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SECTION 224300 - HEALTHCARE PLUMBING FIXTURES

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes:

Bedpan washers.

Supply fittings.

Waste fittings.

Grout.

* + - * 1. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 224100 "Residential Plumbing Fixtures" for residential plumbing fixtures for use in healthcare facilities, but not requiring special healthcare fixture attributes.

Section 224213.13 "Commercial Water Closets" for conventional water closets, flushometer valves, carriers, and seats for use healthcare facilities, but not requiring special healthcare fixture attributes.

Section 224213.16 "Commercial Urinals" for urinals for use in healthcare facilities.

Section 224216.13 "Commercial Lavatories" for lavatories for use in healthcare facilities, but not requiring special healthcare fixture attributes.

Section 224216.16 "Commercial Sinks" for sinks for use in healthcare facilities, but not requiring special healthcare fixture attributes.

Section 224200 "Commercial Plumbing Fixtures" for showers for use in healthcare facilities, but not requiring special healthcare fixture attributes.

Section 224500 "Emergency Plumbing Fixtures" for emergency showers and eye-wash units.

* + - 1. ACTION SUBMITTALS

Action submittals are submittals requiring responsive action and return of reviewed documents to Contractor.

* + - * 1. Product Data: For each type of product.

Construction details, material descriptions, dimensions of individual components and profiles, and finishes for fixtures.

Rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

Retain "Shop Drawings" Paragraph below if fixtures or equipment includes wiring.

* + - * 1. Shop Drawings: Diagrams for power, signal, and control wiring.
      1. CLOSEOUT SUBMITTALS
         1. Operation and Maintenance Data: For plumbing fixtures and faucets.

In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

Servicing and adjustments of [**flushometer valves**] [**electronic sensors**] [**healthcare bathing units**] [**bedpan washer/sanitizers**] [**hydrotherapy whirlpools**] [**and**] [**morgue equipment**].

* + - 1. MAINTENANCE MATERIAL SUBMITTALS

See Section 017700 "Closeout Procedures" for submission of maintenance material items.

* + - * 1. Extra Stock Material: Furnish extra materials to Owner that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Faucet Washers and O-Rings: Equal to [**10**] <**Insert number**> percent of amount of each type and size installed.

Faucet Cartridges and O-Rings: Equal to [**5**] <**Insert number**> percent of amount of each type and size installed.

Flushometer-Valve Repair Kits: Equal to [**10**] <**Insert number**> percent of amount of each type installed, but no fewer than [**one**] [**six**] <**Insert number**> of each type.

Toilet Seats: Equal to [**5**] <**Insert number**> percent of amount of each type installed.

1. PRODUCTS
   * + 1. SOURCE LIMITATIONS
          1. Obtain each product type from single manufacturer.
       2. PERFORMANCE REQUIREMENTS
          1. Comply with ASME A112.19.2/CSA B45.1 for vitreous-china plumbing fixtures.
          2. Comply with ASME A112.19.3/CSA B45.4 for stainless steel plumbing fixtures.
          3. Comply with ASSE 1037/ASME A112.1037/CSA B125.37 for flush valves.
          4. Comply with ASME A112.19.5/CSA B45.15 for flush valves and spuds for water closets.
          5. Comply with ASME A112.18.1/CSA B125.1 for plumbing supply fittings.
          6. Comply with ASME A112.18.2/CSA B125.2 for plumbing waste fittings.
          7. Comply with IAPMO Z124.5 for water-closet (toilet) seats.
          8. Comply with ASME A112.6.1M for plumbing fixture supports.
          9. Comply with ASSE 1016/ASME A112.1016/CSA B125.16 for shower valves.
          10. Comply with ICC A117.1 for ADA-compliant, accessible plumbing fixtures and installation.
          11. Comply with ASTM A1045 for flexible PVC gaskets used in connection of vitreous-china water closets to sanitary drainage systems.
          12. Comply with ASME A112.4.3 for plastic fittings used in connection of vitreous-china water closets to sanitary drainage systems.
          13. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

The U.S. Safe Drinking Water Act (SDWA) has required national compliance with less than or equal to 0.25 percent weighted average lead content at wetted surfaces for pipe, fittings, and devices intended to convey or dispense water for human consumption since January 2014. The IPC and the UPC have the same requirements. Items in compliance with NSF 61/NSF 372 also meet this requirement. Some manufacturers choose to meet this requirement through independent testing and have "Certified Lead Free" products which may or may not have NSF 61/NSF 372 certification.

* + - * 1. Faucets and bubblers intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act (SDWA), with requirements of the Authority Having Jurisdiction (AHJ), and with NSF 61/NSF 372 or are certified in compliance with NSF 61/NSF 372 by an ANSI-accredited third-party certification body, that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent.
      1. BEDPAN WASHERS

See "Flushometer Valves" Article for flushometer-valve-mounted bedpan washers.

Copy "Bedpan Washers, Wall Mounted" Paragraph below and re-edit for each type of wall-mounted bedpan washer required.

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

* + - * 1. Bedpan Washers, Wall Mounted: <**Insert drawing designation**>.

Retain "Basis-of-Design Product" Subparagraph and list of manufacturers below to identify a specific product or a comparable product from manufacturers listed.

Basis-of-Design Product: Subject to compliance with requirements, provide **Zurn Industries, LLC; Z85500-WM-EVB-HK-SE-SH-VC** or comparable product by one of the following:

<**Insert manufacturer's name**>

Hose Assembly: [**48-inch-**] <**Insert dimension**> long, rubber or vinyl hose with self-closing, handheld spray nozzle, wall bracket, and hook.

Vacuum Breaker: ASSE 1001, atmospheric, wall mounted.

Shutoff Valve: Wall-mounted, [**cross-handle**] [**foot pedal valve**] <**Insert type**> supply stop upstream of vacuum breaker.

Connecting Piping: Concealed.

Finish: Polished chrome-plated finish on exposed metal parts.

Supply Connection: [**NPS 1/2**] <**Insert size**>.

* + - 1. SUPPLY FITTINGS
         1. Supply Piping: Chrome-plated brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated brass or stainless steel wall flange.
         2. Supply Stops: Chrome-plated brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.

Retain "Wheel handle" option in "Operation" Paragraph below for one-quarter-turn, ball-type stops.

* + - * 1. Operation: [**Loose key**] [**Wheel handle**] <**Insert type**>.
        2. Risers: NPS 1/2 [**chrome-plated, rigid-copper pipe and brass straight or offset tailpieces**] [**chrome-plated, soft-copper flexible tube**] [**ASME A112.18.6, braided or corrugated stainless steel, flexible hose**].
      1. WASTE FITTINGS
         1. Drain: [**Grid**] <**Insert type**> with NPS 1-1/2 tailpiece.
         2. Trap:

Size: NPS 1-1/2.

Material:

Retain one of two subparagraphs below.

Chrome-plated, [**two-piece, cast-brass trap and swivel elbow with 0.032-inch- thick, brass tube to wall**] [**two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- thick, brass tube to wall**] [**one-piece, cast-brass trap with swivel 0.029-inch- thick, tubular brass wall bend**] <**Insert trap type**>; and chrome-plated brass or steel wall flange.

Stainless steel, two-piece trap and swivel elbow with 0.012-inch- thick, stainless steel tube to wall; and stainless steel wall flange.

* + - 1. GROUT
         1. Characteristics: Nonshrink; recommended for interior and exterior applications.
         2. Design Mix: 5000 psi, 28-day compressive strength.
         3. Packaging: Premixed and factory packaged.

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine roughing-in for water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before fixture installation.
          2. Examine walls, floors, cabinets, and counters for suitable conditions where fixtures will be installed.
          3. Proceed with installation only after unsatisfactory conditions have been corrected.
       2. INSTALLATION OF HEALTHCARE PLUMBING FIXTURES
          1. Install healthcare plumbing fixtures level and plumb in accordance with rough-in drawings.
          2. Install supports, affixed to building substrate, for wall-mounted fixtures.

Use carrier supports with waste fitting and seal for back-outlet fixtures.

Use carrier supports without waste fitting for fixtures with tubular waste piping.

Use chair-type carrier supports with rectangular steel uprights for accessible fixtures.

* + - * 1. Install floor-mounted healthcare water closets on bowl-to-drain, connecting fitting attachments to piping or building substrate.

First paragraph below applies to counter-mounted fixtures such as sinks.

* + - * 1. Install counter-mounted fixtures in, and attached to, casework.
        2. 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.

Exception for use of ball or gate valve if supply stops are not specified with fixture. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."

* + - * 1. Install flushometer valves on healthcare water closets.
        2. Install flushometer valves for accessible healthcare water closets, with lever handle mounted on wide side of compartment.
        3. Install toilet seats on healthcare water closets.
        4. Install faucet flow-control fittings with specified flow rates and patterns in faucet spouts, if faucets are not available with required rates and patterns. Include adapters if required.
        5. Install laminar-flow, faucet-spout fittings in faucet spouts where laminar-flow fittings are specified.
        6. Install shower flow-control fittings with specified maximum flow rates in shower arms.
        7. Install traps on fixture outlets.

Exception for omission of trap on fixtures with integral traps.

* + - * 1. Set healthcare showers in leveling bed of cement grout.

Coordinate first paragraph below with Drawings. Indicate on Drawings those fixtures and sinks that are required to be accessible.

* + - * 1. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 220719 "Plumbing Piping Insulation."
        2. Seal joints between healthcare plumbing fixtures, counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."
        3. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220500 "Common Work Results for Plumbing."
      1. PIPING CONNECTIONS

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

* + - * 1. Connect fixtures with water supplies, stops, and risers and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
        2. Comply with requirements for water piping specified in Section 221116 "Domestic Water Piping."
        3. Comply with requirements for soil and waste drainage piping[ **and vent piping**] specified in Section 221316 "Sanitary Waste and Vent Piping."
        4. Comply with requirements for atmospheric vent piping specified in Section 221316 "Sanitary Waste and Vent Piping."
        5. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 220719 "Plumbing Piping Insulation."
      1. ELECTRICAL CONNECTIONS

Retain this article when hard-wired water control valves and/or flushometer valves are included in Project.

* + - * 1. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
        2. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."
        3. Install electrical devices furnished by manufacturer, but not factory mounted in accordance with NFPA 70.
        4. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

Retain one of two subparagraphs below. First subparagraph cross-references Section 260553 "Identification for Electrical Systems" and should be retained for consistent electrical identification. Second subparagraph is an abbreviated version of the product specified in Section 260553 "Identification for Electrical Systems."

Nameplate to be laminated acrylic or melamine plastic signs, as specified in Section 260553 "Identification for Electrical Systems."

Nameplate to be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least [**1/2 inch**] <**Insert dimension**> high.

* + - 1. ADJUSTING
         1. Operate and adjust faucets and controls. Replace damaged and malfunctioning healthcare plumbing fixtures, fittings, and controls.
         2. Adjust water pressure at [**faucets**] [**and**] [**flushometer valves**] to produce proper flow.
         3. Install fresh batteries in battery-powered, electronic-sensor mechanisms.
      2. CLEANING AND PROTECTION
         1. After installing healthcare plumbing fixtures, inspect and repair damaged finishes.
         2. Clean healthcare plumbing fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
         3. Provide protective covering for installed fixtures and fittings.
         4. Do not allow use of healthcare plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 224300