

## 1909 - POLYVINYL CHLORIDE (PVC) PIPE

### SECTION 1909

#### POLYVINYL CHLORIDE (PVC) PIPE

##### 1909.1 DESCRIPTION

This specification covers polyvinyl chloride pipe (PVC) for storm sewers and culverts.

##### 1909.2 REQUIREMENTS

**a. Polyvinyl Chloride Pipe.** Provide polyvinyl chloride (PVC) for storm sewers and culverts that comply with one of the following:

(1) AASHTO M 304 (Profile Wall Pipe) with the following additions or exceptions:

- Seamless construction will be required; spiral wound pipe will not be allowed.
- ASTM D 1784, Cell Classifications of 12454B or 12454C are acceptable.
- ASTM D 1784, Cell Classification of 12364C will not be allowed.

(2) AASHTO M 278 (Class PS 46 Pipe), ASTM F 679 (PVC Large Diameter Sewer Pipe) with the following additions or exceptions:

- ASTM D 1784, Cell Classifications of 12454B or 12454C are acceptable.
- ASTM D 1784, Cell Classification of 12364C will not be allowed.
- ASTM F 679 Wall Thickness of T-1.

(3) Soil tight joints are required (AASHTO LRFD Bridge Construction Specifications, SECTION 26).

- Maximum opening is 1 inch.
- For openings over 1/8-inch, exceed the channel length by four times the length of the opening. Channel length is the length of the path that the soil must infiltrate.
- The  $D_{85}$  soil size to size of opening ratio must be 0.3 for medium to fine sand and 0.2 for uniform sands.  $D_{85}$  is the sieve size that 85% of the backfill material is smaller than.

**b. End Sections.** Provide culvert end sections that comply with the sizes and dimensions in the Contract Documents. Fabricate end sections from materials that comply with these specifications. Corrugated metal or concrete end sections are also acceptable. Connect dissimilar materials using a soil tight connection approved by the Engineer.

**c. Deflections.** Maximum deflection (reduction of the barrel base inside diameter) is 5%. Measurement will be made using a mandrel or other method as approved by the Engineer not less than 30 days following the installation. Deflections in excess of 5% may require the pipe to be removed and reinstalled, or replaced if permanently deformed or damaged in any way.

##### 1909.3 TEST METHODS

Test materials in accordance with the AASHTO and ASTM standards cited in **subsection 1909.2**.

##### 1909.4 PREQUALIFICATION

None required.

##### 1909.5 BASIS OF ACCEPTANCE

Receipt and approval of a Type B certification as specified in **DIVISION 2600**.

Visual inspection for condition and dimensional requirements.

Successful testing with a mandrel as outlined in **subsection 1909.2d**.