

SPECIFICATIONS - DETAILED PROVISIONS
Section 15064 - Plastic (PVC) Pressure Water Pipe & Fittings

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SECTION 15064
PLASTIC (PVC) PRESSURE WATER PIPE & FITTINGS

PART 1 - GENERAL

1.01 REQUIREMENT

It is required that the Contractor shall furnish, deliver, unload and string along the trench site, all pipe and material as hereinafter described in the specifications. All fabrication, workmanship, material and testing of pipe shall conform to the latest revision of the specifications.

1.02 DELIVERY

- A. Transport, deliver, unload, store and handle all materials in a manner to prevent damage to the materials or the work.
- B. All damaged, broken or otherwise defective materials will be rejected.
- C. Store all circular rubber gaskets and special lubricants in packaged materials with the manufacturer's name, brand and all other applicable data plainly marked thereon.

1.03 QUALITY ASSURANCE

Unless otherwise specified, all work specified herein and as shown on the drawings shall conform to the applicable requirements of the latest revision of the following standards. Unless specifically stated otherwise, the most stringent requirement will govern when there is a conflict.

- A. AWWA C-900. American Water Works Association (AWWA) C-900 standard for polyvinyl chloride (PVC) pressure pipe 4 inches through 60 inches for water.
- B. Any pipe showing discoloration, chaulking, checking or other visible damage due to ultraviolet light exposure shall not be accepted by the District.

1.04 MEASUREMENT AND PAYMENT

Payment for pipe shall be made on a unit price basis per lineal foot of pipe.

PART 2 - PRODUCTS AND MATERIALS

2.01 TYPE OF PVC PIPE

PVC pipe and fabricated fittings shall be made from virgin PVC resin that has been compounded to provide physical and chemical properties that equal or exceed cell class 12454 as defined in ASTM D1784 providing a hydrostatic design basis (HDB) of 4000 p.s.i. in accordance to AWWA C-900. Pipe shall have cast iron outside diameters.

All rubber rings shall be furnished by the pipe manufacturer. These rubber rings (elastomeric gaskets) shall be manufactured to conform with the requirements of ASTM F-477.

2.02 PIPE CLASS OR WORKING PRESSURE

AWWA C-900 PVC pipe shall be Pressure Class 235 and shall have a Dimension Ratio of 18.0 (DR-18).

2.03 TYPE OF FITTING

Fittings for PVC pipe shall be flanged or bolted mechanical joint or push-on joint ductile or gray iron fittings and shall conform to ANSI/AWWA C110/A21.10 or C153/A21.53, and ANSI/AWWA C111/A21.11. All fittings shall be cement mortar lined and tar (seal) coated in accordance with ANSI/AWWA C104/A21.4.

2.04 RESTRAINED SYSTEM

Restrained Joints shall be provided by a clamping ring and an additional ring designed to seat on the bell end of the pipe. The rings shall be connected with T-Head bolts or rods. Restraining devices shall provide full (360 degree) support around the circumference of the pipe. No point loading shall be permitted. Restraint of mechanical joint fittings shall be provided by a clamping ring installed on the PVC pipe and connected to the mechanical joint fitting with T-Head bolts or rods. Restraining devices shall meet or exceed the requirements of ASTM F-1674 or UNI-Bell B-13 "Recommended Standard Performance Specification for Joint Restrainers for Use with PVC Pipe." Restraining devices shall be UNI-Flange Series 1300 or 1350 or approved equal.

All buried steel parts shall be sand blasted in accordance with the coating manufacturer's technical data sheet for "submerged" service and coated with a two coat epoxy. Epoxy shall be Tnemac Series 66 or equal. All bolts and tie rod materials shall be either high strength cast iron containing a minimum of 0.5% copper or high-strength, low alloy steel, as specified in AWWA C-111 for buried mechanical joints.

2.05 SERVICE CONNECTION OUTLETS

All service connections to PVC pressure pipe water main shall be constructed with bronze service saddles with CS threads for receiving a bronze corporation stop in accordance with standard drawings. Service saddle shall be Jones, Mueller, or approved equal.

2.06 POLYETHYLENE ENCASEMENT

All ductile or gray iron fittings shall be encased with V-Bio enhanced polyethylene at the time of installation. Polyethylene encasement and installation shall be in accordance with ANSI/AWWA C105.

PART 3 - EXECUTION

3.01 FACTORY TESTING

All pipe shall be tested in the United States in accordance with AWWA C900 and certification of the testing shall be furnished to the engineer upon his request prior to delivery. The engineer may be present during physical testing of pipe.

3.02 INSTALLATION

PVC pipe shall be installed in accordance with Sections 02718 and 02201 of Eastern Municipal Water District Specifications.

END OF SECTION 15064

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