

FITTINGS FOR PVC GRAVITY SEWER PIPELINES

OD-CONTROLLED VS. ID-CONTROLLED

Some PVC pipe standards specify the pipes' outside diameters – this is known as “OD-controlled” pipe. Conversely, some standards specify the pipes' inside diameters – called “ID-controlled” pipe.

For OD-controlled pipe, the fittings' inside diameters are specified by the fittings standard. There is no variation in fittings ID among manufacturers, so fittings are interchangeable. Examples of OD-controlled pipe standards are ASTM D3034 and F679 for solid-wall pipe and ASTM F949 for profile-wall pipe.

Some profile-wall pipe is ID-controlled. This means that if different manufacturers use different profile heights, their pipes will have slightly different outside diameters for the same pipe size. Thus the required inside diameters for fittings are dependent on the pipe profile height. The point is that one manufacturer's fitting may not work with another manufacturer's pipe. Examples of ID-controlled pipe standards are ASTM F794 and F1803.

FITTINGS FOR OD-CONTROLLED PIPE

ASTM D3034

- Sizes: 4- through 15-inch
- Joint types: solvent-cemented and push-on gasketed
- Fittings construction: molded and fabricated
- Additional standards: gasket-joint fittings must meet ASTM D3212 and ASTM F1336

ASTM F679

- Sizes: 18- through 60-inch
- Joint type: push-on gasketed
- Fittings construction: fabricated
- Additional standard: gasket-joint fittings must meet ASTM D3212

ASTM F949

- Sizes: 4- through 48-inch
- Joint type: push-on gasketed (except solvent-cemented for bushing-to-pipe or saddle-to-pipe connections)
- Fittings construction:
 - o Molded
 - o Fabricated – note says that most fittings 10-inch and larger are fabricated
- Additional standard: gasket-joint fittings must meet ASTM D3212



FITTINGS FOR ID-CONTROLLED PIPE

ASTM F794

- Sizes: 4- through 48-inch
- One joint type: push-on gasketed (must meet ASTM D3212)
- Fittings construction:
 - o Molded
 - o Fabricated
- Additional standard: gasket-joint fittings must meet ASTM D3212

ASTM F1803

- Sizes: 18- through 60-inch
- One joint type: push-on gasketed (must meet ASTM D3212)
- Fittings construction:
 - o Molded – fittings must conform to ASTM F679 – an adapter may be required
 - o Fabricated – made from pipe conforming to ASTM F679 or ASTM F1803
- Additional standard: gasket-joint fittings must meet ASTM D3212

For additional information on PVC sewer pipe, please see Uni-Bell's sewer pipe standards sheet – [click here](#).

References: ASTM D3034, “Standard Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings” (2016); ASTM D3212, “Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals” (2013); ASTM F679, “Standard Specification for Polyvinyl Chloride (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings” (2016); ASTM F794, “Standard Specification for Polyvinyl Chloride (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter” (2014); ASTM F949, “Standard Specification for Polyvinyl Chloride (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings” (2015); ASTM F1336, “Standard Specification for Polyvinyl Chloride (PVC) Gasketed Sewer Fittings” (2015); ASTM F1803, “Standard Specification for Polyvinyl Chloride (PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter” (2015)