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An American National Standard

Standard Specification for Corrugated High Density Polyethylene (HDPE) Grease Interceptor Tanks[1]

This standard is issued under the fixed designation F2649; 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 specification covers material, design, structural performance, and manufacturing practice requirements for monolithic or sectional corrugated polyethylene grease interceptor tanks with volumes equal to or greater than 333 gal (1,260 L).

1.2 The corrugated high density polyethylene (HDPE) grease interceptor tanks are placed between commercial food service (kitchen) drains and sanitary sewer interceptors to minimize the impact of commercial food service effluent containing grease, oils, soap scum and other typical commercial food service wastes on the sanitary sewer system. Typical sources of commercial kitchen effluent are scullery sinks, pot and pan sinks, dishwashers, soup kettles and floor drains where grease containing materials may exist.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 This specification covers pipe and fittings for horizontally laid corrugated HDPE grease interceptor tanks as illustrated in Fig. 1.

1.5 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D543 Practices for Evaluating the Resistance of Plastics to Chemical Reagents

D1600 Terminology for Abbreviated Terms Relating to Plastics

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

F412 Terminology Relating to Plastic Piping Systems

F477 Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

F667 Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

F714 Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter

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 *IAPMO Document:*[3]

Uniform Plumbing Code

IAPMO/ANSI Z1001 Prefabricated Gravity Grease Interceptors

2.3 *American Society of Civil Engineers:*[4]

ASCE No.60 Gravity Sanitary Sewer Design and Construction

2.4 *Plastic Pipe Institute:*[5]

PPI TR-4 PE3408

2.5 *AASHTO Document:*[6]

AASHTO LRFD Bridge Design Specifications

3. Terminology

3.1 For definitions of terms relating to plastics, see Terminology F412 and abbreviations are in accordance with Terminology D1600, unless otherwise specified.

3.2 *Definitions of Terms Specific to This Standard:*

[1] This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.26 on Olefin Based Pipe.

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[2] 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.

[3] Available from International Association of Plumbing and Mechanical Officials, 5001 E. Philadelphia St., Ontario, CA 91761, http://www.iapmo.org.

[4] Available from American Society of Civil Engineers (ASCE), 1801 Alexander Bell Dr., Reston, VA 20191, http://www.asce.org.

[5] Available from Plastics Pipe Institute (PPI), 105 Decker Court, Suite 825, Irving, TX 75062, http://www.plasticpipe.org.

[6] 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.

***A Summary of Changes section appears at the end of this standard**

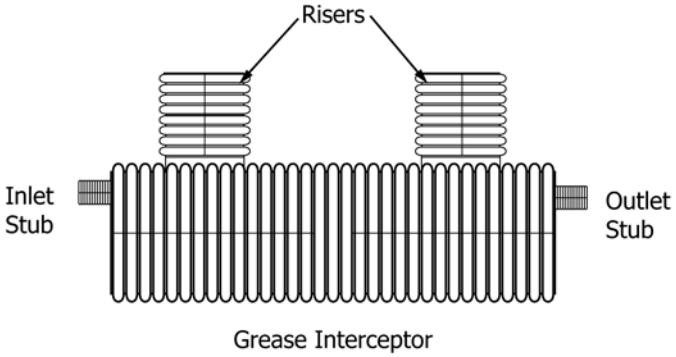

FIG. 1 Standard Corrugated HDPE Grease Interceptor

3.2.1 *access opening, n*—a hole in the top or crown of the tank used to gain access to the inside of the tank for the purpose of cleaning and removing grease, floating scum and sludge without a person actually having to enter the tank.

3.2.2 *baffle, n*—a partition across the width of the tank that extends partially between the top and bottom intended to deflect influent downward and increase the length of the flow path of the liquid as it travels through the tank.

3.2.3 *grease interceptor tank system, n*—a single tank or series of tanks in which wastes from a kitchen or food service industry containing no sanitary discharges is received and retained, and from which the liquid effluent, which is comparatively free from settleable and floating solids, is then discharged to a public sewer, septic system, or approved treatment system.

3.2.4 *inspection opening, n*—a hole in the top or crown of the tank used for the purpose of observing conditions inside the tank.

3.2.5 *joint, n*—a physical separation where two pieces of the tank or pipe-tank interface are in contact.

3.2.6 *monolithic corrugated high density polyethylene grease interceptor tank, n*—a single extruded piece of pipe with no internal joints other that end caps that serves as the principal tank structure.

3.2.7 *owner, n*—is by definition end user, customer, or purchaser.

3.2.8 *sectional corrugated high density polyethylene grease interceptor tank, n*—a group or two or more extruded pieces of pipe connected with joints that when combined serve as the principal tank structure.

4. Ordering Information

4.1 The owner shall include the following information in bidding documents and on the purchase order, as applicable to the units being ordered:

4.1.1 Reference to this specification, and date of issue,

4.1.2 Quantity or number of units ordered,

4.1.3 Capacity of tank in gal or L, based on owner's requirements,

4.1.4 Application conditions such as effluent and temperature of discharge,

4.1.5 Acceptance will be based on a review of the calculations or on proof tests,

4.1.6 Design requirements based on owner specified site conditions, such as depth of earth cover, live load applied at the surface, and ground water level, and

4.1.7 Testing for water leakage shall not be required at the job site unless specifically required by the owner at the time of ordering.

5. Materials and Manufacture

5.1 *Basic Materials*—Materials utilized for the fabrication of a corrugated polyethylene grease interceptor tank shall be evaluated for temperature extremes and effluent constituents in accordance with Practice D543.

5.1.1 *Tank and Risers*—The tank and risers shall be fabricated from pipe meeting the requirements of Specification F2306/F2306M.

5.1.2 *Inlet and Outlet Tees*—Inlet and outlet tees shall be fabricated from pipe meeting the requirements of Specification F2306/F2306M or F714.

5.1.3 *Vent pipes and internal tank piping*—Vent pipe and internal piping within the grease interceptor shall be fabricated from pipe and fittings meeting the requirements of Specification F2306/F2306M for dual wall pipe and Specification F667 for single wall pipe.

5.1.4 *Baffles and End Caps*—Baffles and end caps shall be fabricated from either flat plates meeting the requirements of PPI TR-4 PE3408 material.

5.1.5 *Welding Rod*—Welding rod shall be of medium or high density polyethylene, meeting the properties of the tank as required under Specification F2306/F2306M with the exception that the tensile strength at yield shall not be less than 5000 psi (3.5 M Kg/m^2).

5.2 *Pipe Connections*—Pipe-to-tank connections shall employ flexible connectors conforming to the requirements of Specification F477. Materials for the connectors shall have demonstrated resistance to the effects of fats, oils, grease, and fluid temperatures specified under Section 4.

6. Structural Design Requirements

6.1 Structural design of grease interceptor tanks shall be by calculation.