

## **SECTION 15410 - PLUMBING PIPING**

### **City of San Diego, CWP Guidelines**

#### **PART 1 -- GENERAL**

##### **1.1 WORK OF THIS SECTION**

- A. The WORK of this Section includes providing plumbing systems with piping, supports, drains, and vent pipes (if any) for gas, vacuum, air, cold and hot water, and laboratory piping, and rainwater leaders.

##### **1.2 RELATED SECTIONS**

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

- 1. Section 15000 Piping Components
- 2. Section 15010 Mill Piping - Exposed and Buried
- 3. Section 15015 PVC Pressure Pipe
- 4. Section 15020 Pipe Supports
- 5. Section 15030 Pipe Identification Systems
- 6. Section 15250 Pipe and Equipment Insulation
- 7. Section 15430 Plumbing Specialties
- 8. Section 15440 Plumbing Fixtures
- 9. Section 15450 Water Heaters

##### **1.3 CODES**

- A. The WORK of this Section shall comply with the current editions of the following codes as adopted by the City of San Diego Municipal Code:

- 1. Uniform Plumbing Code

##### **1.4 SHOP DRAWINGS AND SAMPLES**

- A. The following shall be submitted in compliance with Section 01300:

- 1. Shop drawings of plumbing systems.

#### **PART 2 -- PRODUCTS**

##### **2.1 GENERAL**

- A. Plumbing piping and products shall be new and manufactured for the intended usage.

##### **2.2 BUILDING PIPING**

- A. Except as otherwise indicated, piping materials used for plumbing systems within buildings shall comply with Section 15010 and as follows:

Service	Materials
Drains (except lab and chemical drains)	Drains 2 inches and smaller shall be Schedule 40 galvanized steel pipe (black steel pipe where buried) conforming to ASTM A 53, with cast-iron taper threaded drainage fittings conforming to ANSI B16.12. Drains 2½ inches and larger shall be service weight cast-iron soil pipe conforming to ASTM A 74.
Vents (except lab and chemical vents)	Vents 2 inches and smaller shall be Schedule 40 galvanized steel pipe (black steel pipe where buried) conforming to ASTM A 53 with cast-iron taper threaded drainage fittings conforming to ANSI B16.12. Vents 2½ inches and larger shall be service weight cast-iron soil pipe conforming to ASTM A 74.
Rain water leaders	Rain water leaders above floor slabs shall be Schedule 40 galvanized steel pipe conforming to ASTM A 53, with galvanized screwed cast-iron drainage fittings, conforming to ANSI B16.12. At the CONTRACTOR's option, grooved end pipe and fittings may be used. Piping under floor slabs shall be service weight cast-iron soil pipe, conforming to ASTM A 74.
Lab and chemical drains and vents	Drains and vents shall be corrosion-resistant (high silicon content) cast-iron pipe conforming to ASTM A 518, or tempered borosilicate glass pipe conforming to ASTM C 599 with protective jacket, where concealed or buried; or Schedule 40 polypropylene pipe with heat fused socket joints.
Piping for cold and hot water, and laboratory air and vacuum	Unless otherwise shown, piping shall be Type K copper tube conforming to ASTM B 88 with soldered joints to 2-inch size. Piping 2½ inches and larger shall be schedule 40 galvanized steel pipe (black steel pipe for hot water) conforming to ASTM A 53, with grooved-end pipe fittings.
Piping for oxygen, nitrogen, nitrous oxide, hydrogen, helium and argon	Piping shall be Type K copper tube conforming to ASTM B 88 with silver solder joints.
Acetylene piping	Piping shall be Schedule 40 stainless steel

	pipe, conforming to ASTM A 312.
Hydraulic fluid piping	Piping shall be Schedule 80 seamless black steel pipe conforming to ASTM A106 or A53 with welded joints, where not otherwise provided by equipment manufacturer.
Liquid petroleum gas piping	Piping shall be Schedule 80 black steel pipe, conforming to ASTM A 53 or A 106.
Natural gas piping	Piping shall be Schedule 40 black steel pipe conforming to ASTM A 53.
Demineralized-water piping	Piping shall be Schedule 80 PVC pipe conforming to ASTM D 1785.

### **PART 3 -- EXECUTION**

#### **3.1 GENERAL**

- A. Piping shall be properly graded complying with the Uniform Plumbing Code, and shall be securely supported with pipe brackets and insulating strips installed to prevent transmission of noise.
- B. Drain valves shall be installed at low points of water systems. Drip legs shall be installed at low points of gas and air piping.
- C. Hot water piping shall be insulated in accordance with Section 15250.
- D. Shut-off valves shall be installed in accessible locations or in cast-iron valve boxes with extension and cover in water and gas mains entering buildings or structures, and in branch mains to groups of fixtures.
- E. Piping shall be tested in accordance with the Uniform Plumbing Code.
- F. Piping shall be installed in accordance with the manufacturer's installation instructions and Sections 15000 and 15010.

**\*\* END OF SECTION \*\***