

## 1908 - POLYETHYLENE (PE) PIPE

### SECTION 1908

#### POLYETHYLENE (PE) PIPE

##### 1908.1 DESCRIPTION

This specification covers polyethylene pipe for storm sewers and culverts.

##### 1908.2 REQUIREMENTS

**a. Polyethylene Pipe.** Provide polyethylene (PE) pipe for storm sewers and culverts that complies with one of the following:

(1) AASHTO M 294 (Corrugated Pipe) with the following additions or exceptions:

- Type S, Type SP and Type D are acceptable. (Type C and Type CP will not be accepted.)
- Rotational Molded Pipe will not be accepted.

(2) ASTM F 894 (Ribbed, Profile) with the following additions or exceptions:

- AASHTO LRFD Bridge Design Specifications, SECTION 12, 50 year life requirements.
- Minimum Cell Class per ASTM D 3350 of 334433C or 335434C.
- Minimum section properties as noted in SECTION 12.

(3) ASTM F 714 (Smooth Wall) with the following additions or exceptions:

- A DR of 21 or less will be required.
- AASHTO LRFD Bridge Design Specification, SECTION 12, 50 year life requirements.
- Minimum Cell Class per ASTM D 3350 of 335434C.

(4) 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. Deflection.** 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.

**d.** Provide the same product as prequalified under the AASHTO National Transportation Product Evaluation Program (NTPEP).

##### 1908.3 TEST METHODS

Test materials in accordance with the AASHTO and ASTM standards cited in **subsection 1908.2**.

##### 1908.4 PREQUALIFICATION

Supply samples for prequalification to the AASHTO National Transportation Product Evaluation Program (NTPEP). Forward an official copy of the test report to the Bureau Chief of Materials and Research for evaluation.

## **1908 - POLYETHYLENE (PE) PIPE**

Manufacturers whose products comply with this specification will be placed on a prequalified list. Only provide products that have been prequalified. Manufacturers will remain on the list as long as the results of verification samples and performance in the field are satisfactory. Any changes in formulation will require re-submittal for prequalification testing.

### **1908.5 BASIS OF ACCEPTANCE**

Prequalification as specified in **subsection 1908.4**.

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 1908.2d**.