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An American National Standard

Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Corrugated High Density Polyethylene Pipelines[1,2]

This standard is issued under the fixed designation F2487; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers procedures for testing installed non-perforated, gasketed corrugated high-density polyethylene (HDPE) pipelines using either water infiltration or exfiltration acceptance limits to demonstrate the integrity via the level of leakage of the installed materials, construction procedures and installation qualityvia the level of leakage. Pipe to be tested under this practice shall include corrugated HDPE drainage pipe meeting the requirements of AASHTO M 252, AASHTO M 294 and Specification F2306/F2306M.

NOTE 1—The performance criteria specified in this standard may be used for other plastic pipe products. The engineer, however, must assess if the testing procedures are adequate for the particular material and installation being considered.

NOTE 2—The user of this practice is advised that test criteria presented in this practice are similar to those in general use. Pipe, 600-mm (24-in.) diameter or larger, may be accepted by visual inspection when testing for infiltration.

1.2 The values stated in SI units are to be regarded as the standard. The values in parentheses are mathematical conversions to inch-pounds, which are provided for informational purposes only and are not considered standard.

1.3 This test method shall be performed on lines after all connections and service laterals have been plugged and braced adequately to withstand the test pressures. The time between completion of the backfill operations and testing shall be specified by the approving authority.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. The testing required under this standard necessitates operating in confined spaces. The user must insure that all OSHA and local safety codes are duly observed.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

D3212 Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

F412 Terminology Relating to Plastic Piping Systems

F2306/F2306M Specification for 12 to 60 in. [300 to 1500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications

2.2 *AASHTO Standards*[2]

M 252 Standard Specification for Corrugated Polyethylene Drainage Pipe 75 to 250-mm (3 to 10-inch) Diameter

M 294 Standard Specification for Corrugated Polyethylene Drainage Pipe 300 to 1500-mm (12 to 60-inch) Diameter

3. Terminology

3.1 *Definitions*—For definitions of terms relating to plastic pipe, see Terminology F412.

4. Summary of Practice

4.1 Determine the groundwater conditions surrounding the section of pipeline to be tested and select the type of test to be conducted.

4.2 For the infiltration test, the amount of water leaking into the pipeline is measured, and the rate of infiltration is determined. If the rate is less than or equal to the allowable limit, the section of pipe tested is acceptable.

4.3 For the exfiltration test, the pipeline is filled with water to the specified test head and the rate of water loss is determined. If the rate is less than or equal to the allowable limit, the section of pipe tested is acceptable.

5. Significance and Use

5.1 This is not a routine test. The values recorded are applicable only to the pipe being tested and at the time of testing.

[1] This practice is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.20 on Joining.

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[2] Available from American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., NW, Suite 249, Washington, DC 20001, http://www.transportation.org.

[3] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.