

SECTION 22 4000 - PLUMBING FIXTURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work include providing new plumbing fixtures and related work.
- B. Fixtures include:
 - 1. Water closets.
 - 2. Urinals.
 - 3. Lavatories.
 - 4. Sinks.
 - 5. Service sinks and mop receptors.
 - 6. Electric water coolers.
 - 7. Drinking fountains.
 - 8. Bathtubs.
 - 9. Showers.

1.02 RELATED SECTIONS

- A. Drawings and General Provisions of the Contract apply to this section.

1.03 REFERENCES

- A. ANSI Z124.1 - American National Standard for Plastic Bathtub Units.
- B. ANSI Z124.2 - American National Standard for Plastic Shower Units.
- C. ANSI Z124.1.2 - American National Standard for Plastic Bathtub and Shower Units.
- D. ANSI Z358.1 - American National Standard for Emergency Eyewash and Shower Equipment.
- E. ARI 1010 - Self-Contained, Mechanically-Refrigerated Drinking-Water Coolers; Air-Conditioning and Refrigeration Institute.

- F. ASME A112.6.1M - Supports for Off-the-Floor Plumbing Fixtures for Public Use; The American Society of Mechanical Engineers.
- G. ASME A112.18.1 - Plumbing Supply Fittings; The American Society of Mechanical Engineers.
- H. ASME A112.19.1M - Enameled Cast Iron Plumbing Fixtures; The American Society of Mechanical Engineers.
- I. ASME A112.19.2 - Vitreous China Plumbing Fixtures and Hydraulic Requirements for Water Closets and Urinals; The American Society of Mechanical Engineers.
- J. ASME A112.19.3 - Stainless Steel Plumbing Fixtures (Designed for Residential Use); The American Society of Mechanical Engineers.
- K. ASME A112.19.4M - Porcelain Enameled Formed Steel Plumbing Fixtures; The American Society of Mechanical Engineers.
- L. ASME A112.19.5 - Trim for Water-Closet Bowls, Tanks and Urinals; The American Society of Mechanical Engineers.
- M. ASME A112.19.14 - Six Liter Water Closets Equipped with Dual Flushing Device.

1.04 SUBMITTALS

- A. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
- B. Samples: Submit two sets of color chips for each standard color.
- C. Manufacturer's Instructions: Indicate installation methods and procedures.
- D. Maintenance Data: Include fixture trim exploded view and replacement parts lists.
- E. Waterless Urinals: Submit recommended frequency of maintenance and parts replacement, methods of cleaning, sources of replacement supplies and parts.
- F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.06 REGULATORY REQUIREMENTS

- A. Conform to the requirements of International Plumbing Code.
- B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. or testing firm acceptable to the authority having jurisdiction, as suitable for the purpose specified and indicated.

1.07 MOCK-UP

- A. Provide mock-up of typical bathroom group.
- B. Mock-up may not remain as part of the Work.

1.08 DELIVERY, STORAGE, AND PROTECTION

- A. Accept fixtures on site in factory packaging. Inspect for damage.
- B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.09 WARRANTY

- A. Provide five year manufacturer warranty for electric water cooler.

1.10 EXTRA MATERIALS

- A. Supply two sets of faucet washers, flush valve service kits, shower heads and toilet seats.
- B. Waterless Urinals: Provide one year's worth of replacement trap seal parts or supplies, based on normal, expected use of facility of this type.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Plumbing fixtures shall be provided as indicated on the drawings, and shall be provided complete with all fittings, trim, bolts, caps, plates and hangers suitable for individual mounting requirements. Fixtures shall be of the water-saver type, and shall comply with local plumbing code.
- B. Fixture supplies shall be equipped with stop valves.
- C. Finished installation of plumbing fixtures shall present a neat, finished and uniform appearance. All fixtures, trimmings, fittings and accessories shall be finished with parts true to form, properly fitted, and of materials free from defects.

- D. Hot water shall be supplied and controlled at the left, and cold water at the right where both hot and cold water are supplied to fixtures through separate or combination fittings.
- E. Protection of fixtures, materials and equipment shall be exercised at all times during delivery, storage and handling. Fixtures and equipment shall be tightly covered and protected against dirt, water and chemical or mechanical injury.

2.02 PLUMBING FIXTURES

- A. Refer to schedule on the drawings.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.
- B. Verify that electric power is available and of the correct characteristics.
- C. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

3.02 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.03 INSTALLATION

- A. Install each fixture with trap, easily removable for servicing and cleaning.
- B. Provide chrome plated rigid or flexible supplies to fixtures with loose key or screwdriver stops, reducers, and escutcheons.
- C. Install components level and plumb.
- D. Install and secure fixtures in place with wall supports or wall carriers and bolts.
- E. Seal fixtures to wall and floor surfaces with sealant, color to match fixture.
- F. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

3.04 INTERFACE WITH WORK OF OTHER SECTIONS

- A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.05 ADJUSTING

- A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.06 CLEANING AND PROTECTION

- A. Clean plumbing fixtures and equipment.
- B. Do not permit use of fixtures.

3.07 SCHEDULES

- A. Fixture Heights: Install fixtures to heights above finished floor as indicated.

- 1. Water Closet:

- a. Standard: 15 inches to top of bowl rim.
- b. Accessible: 18 inches to top of seat.

- 2. Water Closet Flush Valves:

- a. Standard: 11 inches min. above bowl rim.
- b. Recessed: 10 inches min. above bowl rim.

- 3. Urinal:

- a. Standard: 22 inches to top of bowl rim.
- b. Accessible: 17 inches to top of bowl rim.

- 4. Lavatory:

- a. Standard: 31 inches to top of basin rim.
- b. Accessible: 34 inches to top of basin rim.

5. Shower Heads:

- a. Adult Male: 69.5 inches to bottom of head.
- b. Adult Female: 64.5 inches to bottom of head.
- c. Child: 58.5 inches to bottom of head.

END OF SECTION 22 4000