



Model Specification

Steel Reinforced High Density Polyethylene (SRHDPE) Pipe

KanaPipe Type IV LS

Table of Contents

1. Intent
2. Reference Specifications
3. Pipe and Gasket Material Requirements
4. Pipe requirements
5. Installation Procedures

1. Intent

The intent of this document is to specify the appropriate pipe material and installation methods for bell and spigot steel reinforced high density polyethylene (SRHDPE) pipe. This particular model specification is in regards to KanaPipe Type IV LS.

2. Reference Specifications

This document references the following specifications, including ASTM, that are made a part hereof by such reference and shall be the latest edition and revision.

ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM A591/A591M	Specification for Steel Sheet, Electrolytic Zinc-Coated, for Light Coating Weight (Mass) Applications
ASTM A653/A653M	Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM 1008/1008M	Specifications for Steel, Sheet, Cold-Rolled Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
ASTM D618	Practice for Conditioning Plastics for Testing
ASTM D2122	Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
ASTM D2321	Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
ASTM D2412	Test Method for Determination of External Loading Characteristic of Plastic Pipe by Parallel-Plate Loading
ASTM D3212	Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

ASTM D3350	Specification for Polyethylene Plastics Pipe and Fittings Materials
ASTM F412	Terminology Relating to Plastic Piping Systems
ASTM F449	Practice for Subsurface Installation of Corrugated Polyethylene Pipe for Agricultural Drainage or Water Table Control
ASTM F477	Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F2136	Test Method for Notched, Constant Ligament-Stress (NCLS) Test to Determine Slow-Crack-Growth Resistance of HDPE Resins or HDPE Corrugated Pipe
FED. STD. No. 123	Marking for Shipment (Civil Agencies)
MIL-STD-129	Marking for Shipment and Storage

3. Pipe and Gasket Material Requirements

3.1 Polyethylene Materials

- 3.1.1** Polyethylene compounds used in steel reinforced corrugated PE pipe shall meet or exceed the cell classification of 333430C as defined by ASTM D3350.
- 3.1.2** Slow crack growth resistance of Polyethylene shall be determined in accordance with ASTM F2136.
- 3.1.3** Carbon black content of polyethylene shall be a minimum 2.0% to a maximum 3.0% by weight of carbon black.

3.2 Steel Materials

- 3.2.1** The minimum thickness shall be according to ASTM F2435. The steel substrate shall conform to ASTM A1008/A1008M or A653/A653M. The minimum yield strength of the steel shall not be less than 24.66 ksi. The zinc-galvanized coating shall have a minimum zinc coating designation of 20Z as defined in ASTM A591/A591M.
- 3.2.2** The Steel material content shall be a maximum 75% ($\pm 2\%$) of the total weight of the pipe. Steel shall be fully encapsulated by polyethylene material with a minimum thickness of 0.012 in. at the thinnest point.

3.3 Gasket

3.3.1 Elastomeric gaskets shall comply with the requirements specified in ASTM F477.

3.4 Lubricant

3.4.1 The lubricant used for the assembly of the gasketed joints shall have no detrimental effect on the gasket or on the pipe.

3.5 Rework Material

3.5.1 Rework material is not to be used in the manufacture of this product.

4. Pipe Requirements

4.1 The pipe shall be KanaPipe Type IV LS manufactured by Kanaflex Corporation.

4.2 The pipe shall be double-wall steel reinforced polyethylene corrugated pipe as defined in ASTM F2435.

4.3 The pipe shall be manufactured per ASTM F2435 specifications with regards to inside diameter, outside diameter, wall thickness, and length.

4.4 Pipe minimum stiffness shall be as shown in ASTM F2435 at 5% deflection when tested in accordance with ASTM D2412.

4.5 The mechanical bond between steel and polyethylene shall be greater than the tensile strength of the polyethylene resin required for this standard. There shall be no separation of the polyethylene from the reinforcing steel up to 40% deflection when tested in accordance with ASTM D2412.

4.6 The pipe shall be homogenous throughout and free from visible holes, crack or other injurious defects. The pipe shall be as uniform as commercially practical in color, opacity, density and other physical properties.

5. Installation Procedures

5.1 Gravity or low pressure pipe installations to be installed in accordance with ASTM D2321.

5.2 Field joining to be performed per manufacturer's recommendations.