

SECTION 15410

PLUMBING PIPING

1 PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe and pipe fittings.
- B. Valves.
- C. Domestic water piping system.
- D. Hot water heating system.
- D. Natural gas piping system.

1.02 REFERENCES

- A. ANSI B31.1 – Power Piping.
- B. ANSI B31.2 – Fuel Gas Piping.
- C. ANSI B31.9 - Building Service Piping.
- D. ASME – Boiler and Pressure Vessel Code.
- E. ASME Sec. 9 – Welding and Brazing Qualifications.
- F. ASME B16.1 – Cast Iron Pipe Flanges and Flanged Fittings Class 25, 125, 250 and 800.
- G. ASME B16.3 - Malleable Iron Threaded Fittings.
- H. ASME B16.4 - Cast Iron Threaded Fittings Class 125 and 250.
- I. ASME B16.18 - Cast Bronze Solder-Joint Pressure Fittings.
- J. ASTM A74 – Ferritic Malleable Iron Castings.
- K. ASTM A53 – Pipe, steel, black and hot-dipped zinc coated, welding and seamless.
- L. ASTM A120 – Pipe, steel, black and hot-dipped zinc coated (Galvanized), welded and seamless, for ordinary uses.

- M. ASTM A234 – Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
- N. NCPWB – Procedure Specifications for Pipe Welding.
- O. NFPA 54 – National Fuel Gas Code.

1.03 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide data on pipe materials, pipefittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

1.04 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 01700.
- B. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.05 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.
- B. Welding Materials and Procedures: Conform to ASME Code.
- C. Welders Certification: In accordance with NCPWB Standard Procedure Specifications.
- D. Maintain a copy of each document on site.

1.06 QUALIFICATIONS

- A. Manufacturer: Company specializing in performing the work of this section with minimum 5 years documented experience.
- B. Installer: Company specializing in performing the work of this section with minimum 5 years documented experience.

1.07 REGULATORY REQUIREMENTS

- A. Perform Work in accordance with State of Louisiana plumbing code.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.02 Provide and install pipe, fittings, and valves to match the existing type, quality and quantity of the existing system.

2.02 GATE VALVES

- A. Up to and including 2 Inches (50 mm): Bronze body, bronze trim, non-rising stem, handwheel, inside screw, double wedge or disc, threaded ends.
- B. Over 2 inches (50 mm): Iron body, bronze trim, rising stem, handwheel, OS&Y.

2.03 GLOBE VALVES

- A. Up to and including 2 Inches (50 mm): Bronze body, bronze trim, rising stem, handwheel, inside screw, renewable composition disc, screwed ends, with back seating capacity (repackable under pressure)
- B. Over 2 Inches (50 mm): Iron body, bronze trim, rising stem, handwheel, OS&Y, plug-type disc, flanged ends, renewable seat and disc.

2.04 BALL VALVES

- A. Up to and including 2 Inches (50 mm): Stainless steel one piece body, chrome plated steel ball, Teflon seats and stuffing box ring, lever handle and balancing stops, threaded ends with union.

2.05 PLUG VALVES

- A. Up to and including 2 Inches (50 mm): Bronze body, bronze tapered plug, non-lubricated, Teflon packing, threaded ends.
- B. Over 2 Inches (50 mm): Cast iron body and plug, non-lubricated, Teflon packing,

flanged ends.

PART 3 EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.
- D. Plug all existing pipe systems while system is open for renovation.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- C. Route piping in orderly manner and maintain gradient.
- D. Install piping to conserve building space and not interfere with use of space.
- E. Group piping whenever practical at common elevations.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- G. Provide clearance for installation of insulation and access to valves and fittings.
- H. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- I. Provide support for utility meters in accordance with requirements of utility companies.
- J. Prepare pipe, fittings, supports, and accessories not prefinished, ready for finish painting. Refer to Section 09900.
- K. Pipe vents from gas pressure reducing valves to outdoors and terminate in weather proof hood.

3.03 APPLICATION

- A. Install unions downstream of valves and at equipment or apparatus connections.
- B. Install brass male adapters each side of valves in copper piped system. Sweat solder adapters to pipe.
- C. Install gate or ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- D. Install ball valves for throttling, bypass, or manual flow control services
- E. Provide spring loaded check valves on discharge of water pumps.
- F. Provide plug valves in Natural gas systems for shut-off services.
- G. Provide flow controls in water recirculating systems where indicated.

3.04 ERECTION TOLERANCES

- A. Establish invert elevations, slopes for drainage to 1/8 inch per foot (2 percent) minimum. Maintain gradients.
- B. Slope water piping and arrange to drain at low points.

END OF SECTION