



# Haviland Drainage Products Co.

## SMOOTH-FLOW F-477 F-2648 PIPE SPECIFICATIONS

Diameter:	4"-60" (100-1500mm)
Length:	20' Sections, other lengths also available
Joint System:	Bell & Spigot
Joint Performance:	Soil-Tight
Gasket:	meets or exceeds ASTM F477
Specifications:	ASTM D3350, ASTM F477, ASTM F667, ASTM F405, ASTM F2648

### Description

This specification includes Haviland Smooth-Flow F-477 dual wall pipe, diameters 4"-60" (100-1500mm), for use in non-pressure gravity flow applications, including storm sewers, culverts, highway drains, and various other gravity flow drainage applications.

### Pipe Requirements

Smooth-Flow F-477 pipe meets or exceeds specifications set forth in ASTM F667/F405 and meets ASTM F2648 structural and cell class requirements. This pipe is available in solid and perforated styles. Perforated pipe contains 8 rows of holes, from 3/16" to 3/8" diameter depending on the size of the pipe, 4" thru 15" perforations are slots. All perforated pipes exceed the minimum water inlet area per foot. Perforations shall conform to Class 2 unless otherwise specified.

### Material Properties

Raw materials used in the manufacture of Smooth-Flow F-477 pipe and fittings are high density polyethylene conforming to the requirements of ASTM D3350, with a minimum cell class of 424420C (4" thru 10"), and 435420C (12" thru 60").

### Joint Performance

Smooth-Flow F-477 pipe is joined with a bell & spigot joint system, made soil-tight by compressing a rubber gasket between the bell and spigot ends of the pipe. The gasket conforms to the requirements of ASTM F477. Gaskets are installed before shipment and protected by a removable plastic wrap. During pipe installation and joint assembly, a joint lubricant is to be used. This lubricant is available from Haviland Drainage Products Co.

