

**Installation Standard  
for  
TRENCHLESS INSERTION OF  
POLYETHYLENE (PE) PIPE FOR SEWER LATERALS**

**IAPMO IS 26 – 2006**

**1.0 SCOPE**

**1.1** This standard shall govern the Trenchless Installation of Polyethylene (PE) pipe for use in sanitary and storm sewers. The installed pipe shall comply with the requirements of the Uniform Plumbing Code (UPC™) published by the International Association of Plumbing and Mechanical Officials (IAPMO) as to grade and connections to existing pipe and shall also comply with this standard.

UPC Uniform Plumbing Code

**2.0 PRODUCT REQUIREMENTS**

**2.1 Minimum Standards  
2.1.1 Materials**

Materials shall comply with the following: The polyethylene pipe used is covered by the ASTM standards listed later in this standard. [UPC 301.1]

*Note: The following sections of the Uniform Plumbing Code apply.*

- 103.5.3 Testing of Systems
- 103.5.4.2 Responsibility
- 103.5.5 Other Inspections
- 103.5.5.1 Defective Systems
- 103.6.2 Other Connections
- 218.0 Definition of PE
- 301.1 Minimum Standards
- 310.0 Workmanship
- 313.0 Protection of Piping, Materials, and Structures
- 315.0 Trenching, Excavation, and Backfill
- 316.2.3 Plastic Pipe to Other Materials
- Chapter 7 Sanitary Drainage
- 701.2 Fittings

**Materials**

HDPE Extra High Molecular Weight 3408 SDR 17 Pipe  
Socket-Type PE Fittings  
for Outside Diameter-Controlled Polyethylene Pipe

*Note: The HDPE 3408 SDR 17 pipe used in this process was selected because of its ability to retain its circular shape even when bent on a 4-foot radius during and after installation.*

**2.1.2 Table 14-1 Standards**

- ASTM D 2239
- ASTM D 2447
- ASTM D 2657
- ASTM D 2683
- ASTM D 3261
- ASTM F 714
- ASTM F 894
- IAPMO PS 25

**2.2 Protection of Pipe**

**ABBREVIATIONS**

- ASTM American Society for Testing Materials
- IAPMO International Association of Plumbing and Mechanical Officials

- 2.2.1 Storage and Handling**  
 Pipe shall be stored in a way to protect it from mechanical damage (slitting, puncturing, etc.). It shall be stored under cover to keep it clean and avoid long term exposure to sunlight. Exposure to sunlight during normal construction periods is not harmful.
- 2.3 Types of Joints.**  
 PE joints shall be made as follows:
- 2.3.1 Molded Rubber Coupling Joints**  
 Molded rubber coupling joints shall be installed in accordance with Appendix I of the UPC and with section 705.1.6.
- 2.3.2 Shielded Coupling Joints**  
 Shielded coupling joints shall be installed in accordance with Appendix I of the UPC and with section 705.1.8.
- 2.3.4 Hubless Cast Iron Pipe Joints**  
 Hubless cast iron pipe joints shall be installed in accordance with Appendix I of the UPC and with section 705.1.9.
- 2.3.5 Heat Fusion Joints.**  
 Heat fusion joints shall be made according to the manufacturer's procedure, installation instructions, and either ASTM D 2659 or ASTM D 3261.
- 2.4 Trenchless Installation of sewers will be as follows:**  
**I. Preliminary Steps**  
 Inspect the inside of the sewer line using a television camera and video tape recorder to ascertain

the line condition. Mark the details revealed by the video inspection including:

1. The ground surface to show the location of the lateral tie of the city wye.
2. The line location with an arrow in the street pointing back at the lateral.
3. The property denoting the lateral location.
4. The locations of the proposed excavations.

Obtain utility line identification service contact information and all applicable permits.

**II. Excavation**

In addition to the above markings, the local utility companies will mark utilities. Considerations are soil density; clearance from obstacles, utilities, and structures; location of bends; and water service locations. Excavations and shoring shall be in accordance with jurisdictional safety requirements.

**III. Set Up**

Fuse the proper length of polyethylene pipe in accordance with ASTM D 2657 or ASTM D 2657 and fuse the end to a small length that is attached to the pulling head. A rod pusher cable is pushed through the damaged host pipe and attached to the pulling cable, which is then drawn through the pipe. The clevis end of the cable is attached to the pulling head. The pulling equipment is then set up according to the manufacturer's instructions.

#### **IV. Pulling**

Pull the pulling head through.  
Once the pull is done,  
complete the connection to  
the existing piping.

#### **2.5 Cleanouts**

Cleanouts shall be installed in  
accordance with UPC section  
707.

#### **2.6 Inspections**

The completed piping shall be  
internally inspected by  
television camera unless  
waived by the Administrative  
Authority. [UPC 103.5]

#### **2.7 Testing**

Completed piping shall be  
subjected to testing in  
accordance with section 712.0  
or 723.0 of the UPC.

**ADOPTED: 1999**

**REVISED: 2002, 2003, 2006**