Model Specification

Steel Reinforced High Density Polyethylene (SRHDPE) Pipe

KanaPipe Type IV LS

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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
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% (±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.