

SECTION 224000 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Related Sections include the following:
 - 1. Division 22 Section "Common Work Results for Plumbing"
 - 2. Section 221116 - Domestic Water Piping: Material and installation of piping systems, valves, and piping specialties.

1.2 SUMMARY

- A. Plumbing Fixtures
- B. Emergency Plumbing Fixtures.

1.3 SUBMITTALS

- A. Product Data: Include selected fixture and trim, fittings, accessories, appliances, appurtenances, equipment, and supports and indicate materials and finishes, dimensions, construction details, and flow-control rates for each type of fixture indicated.
- B. Maintenance Data: For plumbing fixtures to include in maintenance manuals specified in Division 1.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain plumbing fixtures, faucets, and other components of each category through one source from a single manufacturer. Exception: If fixtures, faucets, or other components are not available from a single manufacturer, obtain similar products from other manufacturers specified for that category.
- B. Comply with the UPC 2009 edition, subject to the exclusions and amendments set forth by the Maine Plumbers Examining Board.
- 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"; about plumbing fixtures for people with disabilities.

- D. Regulatory Requirements: Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.
- E. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.
- F. Water line components shall be lead-free.

1.5 COORDINATION

- A. Coordinate roughing-in and final plumbing fixture locations, and verify that fixtures can be installed to comply with original design and referenced standards.

PART 2 - PRODUCTS

2.1 GENERAL

A. Common Plumbing Fixture Requirements

1. Fixtures shall be water conservation type in accordance with local, state, and federal requirements.
2. Vitreous china, nonabsorbent, hard-burned, and vitrified throughout the body shall be provided. Porcelain enameled ware shall have specially selected, acid-resisting enamel coating evenly applied on surfaces. No fixture will be accepted that shows cracks, crazes, blisters, thin spots, or other flaws.
3. Fixture color shall be white except as specified herein.
4. Provide combinations of fixtures and trim, faucets, fittings, and other components that are compatible.
5. Fixtures shall be equipped with appurtenances such as traps, faucets, stop valves, and drain fittings.
6. Each fixture and piece of equipment requiring connections to the drainage system, except grease interceptors, shall be equipped with a trap.
7. Brass expansion or toggle bolts capped with acorn nuts shall be provided for supports, and polished chromium-plated pipe, valves, and fittings shall be provided where exposed to view.
8. Fixtures with the supply discharge below the rim shall be equipped with backflow preventers.
9. Fixture supports for off-the-floor fixtures shall be of the chair-carrier type. The carrier shall provide the necessary means of mounting the fixture, with a foot or feet to anchor the assembly to the floor slab. Adjustability shall be provided to locate the fixture at the desired height and in proper relation to the wall. Support plates, in lieu of chair carrier, shall be fastened to the wall structure only where it is not possible to anchor a floor-mounted chair carrier to the floor slab.
10. Provide access panels to concealed valves and components. All components shall have proper access in accordance with manufactures' recommendations. Refer to Section 220500.
11. Mounting heights: Refer to Architectural Plans.

2.2 FLUSH VALVE WATER CLOSETS – P-1

A. Manufacturers

1. Gerber
2. American Standard, Inc.
3. Kohler Co.
4. Sloan
5. Toto
6. Zurn

- B. Water Closet: Kohler K-4368, floor-mount top spud flush valve water closet, ADA, elongated; white vitreous china; 1.6 GPF.
- C. Flush Valve: Zurn Z6000AV; exposed, ADA, 1.6GPF.
- D. Seat: Kohler K-4731 elongated open front; with antimicrobial agent.

2.3 LAVATORIES – P-2

A. Lavatory Manufacturers:

1. Zurn
2. American Standard
3. Kohler
4. Toto

- B. Lavatory: Kohler K-2005 wall mount, ADA, 21.25"x18.125", white,
- C. Faucet: Zurn Z81000-3M single control faucet, ADA lever handle, 0.5GPM
- D. Trim: Zurn Z8743 solid top, open grid drain, with 1-1/4" tailpiece; Zurn Z8701 P-trap, Zurn Z8808LRLK angle stop with flexible lavatory supply; Truebro LavGuard2 ADA waste and supply covers.

2.4 EMERGENCY PLUMBING FIXTURES

A. Manufacturers

1. Bradley Corporation
2. Encon Safety Products
3. Guardian Equipment Co.
4. Haws Corporation.
5. Speakman Co.
6. Chicago Faucets

- B. ANSI Standard: Comply with ANSI Z358.1-1998, "Emergency Eyewash and Shower Equipment." 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.

- C. Eyewash: Acorn Safety Model S0706-BFP, handheld, counter mounted, eye/face wash and body spray.



- D. Mixing Valve: Leonard TA-3000-IT, ASSE 1071 certified; inlet thermometers. The Emergency eye/face wash Mixing Valve shall control and maintain the temperature of the water to the station. Unit shall be self contained and include a thermostatic water mixing valve, a dial thermometer on the outlet, angle checkstops, wall mounting bracket, piping and fittings factory assembled and tested, top or bottom inlets and top outlet, unit set for 85°F and a maximum temperature of 90°F. Unit must be able to be set to the correct temperature for the specific contaminant but must be locked in place to prevent changing of the temperature by accident. Unit must be checked weekly for performance in conjunction with the requirements of ANSI Z-358.1. Unit shall be able to flow a minimum flow of 4 GPM at 30 PSI.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in for water soil and for waste piping systems and supports to verify actual locations and sizes of piping connections and that locations and types of supports match those indicated, before plumbing fixture installation. Use manufacturer's roughing-in data if roughing-in data are not indicated.
- B. Examine walls, floors, and cabinets for suitable conditions where fixtures are to be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FIXTURE INSTALLATION - GENERAL

- A. Assemble and support fixtures, trim, fittings, and other components according to manufacturers' written instructions.
- B. Install fixtures level and plumb according to manufacturers' written instructions and roughing-in drawings.
- C. Install water-supply piping with stop on each supply to each fixture to be connected to water distribution piping. Attach supplies to supports or substrate within pipe spaces behind fixtures. Install stops in locations where they can be easily reached for operation.
- D. Install traps on fixture outlets as required.
- E. Install escutcheons at piping wall ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding fittings. Refer to Division 22 Section "Common Work Results for Plumbing" for escutcheons.
- F. Seal joints between fixtures and walls, floors, and counters using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color.

3.3 WATER CLOSETS

- A. Install flushometer valves for accessible water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for people with disabilities to reach.

3.4 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Use chrome-plated brass or copper tube, fittings, and valves in locations exposed to view. Plain copper tube, fittings, and valves may be used in concealed locations.
- C. Supply and Waste Connections to Plumbing Fixtures: Connect fixtures with water supplies, stops, risers, traps, and waste piping. Use size fittings required to match fixtures. Connect to plumbing piping.

3.5 FIELD QUALITY CONTROL

- A. Verify that installed fixtures are categories and types specified for locations where installed.
- B. Check that fixtures are complete with trim, faucets, fittings, and other specified components.
- C. Inspect installed fixtures for damage. Replace damaged fixtures and components.

- D. Test installed fixtures after water systems are pressurized for proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.

3.6 ADJUSTING

- A. Operate and adjust fixtures. Replace damaged and malfunctioning fixtures.
- B. Adjust water pressure to produce proper flow and stream.
- C. Emergency plumbing fixtures: adjust to approximately 85°F temperature.
- D. Replace washers and seals of leaking and dripping faucets and stops.

3.7 CLEANING

- A. After completing fixture installation, inspect unit. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.
- B. Clean fixtures and other fittings with manufacturers' recommended cleaning methods and materials. Remove faucet spouts and strainers, remove sediment and debris, and reinstall strainers and spouts. Remove sediment and debris from drains.
- C. Clean fixtures, on completion of installation, according to manufacturer's written instructions.

3.8 PROTECTION

- A. Provide protective covering for installed fixtures and fittings.
- B. Do not allow use of fixtures for temporary facilities unless allowed in Division 1.

END OF SECTION 224000