI 7]:
1. Wind Loads: [As indicated on Structural drawings] [insert loads].
 2. Seismic Loads: [As indicated on Structural drawings] [insert loads].

2.3 OUTDOOR ENCLOSED EMERGENCY SHOWERS

Bradley outdoor enclosed safety shower models vary depending on the equipment included in their fabrication.

Specifier: If descriptive specification requirements below are required for project, edit to match characteristics of basis of design model.

- A. Description: Outdoor enclosed emergency showers suitable facility for quick drenching or flushing of the eyes and body for immediate emergency use.
- B. Basis of Design Manufacturer/Model: **Bradley Corp., Enclosed Safety Shower, Model S19382.**
1. Enclosed safety shower with tepid water inlet.
 2. Hazardous area classification, NFPA 70: [General Area] [Class 1, Division 2, Groups C, D; T-code: T3A] [Class 1, Division 1, Groups C, D; T-code: T3B]
 3. Supply Voltage: [120 v 60 Hz, Single Phase] [208V 60 Hz, Single Phase] [240V 60 Hz Single Phase].
 4. Enclosure Heater: Convection Heater [protects down to -13°F (-25°C)] [protects down to -40°F (-40°C)].
- C. Basis of Design Manufacturer/Model: Bradley Corp., Enclosed Safety Shower, **Model S19384.**
1. Enclosed safety shower with a hot water storage tank.
 2. Hazardous area classification, NFPA 70: [General Area] [Class 1, Division 2, Groups C, D; T-code: T3A] [Class 1, Division 1, Groups C, D; T-code: T3B]
 3. Supply Voltage: [208V 60Hz single phase] [240V 60 Hz Single phase] [480V 60 Hz 3 Phase].
 4. Enclosure Heater: Convection Heater [protects to -13°F (-25°C)] [protects to -40°F (-40°C)].
 5. Hot Water Tank: Freestanding 119 gal. (450 L) tank [, ASME-rated] mounted on unit platform, with immersion heater and dual tank thermostat sensors, connected to external enclosed electrical disconnect panel.
- D. Basis of Design Manufacturer/Model: Bradley Corp., Enclosed Safety Shower, **Model S19387.**

1. Enclosed self-contained safety shower.
 2. Hazardous area classification, NFPA 70: [General Area] [Class 1, Division 2, Groups C, D; T-code: [T3] [Class 1, Division 1, Groups C, D; T-code: T3]
 3. Supply Voltage: [208V 60 Hz Single Phase] [240 V 60 Hz Single Phase].
 4. Extreme Condition Equipment: None.
 5. Enclosure Heater: Convection Heater [protects to -13°F (-25°C)] [protects to -40°F (-40°C)].
 6. Enclosure Cooling System: [Exhaust Fan] [none]
- E. Basis of Design Manufacturer/Model: Bradley Corp., Enclosed Safety Shower, **Model S19388**
1. Enclosed safety shower that includes an electric tankless water heater.
 2. Hazardous area classification, NFPA 70: [General Area] [Class 1, Division 2, Groups C, D; T-code: T3].
 3. Supply Voltage: [208V 60 Hz Single Phase] [240 V 60 Hz Single Phase]. This unit also requires a second supply in [480V] [600V 3 Phase] to power the water heater.
 4. Electric Tankless Water Heater: Sized to deliver tepid water meeting ANSI Z358.1: With redundant safety features; internal fusing, digital temperature control, copper and brass brazed heat exchanger, electrical cabinet heater to protect to -20 deg. F (-28 deg. C) , [fused disconnect,] [local audible and visual alarms,] [ground fault system,] [Electrical Cabinet Insulation] [Electrical Cabinet Heater to protect to -30 deg. F (-34 deg. C)] [continuous flow explosion proof purge system,] [ASME heat exchanger,] and powder coated steel enclosure cabinet [NEMA 4X enclosure].
 5. Enclosure Heater: Convection Heater [protects to -13°F (-25°C)] [protects to -40°F (-40°C)].

2.4 COMPONENTS

- A. Enclosure Surround: Insulated fiberglass-reinforced plastic (FRP) roof, wall, and floor with UV-inhibiting gel-coat surface, chemical and corrosion resistant, with crash doors, removable fiberglass floor grates, catch basin drain, anchor plates, crane lift eyes, and reinforced stainless steel forklift bumper plates.
1. Fire Performance:
 - a. Flame Spread and Smoke Developed Classification, ASTM E 84: Class 1.
 - b. Flame Classification, UL 94: V-0, self-extinguishing, per CSA certification or third-party inspection.
 2. Entry Doors: Weather-stripped FRP double-acting pair with spring hinges, stainless steel pull handles, and safety glass viewing windows.
 3. Service Compartment Door(s): Weather-stripped FRP single outswing door with spring hinges and stainless-steel pull handles.
 4. Color: Safety yellow, with directional decals.
 5. Insulation Factor: R-8.
- B. Plumbed Emergency Shower with Eye-Face Wash Combination Unit: ANSI Z358.1, self-draining, factory-assembled and tested, with standard-compliant identification sign and inspection tag.
1. Showerhead:
 - a. Basis of Design Product: **Bradley, SpinTec Drench Shower.**
 - b. Flow Rate: 22 gpm at 30 psi (1.45 L/s at 207 kPa) flow rate, [yellow impact-resistant plastic] [stainless steel] showerhead.
 - c. Shower Ball Valve: NPS 1-inch (DN 25), [chrome-plated brass] [Type 316 stainless steel], stay-open, activated with stainless steel pull rod.

- d. Material of Construction: [Galvanized steel with safety yellow coating] [316/304 stainless steel].
- 2. Eye Wash:
 - a. Basis of Design Product: **Bradley, Eyewash.**
 - b. Flow Rate: 5.1 gpm 19.1L/m).
 - c. Eyepiece Dust Covers: Plastic Eyewash cover.
 - d. Ball Valve: NPS 1/2-inch (DN 15), [chrome-plated brass stay-open wash valve] [Type 316 stainless steel stay-open wash valve].
- 3. Eye/Face Wash:
 - a. Basis of Design Product: **Bradley, Eye/Face Wash.**
 - b. Flow Rate: 5.1 gpm (19.1 L/m).
 - c. Eyepiece Dust Covers: Plastic eyewash cover.
 - d. Eyewash Ball Valve: NPS 1/2-inch (DN 15) eyewash valve [chrome-plated brass], stay-open, activated with hand-activated push handle.
- 4. Pipe and Fittings:
 - a. Water Inlet: NPS 1-1/4-inch (DN 32) diameter, stainless steel with epoxy safety yellow coating.
 - b. Outdoor Drain Connection: PVC, NPS 3 (DN 80).
- 5. Signaling System:
 - a. Dry Contacts that open to signal flow, with visual and audible alarms.
- 6. Pressure Booster Pump: Booster pump, 2HP, with automatic on/off flow switch and pressure reducing outlet, with controls.
- 7. Standard Electrical System includes:
 - a. Exterior over the door beacon light, internal ceiling mounted light.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide connections to fixtures and associated fittings in accordance with manufacturer's instructions.
- B. Install plumbed connection from unit waste outlet to waste system incorporating holding tank designed to contain hazardous waste water.
- C. Install unit level, plumb, and anchored firmly in place in accordance with manufacturer's rough-in drawings.
- D. Install water supply piping to each fixture requiring water supply connection. Provide lock-on stop on each supply in readily-serviced location.

3.2 CLEANING AND PROTECTION

- A. Repair or replace defective work, including damaged fixtures and components.
- B. Clean unit surfaces, test fixtures, and leave in ready-to-use condition.

C. Turn over keys, tools, maintenance instructions, and maintenance stock to Owner.

3.3 TESTING AND ADJUSTING

A. Set field-adjustable temperature set points of temperature-actuated water mixing valves. Adjust set point within allowable temperature range.

B. Test and adjust installation.

C. Remove and replace malfunctioning thermostatic mixing valves and retest.

END OF SECTION