

SECTION 220519
PLUMBING SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cleanouts.
- B. Backflow preventers.
- C. Water hammer arresters.
- D. Interceptors.
- E. Thermostatic mixing valves.
- F. Catch basins and manholes.

1.2 RELATED SECTIONS

- A. Division 01 - Summary of Work: Product requirements for Owner furnished equipment.
- B. Section 22 11 16 - Plumbing Piping.
- C. Section 22 34 36 - Plumbing Equipment.
- D. Section 22 40 00 - Plumbing Fixtures.
- E. Section 26 05 05 - Equipment Wiring Systems: Electrical characteristics and wiring connections.

1.3 REFERENCES

- A. ASME A112.26.1 - Water Hammer Arresters.
- B. ASSE 1012 - Backflow Preventers with Immediate Atmospheric Vent.
- C. ASSE 1013 - Backflow Preventers, Reduced Pressure Principle.
- D. ASTM C478 - Precast Reinforced Concrete Manhole Sections.
- E. AWWA C506 - Backflow Prevention Devices - Reduced Pressure Principle and Double Check Valve Types.
- F. PDI G-101 - Testing and Rating Procedure for Grease Interceptors with Appendix of Sizing and Installation Data.
- G. PDI WH-201 Water Hammer Arresters.

1.4 SUBMITTALS FOR REVIEW

- A. Division 01- Submittals: Procedures for submittals.
- B. Product Data: Provide component sizes, rough-in requirements, service sizes, and finishes.

- C. Shop Drawings: Indicate dimensions, weights, and placement of openings and holes.
- D. Manufacturer's Instructions: Indicate assembly and support requirements.

1.5 SUBMITTALS AT PROJECT CLOSEOUT

- A. Division 01 - Contract Closeout: Procedures for submittals.
- B. Project Record Documents: Record actual locations of equipment, cleanouts, backflow preventers and water hammer arresters.
- C. Operation Data: Indicate frequency of treatment required for interceptors.
- D. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with a minimum of three (3) years' experience.

1.7 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver, store, protect, and handle products to site under the provisions of Section 22 05 00.
- B. Accept specialties on site in original factory packaging. Inspect for damage.

PART 2 PRODUCTS

2.1 CLEANOUTS

- A. Manufacturers:
 - 1. J. R. Smith.
 - 2. Other acceptable manufacturers offering equivalent products.
 - a) Josam.
 - b) Wade.
 - c) Zurn.
 - d) MiFab.
 - e) Watts.
- B. Exterior Surfaced Area: Round cast nickel bronze access frame and non-skid cover; Model 4225 manufactured by J. R. Smith.
- C. Exterior Unsurfaced Areas: Line type with lacquered cast iron body and round epoxy coated gasketed cover; Model 4285 manufactured by J. R. Smith.
- D. Interior Finished Floor Areas: Cast-iron, two-piece body with double drainage flange, weep holes and adjustable nickel-bronze strainer, round with scoriated cover in service areas and with depressed cover to accept floor finish in finished floor area.
 - 1. Finished Concrete Floor: J. R. Smith 4025.
 - 2. Carpeted Floors: J. R. Smith 4025-Y.
 - 3. Ceramic or Quarry Tile Floors: J. R. Smith 4045.
 - 4. Vinyl Tile Floor: J. R. Smith 4145.
- E. Interior Finished Wall Areas: Line type with lacquered cast iron body and round epoxy coated gasketed cover, and round stainless-steel access cover secured with machine screw; Model 4530 manufactured by J. R. Smith.

2.2 BACKFLOW PREVENTERS (REDUCED PRESSURE PRINCIPLE)

- A. Manufacturers:
 - 1. Watts Model 909.
 - 2. Other acceptable manufacturers offering equivalent products.
 - a) Febco Model 825.
 - b) Wilkins Model 975.
 - c) Hersey Model FRP2/GLM.
- B. Reduced Pressure Backflow Preventers: ANSI/ASSE 1013, AWWA C506; bronze body with bronze and plastic internal parts and stainless-steel springs; two independently operating, spring loaded check valves; diaphragm type differential pressure relief valve located between check valves; third check valve which opens under back pressure in case of diaphragm failure; non-threaded vent outlet; assembled with two gate valves, strainer, and four test cocks.

2.3 BACKFLOW PREVENTERS (DOUBLE CHECK ASSEMBLIES)

- A. Manufacturers:
 - 1. Watts Model 774 DCDA OSY.
 - 2. Ames Model C-300N.
 - 3. Febco Model 856.
 - 4. Wilkins Model 4350 DA.
 - 5. Hersey Model DDC-II.
- B. Double Check Valve Assemblies: ANSI/ASSE 1012, AWWA C506; 300 Series stainless steel body with corrosion resistant internal parts and stainless-steel springs; two independently operating check valves with intermediate atmospheric vent, 5-1/8" x 3/4" bronze meter, horizontal or vertical upflow position.

2.4 WATER HAMMER ARRESTERS

- A. Manufacturers:
 - 1. J. R. Smith.
 - 2. Other acceptable manufacturers offering equivalent products.
 - a) Sioux Chief.
 - b) Zurn.
 - c) Josam.
 - d) Precision Plumbing Products.
 - e) Watts.
- B. ANSI A112.26.1; sized in accordance with PDI WH-201, pre-charged suitable for operation in temperature range -100 to 300 degrees F and maximum 250-psig working pressure; J. R. Smith Figure 5000.

2.5 THERMOSTATIC MIXING VALVES

- A. Manufacturers:
 - 1. Holby.
 - 2. Other acceptable manufacturers offering equivalent products.
 - a) Symmons.
 - b) Powers.
- B. Accessories:
 - 1. Check valve on inlets.
 - 2. Volume control shut-off valve on outlet.
 - 3. Stem thermometer on outlet.

4. Strainer stop checks on inlets.

C. Cabinet: 16 gage prime coated steel, for recessed mounting with keyed lock.

PART 3 EXECUTION

3.1 PREPARATION

A. Coordinate cutting and forming of roof and floor construction to receive drains to required invert elevations.

3.2 INSTALLATION

A. Install in accordance with the manufacturer's instructions.

B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.

C. Encase exterior cleanouts in concrete flush with grade.

D. Install floor cleanouts at elevation to accommodate finished floor.

E. Install approved potable water protection devices on plumbing lines where contamination of domestic water may occur; on boiler feed water lines, janitor rooms, fire sprinkler systems, premise isolation, irrigation systems, flush valves, interior and exterior hose bibbs.

F. Pipe relief from backflow preventer to nearest drain.

G. Install water hammer arresters complete with accessible isolation valve on supply piping to flush valves, washing machines, dishwashers, and all quick closing valves.

H. Install air chambers on hot and cold-water supply piping to each fixture or group of fixtures (each washroom). Fabricate same size as supply pipe or 3/4 inch minimum, and minimum 18 inches long.

END OF SECTION