

PVC PIPE ASSOCIATION TECHNICAL BRIEF

SOLID-WALL PVC GRAVITY SEWER PIPE: DEFINING “LARGE-DIAMETER”

Some engineers define PVC sewer pipe greater than 15 inches as “large-diameter.” For the PVC Pipe Association, however, large diameter is defined as 30 inches and larger. PVC pipe up to 48 inches has been part of the ASTM standard for PVC gravity sewer pipe for almost 23 years, and 54- and 60-inch sizes have been included for almost 10 years.

TWO STANDARDS FOR ONE PRODUCT: AN ARTIFICIAL BARRIER

One reason for the engineers’ perception is the format of existing ASTM standards: ASTM D3034 tops out at 15 inches and ASTM F679 begins at 18 inches.

- D3034 covers sizes from 3 through 15 inches and was first published in 1972.
- F679 includes sizes from 18 to 60 inches and was first published in 1980.

This artificial barrier has sometimes caused only part of the full size range of solid-wall PVC sewer pipe to be included in municipal specifications.

ASTM F679: A LONGSTANDING PROGRESSION OF LARGER SIZES

- 1980 – in the original F679 standard, the largest size was 27 inches.
- 2000 – maximum size increased to 48 inches.
- 2013 – 54- and 60-inch sizes were added.

Product Overview				
ASTM F679 Solid-Wall PVC Gravity Sewer Pipe				
Pipe Size (in)	OD Type	Pipe Stiffness		
		46 (psi)	75 (psi)	115 (psi)
18	PSM	Yes	Yes	Yes
21	PSM	Yes	Yes	Yes
24	PSM	Yes	Yes	Yes
27	PSM	Yes	Yes	Yes
30	CIOD	Yes	Yes	Yes
36	CIOD	Yes	Yes	Yes
42	CIOD	Yes	Yes	Yes
48	CIOD	Yes	Yes	Yes
54	CIOD	Yes	Yes	Yes
60	CIOD	Yes	Yes	Yes

TIME TO REDEFINE “LARGE DIAMETER”

- Some still consider 18-inch as large-diameter, but 36-inch has been in the ASTM F679 standard since 1986 (37+ years).
- The 48-inch size has been in the standard for almost 23 years.
- Current maximum size is 60 inches.

References: ASTM D3034 “Standard Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings,” 2014, 1972; ASTM F679 “Standard Specification for Polyvinyl Chloride (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings,” 2013, 2000, 1986, 1980.