

SECTION 22 40 00
PLUMBING FIXTURES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Plumbing fixtures, associated trim and fittings necessary to make a complete installation from wall or floor connections to rough piping, and certain accessories.

1.2 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. Architectural Barriers Act (ABA) Standards (Latest)
- C. The American Society of Mechanical Engineers (ASME):
 - A112.6.1M-1997 (R2012)..Supports for Off-the-Floor Plumbing Fixtures
for Public Use
 - A112.18.1-2011.....Plumbing supply fittings
 - A112.18.3-(R2012).....Backflow Protection Devices and Systems in
Plumbing Fixture Fittings
 - A112.19.1-2013.....Enameled Cast Iron and Enameled Steel Plumbing
Fixtures
 - A112.19.2-2013.....Ceramic Plumbing Fixtures
 - A112.19.3-2008.....Stainless Steel Plumbing Fixtures
 - A112.19.5-2011.....Flush Valves and Spuds for Water Closets,
Urinals, and Tanks
- D. American Society for Testing and Materials (ASTM):
 - A276-2013a.....Standard Specification for Stainless Steel Bars
and Shapes
 - B584-2008.....Standard Specification for Copper Alloy Sand
Castings for General Applications
- E. CSA Group:
 - B45.4-2008 (R2013).....Stainless Steel Plumbing Fixtures
- F. International Code Council (ICC):
 - IPC-2015.....International Plumbing Code
- G. National Association of Architectural Metal Manufacturers (NAAMM):
 - AMP 500-2006.....Metal Finishes Manual

1.3 SUBMITTALS

- A. Manufacturer's Literature and Data including: Full item description and optional features and accessories. Include dimensions, weights, materials, applications, standard compliance, model numbers, size, and capacity.

PART 2 - PRODUCTS**2.1 STAINLESS STEEL**

- A. Corrosion-resistant Steel (CRS):
 - 1. Plate, Sheet and Strip: CRS flat products shall conform to chemical composition requirements of any 300 series steel specified in ASTM A276.
 - 2. Finish: Exposed surfaces shall have standard polish (ground and polished) equal to NAAMM finish Number 4.
- B. Die-cast zinc alloy products are prohibited.

2.2 STOPS

- A. Provide lock-shield loose key or screw driver pattern angle stops, straight stops or stops integral with faucet, with each compression type faucet whether specifically called for or not. Locate stops centrally below fixture in an accessible location. Shield or locate stops and piping to prevent contact with human legs on wheelchair in accordance with ABAAS
- B. Furnish keys for lock shield stops to the COR.
- C. Supply from stops not integral with faucet shall be chrome plated copper flexible tubing or flexible stainless steel with inner core of non-toxic polymer.
- D. Supply pipe from wall to valve stop shall be rigid threaded IPS copper alloy pipe, i.e. red brass pipe nipple, chrome plated where exposed.

2.3 ESCUTCHEONS

- A. Heavy type, chrome plated, with set screws. Provide for piping serving plumbing fixtures and at each wall, ceiling and floor penetrations in exposed finished locations and within cabinets and millwork.

2.4 LAMINAR FLOW CONTROL DEVICE

- A. Smooth, bright stainless steel or satin finish, chrome plated metal laminar flow device shall provide non-aeration, clear, coherent laminar flow that will not splash in basin. Device shall also have a flow control restrictor and have vandal resistant housing. Aerators are prohibited.

B. Flow Control Restrictor:

1. Capable of restricting flow from 0.5 gpm to 1.5 gpm for lavatories.
2. Compensates for pressure fluctuation maintaining flow rate specified above within 10 percent between 25 psig and 80 psig.
3. Operates by expansion and contraction, eliminates mineral/sediment build-up with self-cleaning action, and is capable of easy manual cleaning.

2.5 CARRIERS

- A. ASME A112.6.1M, lavatory shall be capable of supporting the lavatory with a 250-pound vertical load applied at the front of the fixture.

2.6 WATER CLOSETS

- A. (P-103) Water Closet (Wall Hung, ASME A112.19.2) office and industrial, elongated bowl, siphon jet 1.6 gallons) per flush, wall outlet. Top of seat shall be 18 inches above finished floor.
 1. Seat: Institutional/Industrial, extra heavy duty, chemical resistant, solid plastic, open front less cover for elongated bowls, integrally molded bumpers, concealed check hinge with stainless steel post. Seat shall be posture contoured body design. Color shall be white.
 2. Fittings and Accessories: Gaskets-neoprene; bolts with chromium plated caps nuts and washers and carrier.
 3. Flush valve: Large chloramines resistant diaphragm, semi-red brass valve body, exposed chrome plated, battery powered active infra-red sensor for automatic operation with courtesy flush button for manual operation, 1 inch screwdriver back check angle stop with vandal resistant cap, adjustable tailpiece, a high back pressure vacuum breaker, spud coupling for 40 mm (1-1/2 inches) top spud, wall and spud flanges, solid-ring pipe support, and sweat solder adapter with cover tube and set screw wall flange. Valve body, cover, tailpiece and control stop shall be in conformance with ASTM alloy classification for semi-red brass. Seat bumpers shall be integral part of flush valve. Set centerline of inlet 292 mm (11-1/2 inches) above seat.

2.7 URINALS

- A. (P-201) Urinal (Wall Hung, ASME A112.19.2) bowl with integral flush distribution, wall to front of flare 343 mm (13.5 inches) minimum. Wall hung with integral trap, siphon jet flushing action 1.9 L (0.5 gallons)

per flush with 50 mm (2 inches) back outlet and 20 mm (3/4 inch) top inlet spud.

1. Support urinal with chair carrier and install with rim 600 mm (24 inches) above finished floor.
2. Flushing Device: Large chloramines resistant diaphragm, semi-red brass body, exposed flush valve battery powered, active infrared sensor for automatic operation, non-hold open, water saver design, solid-ring pipe support, and 20 mm (3/4 inch) capped screwdriver angle stop valve. Set centerline of inlet 292 mm (11-1/2 inches) above urinal. Valve body, cover, tailpiece, and control stop shall be in conformance with ASTM alloy classification for semi-red brass.

2.8 LAVATORIES

- A. (P-408) Lavatory (ASME A112.19.2) straight back, approximately 457 mm by 381 mm (18 inches by 15 inches) and a 102 mm (4 inches) maximum apron, first quality vitreous china. Punching for faucet on 102 mm (4 inches) centers. Support lavatory to wall with steel wall plate. Set with rim 864 mm (34 inches) above finished floor:
 1. Faucet: Solid cast brass construction with washerless ceramic disc mixing cartridge type and centrally exposed rigid gooseneck spout with outlet 127-152 mm (5-6 inches) above rim. Provide laminar flow control device. One hundred two millimeters (4-inch) wrist blade type handles on faucets shall be cast, formed or drop forged copper alloy. Faucet, wall and floor escutcheons shall be either copper alloy or CRS. Exposed metal parts, including exposed part under valve handle when in open position, shall be chrome plated with a smooth bright finish.
 2. Drain: Cast or wrought brass with flat grid strainer and offset tailpiece, chrome plated finish.
 3. Stops: Angle type. See paragraph "Stops".
 4. Trap: Cast copper alloy, 38 mm by 32 mm (1 1/2 inches by 1 1/4 inches) P-trap. Adjustable with connected elbow and 1.4 mm thick (17 gauge) tubing extension to wall. Exposed metal trap surface, and connection hardware shall be chrome plated with a smooth bright finish. Set trap parallel to wall.
 5. Provide cover for exposed piping, drain, stops and trap per A.D.A.

3.0 CLEANING

B. At completion of all work, fixtures, exposed materials and equipment shall be thoroughly cleaned.

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