

Scope

This specification designates the requirements for 4- through 60-inch (100 to 1500mm) Prinsco GOLDFLO dual wall pipe for use in gravity-flow land drainage applications.

Pipe Requirements

Prinsco GOLDFLO pipe shall have annular exterior corrugations with a smooth interior allowing for a Manning's "n" design value of 0.012 and shall meet the following standards:

- 4- through 10-inch (100 to 250mm) shall meet AASHTO M252, Type S or SP
- 12- through 60-inch (300 to 1500mm) shall meet ASTM F2306 and AASHTO M294, Type S or SP

Materials

GOLDFLO pipe and fabricated fittings shall be manufactured using High Density Polyethylene (HDPE) meeting the minimum requirements of cell classification of 424420C for 4- through 10-inch (100 to 250mm) diameters and 435400C for 12- through 60-inch (300 to 1500mm) diameters, as defined and described in ASTM D3350, except the carbon black content shall not be greater than 4%.

The HDPE pipe material for 12- through 60-inch (300 to 1500mm) diameters shall be tested for slow crack growth resistance using the notched constant ligament-stress (NCLS) test as specified in sections 9.4 and 5.1 of AASHTO M294 and ASTM F2306, respectively.

Joint Performance

GOLDFLO pipe joints shall meet the requirements of ASTM F2306 and AASHTO M252 or M294.

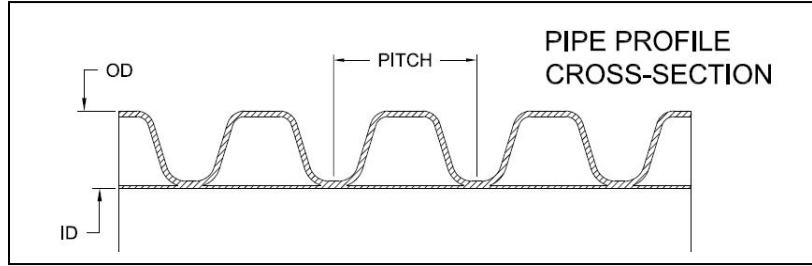
- **Watertight Joints** – GOLDFLO is available with gasketed integral bell and spigot type watertight joints. The integral joints shall be watertight in accordance with ASTM D3212. Gaskets shall meet the requirements of ASTM F477 and shall be installed by the manufacturer. An approved joint lubricant, available from the manufacturer, shall be applied to the bell and gasket during installation. GOLDFLO watertight joints shall be assembled in accordance with the manufacturer's recommendations to ensure installed watertight performance.
- **Soil Tight Joints** – GOLDFLO is available with gasketed integral bell and spigot type soil-tight joints. The integral joints shall meet the soil tight requirements of paragraph 26.4.2.4 in Section 26 of the *AASHTO LRFD Bridge Construction Specifications*. Gaskets shall meet the requirements of ASTM F477 and shall be installed by the manufacturer. GOLDFLO soil-tight joints shall be assembled in accordance with the manufacturer's requirements to ensure installed joint performance.
- **Soil Tight Connection** – GOLDFLO is available in plain end configuration and shall be joined with external couplers. Coupling methods shall be designed to positively engage with the external corrugations and shall meet the soil tightness requirements of paragraph 26.4.2.4 in Section 26 of the *AASHTO LRFD Bridge Construction Specifications*.

Fittings

Fittings shall meet the requirements of ASTM F2306 and AASHTO M252 or M294. Standard fittings are available and custom fittings may be fabricated to customer-specific requirements. Belled fittings connect to plain end pipe with saddle gaskets to create a watertight joint in accordance with ASTM D3212.



Physical Pipe Dimensions



Nominal ID in (mm)	Approximate OD in (mm)	Corrugation Pitch in (mm)	Min. Pipe Stiffness @ 5% Deflection psi (kpa)
4 (100)	4.8 (122)	0.67 (17)	50 (345)
6 (150)	7.1 (180)	0.80 (20)	50 (345)
8 (200)	9.3 (236)	1.0 (25)	50 (345)
10 (250)	11.9 (302)	1.3 (33)	50 (345)
12 (300)	14.7 (373)	1.7 (43)	50 (345)
15 (375)	17.6 (447)	2.6 (66)	42 (290)
18 (450)	21.4 (544)	2.6 (66)	40 (275)
24 (600)	28.2 (716)	4.0 (102)	34 (235)
30 (750)	34.7 (881)	4.0 (102)	29 (200)
36 (900)	40.6 (1031)	4.7 (119)	22.5 (155)
42 (1050)	47.5 (1207)	5.9 (150)	21 (145)
48 (1200)	54.1 (1374)	5.9 (150)	20 (135)
60 (1500)	66.8 (1697)	5.9 (150)	15 (105)

Installation

Pipe and fittings shall be installed in accordance with ASTM D2321 and Prinsco’s installation guidelines. Minimum cover heights for AASHTO H-25 loads shall be 12” (300mm) for 4- through 48-inch (100 to 1200mm) diameter pipe and 18” (450mm) for 60-inch (1500mm) pipe. The minimum cover shall be measured from the top of the pipe to the bottom of flexible pavement or to the top of rigid pavement. Contact your local Prinsco representative or visit www.prinsco.com for the latest installation guidelines.

Reference Specifications

This specification references the latest edition and revisions of the following standard specifications:

- AASHTO M252 – *Standard Specification for Corrugated Polyethylene Drainage Pipe*
- AASHTO M294 – *Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter*
- ASTM F2306 – *Standard 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*
- ASTM D3350 – *Standard Specification for Polyethylene Plastics Pipe and Fittings Materials*
- ASTM D477 – *Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe*
- ASTM D3212 – *Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals*
- ASTM D2321 – *Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications*