

of other materials, in line repairs, and manholes. Transition connections to other materials shall be made by adapter fittings or a one-piece molded rubber coupling with appropriate bushings for the respective material. [UPC 705.2]

### 3.2.3 Markings

**3.2.3.1** PSM PVC pipe markings shall be in accordance with ASTM D3034. [UPC 716.0]

**3.2.3.2** PSM PVC fitting markings shall be in accordance with ASTM D3034. [UPC 716.0]

**3.2.3.3** PS-46 PVC pipe markings shall be in accordance with ASTM F789. [UPC 716.0]

**3.2.3.4** PS-46 PVC fitting markings shall be in accordance with ASTM F789. [UPC 716.0]

**3.2.4** PVC sewer pipe shall not be installed less than 1 foot (305 mm) below the surface of the finished grade and closer than twenty-four (24) inches (610 mm) from a building. Underground installation of thermoplastic sewer pipe shall be in accordance with ASTM D2321. [UPC 718.0]

### 3.2.5 Cleanouts

Cleanouts, extended to within 1 foot (305 mm) of grade, shall be of materials listed for such use. [UPC 719.0]

## 3.3 HIGH DENSITY POLYETHYLENE PIPE

### 3.3.1 Minimum Standards

**3.3.1.1** Polyethylene pipe shall be manufactured in accordance with ASTM F714 and installed in accordance with IAPMO IS 26. [UPC 301.1]

### 3.3.2 Types of Joints

**3.3.2.1** HDPE joints shall be made using the following method:

a) Heat Fusion made in accordance with ASTM D2657 or ASTM D3261. [UPC 705.1]

### 3.3.3 Markings

**3.3.3.1** Markings shall be in accordance with ASTM F714. [UPC 716.0]

## 3.4 POLY VINYL CHLORIDE (PVC) CORRUGATED SEWER PIPE WITH A SMOOTH INTERIOR AND FITTINGS

### 3.4.1 Minimum Standards

**3.4.1.1** **Pipe.** Corrugated PVC sewer pipe may be used in sizes four (4) (102 mm), six (6) (152 mm), eight (8) (203 mm) and ten (10) (254 mm) diameters and shall conform to ASTM F949. [UPC 301.1]

The profile wall pipe corrugated PVC sewer pipe as intended for underground use in non-pressure applications for sanitary sewers, storm sewer, and perforated and unperforated pipes for subdrainage. [UPC 301.1]

**3.4.1.2** Fittings shall be PVC or other fittings having equivalent durability or equal or greater

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strengths in accordance with ASTM F949. [UPC 301.1]

**3.4.2 Types and Use of Joints.** Corrugated PVC sewer pipe shall be joined by Molded or Elastomeric Compression Joints or by other approved methods. Elastomeric seals (gaskets) shall meet the requirements of ASTM F477. The lubricant used for assembly shall be as recommended by the seller and shall have no detrimental affect on the gasket or on the pipe and fittings. The PVC cement shall comply with ASTM D2564 and shall be used in conjunction with a primer in compliance with ASTM F656. The solvent cement shall be used only for bushings in accordance with ASTM D2855. [UPC 316.1, 705.1]

### 3.4.3 Markings

**3.4.3.1** Corrugated PVC sewer pipe markings shall be in accordance with ASTM F949. [UPC 716.0]

**3.4.3.2** Corrugated PVC fittings markings shall be in accordance with ASTM F949. [UPC 716.0]

**3.4.4 Protection of Building Sewer.** Corrugated PVC sewer pipe shall not be installed less than 1 foot (305 mm) below the surface of the finished grade and closer than twenty-four (24) inches (610 mm) from a building. Underground installation of thermoplastic sewer pipe shall be in accordance with ASTM D2321. [UPC 718.3]

**3.4.5 Cleanouts.** Cleanouts, extended to within 1 foot (305 mm) of grade, shall be of materials listed for such use. [UPC 719.0]

## 3.5 ASBESTOS CEMENT SEWER PIPE

### 3.5.1 Minimum Standards

Asbestos cement sewer pipe shall be Type II only and may be used only in sizes four (4) inches (102 mm) and larger. Its use is limited to domestic sewage. [UPC 301.1]

**3.5.2** All fittings used with asbestos cement sewer pipe shall be asbestos cement or other approved non-metallic materials having equivalent durability and providing fittings with equal or greater strengths. [UPC 701.2]

**3.5.3** Asbestos cement sewer pipe and male end fittings shall be joined by means of a sleeve coupling and two rubber sealing rings suitable for the particular size of the pipe and fittings for which they will be used. The rubber sealing rings shall be positioned in interior grooves in the coupling.

The assembled joint shall provide the necessary compression of the rubber sealing rings to make a watertight joint. The crush strength across the assembled joint shall be