

SECTION 15430 - PLUMBING SPECIALTIES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes plumbing specialties for the following:
 - 1. Water distribution systems.
 - 2. Soil, waste, and vent systems.
- B. Related Sections include the following:
 - 1. Division 1 Section "Closeout Procedures" for operations and maintenance manual requirements.
 - 2. Division 7 Section "Sheet Metal Flashing and Trim" for flashing of piping passing through roofs with counterflashing or commercially made flashing.
 - 3. Division 15 Section "Basic Mechanical Materials and Methods" for piping joining materials, joint construction, basic installation requirements, and labeling and identifying requirements; and escutcheons, dielectric fittings, sleeves, and sleeve seals that are not in this Section.
 - 4. Division 15 Section "Valves" for general-duty ball, check, and globe valves.
 - 5. Division 15 Section "Water Distribution Piping" for water-supply piping and connection.
 - 6. Division 15 Section "Sanitary Waste and Vent Piping" for drainage and vent piping and connections.

1.03 SYSTEM PERFORMANCE REQUIREMENTS

- A. Provide components and installation capable of producing piping systems with following minimum working-pressure ratings, unless otherwise indicated:
 - 1. Water Distribution Piping: 125 psig.
 - 2. Soil, Waste, and Vent Piping: 10-foot head of water.

1.04 SUBMITTALS

- A. Product Data: For each plumbing specialty indicated. Include rated capacities of selected equipment and shipping, installed, and operating weights. Indicate materials, finishes, dimensions, required clearances, and methods of assembly of components; and piping and wiring connections for the following plumbing specialty products:
 - 1. Water tempering valves.
 - 2. Hose bibbs.
 - 3. Washing machine boxes.
 - 4. Cleanouts.
 - 5. Vent caps, vent terminals, and roof flashing assemblies.
- B. Reports: Specified in "Field Quality Control" Article.
- C. Maintenance Data: For specialties to include in the maintenance manuals specified in Division 1. Include the following:
 - 1. Water tempering valves.
 - 2. Hose bibbs.
 - 3. Washing machine boxes.

1.05 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, dimensional requirements, and characteristics of plumbing specialties and are based on the specific types and models indicated. Other manufacturers' products with equal performance characteristics may be considered. Refer to Division 1 Section "Substitutions."
- B. Provide listing/approval stamp, label, or other marking on plumbing specialties made to specified standards.
- C. Listing and Labeling: Provide electrically operated plumbing specialties specified in this Section that are listed and labeled.
 - 1. Terms "Listed" and "Labeled": As defined in National Electrical Code, Article 100.
 - 2. Listing and Labeling Agency Qualifications: "Nationally Recognized Testing Laboratory" as defined in OSHA Regulation 1910.7.
- D. Comply with ASME B31.9, "Building Services Piping," for materials, products, and installation.
- E. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic potable-water piping components. Include marking "NSF-pw" on plastic potable-water piping and "NSF-dwv" on plastic drain, waste, and vent piping.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Provide products by the following:
 - 1. Water Tempering Valves (substitutions not allowed):
 - a. Honeywell-Sparco
 - 2. Washing Machine Boxes:
 - a. Guy Gray Manufacturing Co., Inc.
 - 3. Hose bibbs:
 - a. JR Smith
 - b. Woodford
 - c. Zurn Industries, Inc.
 - 4. Potable Water Expansion Tanks
 - a. Amtrol, Inc.
 - b. State Industries
 - c. Taco
 - 5. Roof Flashing Assemblies (substitutions not allowed):
 - a. Elmdor/Stoneman Manufacturing Co.

2.02 WATER TEMPERING VALVES

- A. General: Manually adjustable, thermostatically controlled water tempering valve; bronze body; and adjustable temperature setting.
- B. System Water Tempering Valves: Piston or discs controlling both hot- and cold-water flow, capable of limited antiscald protection. Include threaded inlets and outlet; set temperature at 120 deg. F.
 - 1. Finish: Rough bronze.
- C. Limited-Volume, Water Tempering Valves: Solder-joint inlets and 3/4-inch NPS inlets and outlet.
- D. Manufacturer and Model: Sparco "Aquamix" AM101C.

2.03 WASHING MACHINE BOXES

- A. General: Recessed-mounting outlet boxes with fittings complying with ASME A112.18.1M. Include box with faceplate, services indicated for equipment connections, and wood-blocking reinforcement.
- B. Clothes Washer Outlet Boxes: With hose connections, drain, and the following:
 - 1. Box and Faceplate: 16 Ga. Steel with baked enamel finish.
 - 2. Shutoff Fittings: 2 hose bibbs.
 - 3. Drain Fitting: 2-inch NPS drainage piping P-trap with 2-inch NPS standpipe extending from floor to outlet box and 2-inch NPS waste.
 - 4. Guy Gray Model B150 with all metal accessories and bronze valves or approved equal.

2.04 POTABLE WATER EXPANSION TANKS

- A. IAMPO approved; steel tank with liner; butyl diaphragm; 150 psi at 200 deg. F; air charging valve; 3/4-inch MPT water connection.

2.05 MISCELLANEOUS PIPING SPECIALTIES

- A. Hose Bibbs: Freezeproof with bronze body, with renewable composition disc, 1/2-inch NPS threaded or solder-joint inlet. Provide ASME B1.20.7 garden-hose threads on outlet and integral or field-installed, nonremovable, drainable, hose-connection vacuum breaker. J.R. Smith #5609 QT or approved equal.
 - 1. Finish: Rough brass.
 - 2. Operation: Key.
- B. Roof Flashing Assemblies: Manufactured assembly made of 4-lb/sq. ft., 0.0625-inch-thick, lead flashing collar and skirt extending at least 8 inches from pipe with galvanized steel boot reinforcement, and counterflashing fitting.
 - 1. Vent Cap: Open top, without cap.
- C. Stack Flashing Fittings: Counterflashing-type, cast-iron fitting, with bottom recess for terminating roof membrane, and with threaded or hub top for extending vent pipe.

2.06 FLASHING MATERIALS

- A. Lead Sheet: ASTM B 749, Type L51121, copper bearing, with the following minimum weights and thicknesses, unless otherwise indicated:
 - 1. General Use: 4 lb/sq. ft. or 0.0625-inch thickness.
 - 2. Vent Pipe Flashing: 3 lb/sq. ft. or 0.0469-inch thickness.
 - 3. Burning: 6 lb/sq. ft. or 0.0937-inch thickness.
- B. Copper Sheet: ASTM B 152, of the following minimum weights and thicknesses, unless otherwise indicated:
 - 1. General Applications: 12 oz./sq. ft..
 - 2. Vent Pipe Flashing: 8 oz./sq. ft..
- C. Fasteners: Metal compatible with material and substrate being fastened.
- D. Metal Accessories: Sheet metal strips, clamps, anchoring devices, and similar accessory units required for installation; matching or compatible with material being installed.
- E. Solder: ASTM B 32, NSF approved, lead-free alloy.
- F. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic.

PART 3 EXECUTION

3.01 PLUMBING SPECIALTY INSTALLATION

- A. General: Install plumbing specialty components, connections, and devices according to manufacturer's written instructions.
- B. Install hose bibbs with integral vacuum breaker.
- C. Install cleanouts in aboveground piping and building drain piping, according to the following:
 - 1. Size same as drainage piping up to 4-inch NPS. Use 4-inch NPS for larger drainage piping unless larger cleanout is indicated.
 - 2. Locate at each change in direction of piping greater than 45 degrees.
 - 3. Locate at minimum intervals of 50 feet for piping 4-inch NPS and smaller and 100 feet for larger piping.
 - 4. Locate at base of each vertical soil and waste stack.
- D. Install vent flashing sleeves on stacks passing through roof. Secure over stack flashing according to manufacturer's written instructions.
- E. Fasten wall-hanging plumbing specialties securely to supports attached to building substrate if supports are specified and to building wall construction if no support is indicated.
- F. Fasten recessed, wall-mounting plumbing specialties to reinforcement built into walls.
- G. Secure supplies to supports or substrate.
- H. Install individual stop valve in each water supply to plumbing specialties. Use ball valve if specific valve is not indicated.
- I. Install water-supply stop valves in accessible locations.
- J. Install traps on plumbing specialty drain outlets.
- K. Locate drainage piping as close as possible to bottom of floor slab supporting fixtures and drains.
- L. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipe fittings.
- M. Include wood-blocking reinforcement for recessed and wall-mounting plumbing specialties.

3.02 CONNECTIONS

- A. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate general arrangement of piping, fittings, and specialties. The following are specific connection requirements:
 - 1. Install piping connections between plumbing specialties and piping specified in other Division 15 Sections.
 - 2. Install piping connections indicated between appliances and equipment specified in other Sections; connect directly to plumbing piping systems.
 - 3. Install piping connections indicated as indirect wastes from appliances and equipment specified in other Sections, to spill over receptors connected to plumbing piping systems.

- B. Supply Runouts to Plumbing Specialties: Install hot- and cold-water-supply piping of sizes indicated.
- C. Drainage Runouts to Plumbing Specialties: Install drainage and vent piping, with approved trap, of sizes indicated.

3.03 FLASHING INSTALLATION

- A. Fabricate flashing manufactured from single piece.
- B. Burn joints of lead sheets where required.
- C. Solder joints of copper sheets where required.
- D. Set flashing on floors and roofs in solid coating of bituminous cement.
- E. Secure flashing into sleeve and specialty clamping ring or device.
- F. Install flashing for piping passing through roofs with counterflashing or commercially made flashing fittings, according to Division 7 Section "Sheet Metal Flashing and Trim."
- G. Extend flashing up vent pipe passing through roofs and turn down into pipe, or secure flashing into cast-iron sleeve having calking recess.

3.04 COMMISSIONING

- A. Before startup, perform the following checks:
 - 1. System tests are complete.
 - 2. Damaged and defective specialties and accessories have been replaced or repaired.
 - 3. Clear space is provided for servicing specialties.
- B. Before operating systems, perform the following steps:
 - 1. Close drain valves and hose bibbs.
 - 2. Open general-duty valves to fully open position.
 - 3. Verify that drainage and vent piping are clear of obstructions. Flush with water until clear.
- C. Adjust operation and correct deficiencies discovered during commissioning.

3.05 DEMONSTRATION

- A. Startup Services: Engage a factory-authorized service representative to perform startup services and train Owner's maintenance personnel as specified below:
 - 1. Review data in the maintenance manuals. Refer to Division 1 Section "Closeout Procedures."
 - 2. Schedule training with Owner with at least 7 days' advance notice.

3.06 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 15430