

BRADLEY ADVOCATE ALL-IN-ONE LAVATORY SYSTEMS

Bradley Corporation, the industry's leading manufacturer of premium quality commercial lavatories, presents The Advocate Lavatory System. The Advocate Lavatory System's unique all-in-one design allows users to access soap, water and hand dryer without leaving the hand washing station. The water supply, soap dispenser, and hand dryer are located above the bowl. GFI protection assures the safety of the hand dryer equipment. Storage Cabinet, waste receptacle and towel dispenser accessory units may be integrated within an expanded cabinet or as stand-alone cabinets. The Bradley Advocate Lavatory System is perfect for commercial lavatories, movie theaters, auditoriums and the executive washroom.

Advocate lavatory decks and integral bowls are made from Terreon, Bradley's premium, high-density solid surface material; they are now also available in TerreonRE, a sustainable formulation of pre-consumer recycled polymers and bio-based resins.

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.

Bradley is the industry leader in the manufacture of premium quality commercial plumbing fixtures, valves, TMVs and washroom accessories that appear in the following CSI MasterFormat 2004™ Sections:

Section 10 21 13 – Toilet Compartments (Mills Metal, Plastic-laminate, Phenolic, and Plastic units)

Section 10 28 13.13 – Commercial Toilet Accessories

Section 10 28 13.15 – Hand and Hair Dryers

Section 10 28 13.63 – Detention Toilet Accessories

Section 10 51 26.00 – Plastic Lockers (Lenox Plastic Lockers)

Section 10 51 26.13 – Plastic Lockers (Lenox Recycled Plastic lockers)

Section 22 11 19 – Domestic Water Piping Specialties (Thermostatic mixing valves)

Section 22 42 16.01 – Commercial Lavatories and Faucets (Single and multi-station lavatory systems)

Section 22 42 16.02 – Commercial Lavatories and Faucets (Bradley Advocate Lavatory System)

Section 22 42 16.03 – Commercial Lavatories and Faucets (Bradley Verge Lavatory System)

Section 22 42 16.11 – Commercial Sinks and Faucets

Section 22 42 23 – Commercial Showers and Shower Valves

Section 22 42 33 – Wash Fountains

Section 22 43 00 – Healthcare Plumbing Fixtures (Patient care lavatory units)

Section 22 45 00 – Emergency Plumbing Fixtures (Emergency Eyewash Fixtures and Drench Showers)

Section 22 46 00 – Security Plumbing Fixtures

Contact Bradley Corporation, Menomonee Falls, WI 53051; Phone: 800-BRADLEY ((800)272-3539) Fax: (262)251-5817, or visit the Bradley web site www.bradleycorp.com.

Bradley Corporation is an AIA/CES registered provider currently offering five programs earning one (1) HS&W Learning Unit each; several qualify for sustainable design (SD) credit. All active AIA members must successfully complete 18 learning unit (LU) hours each year.

Advocate is a trademark of Bradley Corporation.

Veratherm is a trademark of Bradley Corporation.

Ndite is a trademark of Bradley Corporation.

TouchTime is a trademark of Bradley Corporation.

Crescent is a registered trademark of Bradley Corporation.

Terreon is a registered trademark of Bradley Corporation.

**SECTION 22 42 16
COMMERCIAL LAVATORIES**

PART 1 - GENERAL

1.1 SECTION INCLUDES

1. Commercial lavatory units with integrated accessories.

1.2 RELATED SECTIONS

Specifier: Delete any paragraphs below that do not apply to this project.

1. Division 22 Section "Domestic Water Piping Specialties" for thermostatic mixing valves.
2. Division 22 Section "Healthcare Plumbing Fixtures" for healthcare lavatories.
3. Division 22 Section "Emergency Plumbing Fixtures" for emergency fixtures.
4. Division 22 Section "Security Plumbing Fixtures" for security lavatories.

1.3 REFERENCES:

A. American Society of Sanitary Engineering (ASSE):

1. ASSE 1070 – Water Temperature Limiting Devices.

B. American National Standards Institute (ANSI):

1. ANSI Z 124.3 - Plastic Lavatories.
2. ANSI/ICPA SS-1-2001 - Performance Standard for Solid Surface Materials.

C. American Society of Mechanical Engineers (ASME):

1. ASME A112.18.1 - Plumbing Fixture Fittings.
2. ASME A112.18.2 - Plumbing Fixture Waste Fittings.
3. ASME A112.18.3M - Performance Requirements for Backflow Protection Devices and Systems in Plumbing Fixture Fittings.

D. ASTM International (ASTM):

1. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
2. ASTM D 570 - Standard Test Method for Water Absorption of Plastics.
3. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
4. ASTM D 696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 degrees C and 30 degrees C With a Vitreous Silica Dilatometer.
5. ASTM D 785 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials.

E. Canadian Standards Association (CSA):

1. CSA B125 - (See ASME A112.18.1 - Plumbing Fixture Fittings).

GREENGUARD Environment Institute is an ANSI Authorized Standards Developer that oversees the GREENGUARD certification program. GEI establishes acceptable indoor air standards for indoor products, environments, and buildings.

F. GREENGUARD Environmental Institute (GEI):

1. GREENGUARD certified low emitting products.

G. International Association of Plumbing and Mechanical Officials (IAPMO):

1. Universal Plumbing Code (cUPC both U.S. and Canada).
- H. International Code Council (ICC):
 1. ICC/ANSI A117.1 – Accessible and Usable Buildings and Facilities.
- I. NSF International (NSF):
 1. NSF 61 - Drinking Water System Components - Health Effects.
- J. Public Law 102-486, *Energy Policy Act*, requires that public lavatories manufactured after December 31, 1996, have flow rate or consumption not greater than 0.5 gpm (1.5 L/min.) or 0.25 gal. (0.95 L) per metering cycle.
- K. State of Texas:
 1. Texas Accessibility Standards (TAS).
- L. Underwriters Laboratories, Inc.
 1. UL 723 - Test For Surface Burning Characteristics of Building Materials.
 2. UL 1951 - Electric Plumbing Accessories.
 3. UL 507 – Electric Fans
- M. United States Green Building Council (USGBC):
 1. LEED Green Building Rating System (LEED).
- N. US Federal Government:
 1. Public Law 102-486 - Energy Policy Act. 1992.
 2. U.S. Architectural & Transportation Barriers Compliance Board. Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG).

1.4 ACTION SUBMITTALS

- A. Product Data: Manufacturer’s data sheets, installation instructions, and maintenance recommendations.
- B. Product Test Reports: Indicating compliance of products with requirements, from a qualified independent testing agency, when requested by Architect.
- C. Shop Drawings: Prepared by manufacturer. Include rough-in requirements and power, signal, and control wiring diagrams.

Bradley Corporation's TerreonRE recycled solid surface material contains 25-percent preconsumer recycled content and 8-percent rapidly renewable material. LEED WE Credit 2 is for 50 percent reduction in water use for building sewer, based on use of water-conserving fixtures documented under Credit WE 3. LEED WE Credit 3 is for 30, 35, or 40 percent reduction in water usage. Coordinate with Division 01 requirements for LEED MR Credit 5 Regional Materials where applicable.

- A. LEED Submittals:
 1. Product Data for [Credit WE 2] [and] [Credit WE 3]: Documentation indicating compliance with requirements.

1.5 INFORMATION SUBMITTALS

- A. Sample warranty.
- B. Manufacturer's Certificates.

1.6 MAINTENANCE SUBMITTALS

- A. Operation and Maintenance data.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum [5] years experience in the manufacture of plumbing fixtures. Manufacturers seeking approval must submit the following:
1. Product data, including test data from qualified independent testing agency indicating compliance with requirements.
 2. Samples of each component of product specified.
 3. List of successful installations of similar products available for evaluation by Architect.
 4. Submit substitution request not less than 15 days prior to bid date.
- B. Source Limitations: Obtain each type of plumbing fixture and compatible accessories through one source from a single approved manufacturer.
- C. Accessibility Requirements: Comply with requirements of ADA/ABA and with requirements of authorities having jurisdiction.
- D. Water Flow and Consumption Requirements: Comply with Public Law 102-486 "Energy Policy Act."
- E. Drinking Water Standard: Comply with NSF 61, "Drinking Water System Components – Health Effects," where applicable.
- F. Electrical Components: Listed and labeled per NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- G. Certificate: Provide certificate indicated that solid surface material has been certified under the following GREENGUARD programs, or a comparable certification acceptable to Owner:
1. Indoor Air Quality Certified.
 2. Certified for Children and Schools.

1.8 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship within the following periods:
1. Solid surfacing material: 10 years.
 2. Faucets: 1 year.
 3. Photovoltaic power management module: 5 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide all-in-one commercial lavatory units manufactured by Bradley Corporation, Menomonee Falls, WI 53051, (800)272-3539, fax (262)251-5817; Email info@BradleyCorp.com; Website www.bradleycorp.com.

Specifier: Retain one of three paragraphs below based upon Project requirements. The manufacturer is not aware of comparable manufactured products.

1. Submit comparable products of one of the following for approval by Architect:
 - a. [Specifier: Insert name of manufacturer of comparable product.]
2. Submit requests for substitution in accordance with Instructions to Bidders and Division 01 General Requirements.
3. Provide specified product; Owner will not consider substitution requests.

B. MATERIALS

Specifier: Bradley's Advocate lavatories are formed from Bradley's own premium vandal-resistant densified solid surface material noted for its resistance to chemicals, stains, burns and impacts. Surface damage can be easily repaired with everyday cleansers or fine grit abrasives. First option below describes Bradley Terreon, and second describes Terreon RE, a densified solid surface material composed of a bio-based resin and preconsumer recycled granules.

- C. Lavatory Deck and Bowl Material: Fabricate lavatory units from [thermoset acrylic modified polyester resin] [bio-based resin and preconsumer recycled granules] certified by approved independent testing agency as complying with ANSI/ICPA-SS-1-2001, ANSI Z124.3, and ANSI Z124.6, with the following minimum properties:
 1. Basis of Design Product: **Bradley, [Terreon] [Terreon RE]** or a comparable product fabricated from one of the following materials:
 - a. DuPont, Corian Products.
 - b. Wilsonart International, Inc., Gibraltar Products.
 2. Thickness: 1/2 inch (13 mm), minimum.
 3. Liquid Absorption: 0.025 percent in 24 hours, per ASTM D 570.
 4. Tensile Strength: 5000 psi (34 MPa), minimum, per ASTM D 638.
 5. Thermal Expansion: 2.30, per ASTM D 696.
 6. Hardness: 55-60, per ASTM D 785.
 7. Fire Resistance: Class 1, per ASTM E 84.

2.2 LAVATORY UNITS

- A. Lavatory: Wall-mounted lavatory formed from molded solid surface material with integral circular bowl, with stainless steel wall mounting cabinet and solid surface material shelf, built-in faucet, and hand dryer.
 1. Basis of Design Manufacturer/Model: **Bradley, Advocate LA Series.**

Specifier: Option in subparagraph below specifies Bradley's TerreonRE recycled solid surface material product.

2. Bowl and Deck Material: Solid surface material [with minimum 25 percent preconsumer recycled content and 8 percent bio-based resins].
3. Cabinet Construction: Type 300 stainless steel cabinet with 16 gauge stainless steel mounting channels and 12 gauge basin support.
4. Faucet: Built-in, sensor-operated, vandal-resistant low profile faucet.
 - a. Flow Rate: Not greater than 0.38 gpm (1.44 L/min).
 - b. Solenoid Valve: 24 V, 50/60 Hz, 1/8 inch NPT, electronically-activated.

Specifier: Retain thermostatic mixing valve if required for Project; coordinate with Schedule below.

- 1) Thermostatic Mixing Valve: Thermostatic mixing valve, ASSE 1070 listed, with stop/strainer/check valves, and flexible stainless steel connectors.

- c. Activation Controls: Low-voltage sensor using a zone-focused conical infrared transmitting beam and timed turn-off delay. Adaptive infrared sensor automatically adapts to bowl after powering up.

Specifier: Retain activation control power supply type(s) required for Project; coordinate with Schedule below.

- 1) Power Pack: Class II, UL,CSA-listed 110/24 VAC plug-in transformer.
 - 2) Battery Pack: 6 VDC lithium battery.
 - 3) Photovoltaic Power Management Module: Stores and provides power to sensors and solenoid. PV cells embedded in lavatory unit top cover.
5. Hand Dryer: Low energy unit integrated into lavatory deck.
- a. Noise level: 80 db.
 - b. Run Time: 20 seconds.
 - c. Blower volume: 50 cfm
 - d. Power Supply: Voltage: 110 VAC, 650 W, 5.4 A.

Specifier: Retain soap dispenser if required for Project; coordinate with Schedule below.

6. Soap Dispenser: Horizontally-mounted pump style valve, integrated into lavatory basin, with integral check valve, and compatible with typical one-gallon soap bottles, accessible from top of unit.

Specifier: Retain one, two, or three paragraphs below describing matching accessory units compatible with Advocate lavatory units; coordinate with Schedule below.

B. Waste Receptacle Accessory Unit

1. Basis of Design manufacturer/model: **Bradley #LA-15, option E.**
2. Description: Wall-mounted stainless steel cabinet with solid surface cover, mounted on stainless steel channels.
3. Capacity: 7 g (26.5 L) impact-resistant PVC liner.
4. Size: 15 inch wide by 25-1/2 inch high by 8 inch deep (381 mm wide by 648 mm high by 203 mm deep).

C. Towel Dispenser Accessory Unit

1. Basis of Design manufacturer/model: **Bradley #LA-15, option D.**
2. Description: Wall-mounted stainless steel cabinet and solid surface cover mounted on stainless steel channels.
3. Towel: 9 inch (229 mm) wide by 9 inch (229 mm) diameter paper towel roll.
4. Size: 15 inch wide by 25-1/2 inch high by 15-1/2 inch deep (381 mm wide by 648 mm high by 394 mm deep).

D. Storage Cabinet Accessory Unit

1. Basis of Design manufacturer/model: **Bradley #LA-15, option F.**
2. Description: Wall-mounted stainless steel cabinet with two stainless steel shelves and solid surface material cover, mounted on stainless steel channels.
3. Storage Capacity: 2.4 cu. ft. (0.068 cu. m).
4. Size: 15 inch wide by 25-1/2 inch high by 15-1/2 inch deep (381 mm wide by 648 mm high by 394 mm deep).

2.3 LAVATORY SCHEDULE, SINGLE STATION

A. Single-Station Lavatory Fixture **LAV#_LA30__**:

1. Unit Length: 30-5/8 inch (778 mm).
2. Bowl Construction: [Solid surface material] [Recycled solid surface material].

3. Cabinet Construction: [Satin stainless steel] [Textured stainless steel].
4. Faucet Sensor Power Source: [Power pack] [Battery] [Photovoltaic cells].
5. Soap Dispenser: [Included] [None].
6. Water Supply: [Single tempered line] [Thermostatic mixing valve assembly].
7. Color: [As selected by Architect from manufacturer's full line] <Insert color>.
8. Configuration, Left to Right:
 - a. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - b. Accessory Module: None.

B. Single-Station Lavatory Fixture **LAV# LA45_**:

1. Unit Length: 45-5/8 inch (1159 mm).
2. Bowl Construction: [Solid surface material] [Recycled solid surface material].
3. Cabinet Construction: [Satin stainless steel] [Textured stainless steel].
4. Faucet Sensor Power Source: [Power pack] [Battery] [Photovoltaic cells].
5. Soap Dispenser: [Included] [None].
6. Water Supply: [Single tempered line] [Thermostatic mixing valve assembly].
7. Color: [As selected by Architect from manufacturer's full line] <Insert color>.

Specifier: Delete unneeded subparagraph(s) below to describe left-to-right configuration of wash station, and then select options required. Delete if shown on Drawings.

8. Configuration, Left to Right:
 - a. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].
 - b. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - c. Accessory Unit: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].

C. Single-Station Lavatory Fixture **LAV# LA60_**:

1. Unit Length: 60-5/8 inch (1540 mm).
2. Bowl Construction: [Solid surface material] [Recycled solid surface material].
3. Cabinet Construction: [Satin stainless steel] [Textured stainless steel].
4. Faucet Sensor Power Source: [Power pack] [Battery] [Photovoltaic cells].
5. Soap Dispenser: [Included] [None].
6. Water Supply: [Single tempered line] [Thermostatic mixing valve assembly].
7. Color: [As selected by Architect from manufacturer's full line] <Insert color>.
8. Configuration, Left to Right:
 - a. Accessory Unit: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].
 - b. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - c. Accessory Unit: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].

2.4 LAVATORY SCHEDULE, MULTIPLE STATION

A. Dual-Station Lavatory Fixture **LAV# LA60_**:

1. Unit Length: 60-5/8 inch (1540 mm).
2. Bowl Construction: [Solid surface material] [Recycled solid surface material].
3. Cabinet Construction: [Satin stainless steel] [Textured stainless steel].
4. Faucet Sensor Power Source: [Power pack] [Battery] [Photovoltaic cells].
5. Soap Dispenser: [Included] [None].
6. Water Supply: [Single tempered line] [Thermostatic mixing valve assembly].
7. Color: [As selected by Architect from manufacturer's full line] <Insert color>.
8. Configuration, Left to Right:

- a. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
- b. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].

B. Dual-Station Lavatory Fixture **LAV#_LA75_**:

- 1. Unit Length: 75-5/8 inch (1921 mm).
- 2. Bowl Construction: [Solid surface material] [Recycled solid surface material].
- 3. Cabinet Construction: [Satin stainless steel] [Textured stainless steel].
- 4. Faucet Sensor Power Source: [Power pack] [Battery] [Photovoltaic cells].
- 5. Soap Dispenser: [Included] [None].
- 6. Water Supply: [Single tempered line] [Thermostatic mixing valve assembly].
- 7. Color: [As selected by Architect from manufacturer's full line] <Insert color>.

Specifier: Delete unneeded subparagraph(s) below to describe left-to-right configuration of wash station, and then select options required. Delete if shown on Drawings.

- 8. Configuration, Left to Right:
 - a. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].
 - b. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - c. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].
 - d. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - e. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].

C. Multiple-Station Lavatory Fixture **LAV#_LA90_**:

- 1. Unit Length: 90-5/8 inch (2302 mm).
- 2. Bowl Construction: [Solid surface material] [Recycled solid surface material].
- 3. Cabinet Construction: [Satin stainless steel] [Textured stainless steel].
- 4. Faucet Sensor Power Source: [Battery] [Photovoltaic cells].
- 5. Soap Dispenser: [Included] [None].
- 6. Water Supply: [Single tempered line] [Thermostatic mixing valve assembly].
- 7. Color: [As selected by Architect from manufacturer's full line] <Insert color>.

Specifier: Delete unneeded subparagraph(s) below to describe left-to-right configuration of wash station, and then select options required. Delete if shown on Drawings.

- 8. Configuration, Left to Right:
 - a. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].
 - b. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - c. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].
 - d. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].
 - e. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - f. Lavatory, Rim Mounting Height: [34 inch (864 mm)] [31 inch (787 mm)] [28 inch (711 mm)].
 - g. Accessory Module: [Towel Dispenser] [Waste Receptacle] [Storage Cabinet].

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Assemble fixtures and associated fittings and trim in accordance with manufacturer's instructions.
- B. Install fixture supports firmly attached to building structure.
- C. Install fixtures level, plumb, and in accordance with manufacturer's rough-in instructions.
- D. Install water supply piping. Provide stop on each supply in readily-serviceable location. Fasten supply piping to supports or substrate.
- E. Install trap and waste piping to each fixture.
- F. Install escutcheons at exposed piping penetrations in finished locations and within cabinets.
- G. Seal joints between fixtures and walls, floors, and countertops with mildew-resistant silicone sealant meeting requirements in Division 07 Section "Joint Sealants."

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. Install new batteries in battery-operated devices at time of Substantial Completion.
- D. Turn over keys, tools, maintenance instructions, and maintenance stock to Owner.
- E. Protect units with water-resistant temporary covering. Do not allow temporary use of plumbing fixtures. Remove protection at Substantial Completion and dispose.

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.

END OF SECTION