

PVC PIPE ASSOCIATION TECHNICAL BRIEF

FITTINGS FOR PVC PRESSURE PIPELINES

PVC FITTINGS

There are three manufacturing methods used for PVC fittings:

- Molding
- Fabricating
- Combination of molding and fabricating used to produce machined couplings



Molded PVC fittings are found in the AWWA C907 standard. Fabricated PVC fittings and machined PVC couplings were included in the AWWA C900 and C905 pipe standards for many years. However, in 2016 AWWA's latest edition of C900 absorbed all of the C905 sizes into C900 – this means that all fabricated fittings and machined couplings can now be specified through C900-16.

General Information

- Joint type: for AWWA pipes, all PVC fittings use gasketed push-on joints.
- Sizes, configurations, and pressure classes available: for information on the availability of specific products, the fittings manufacturer should be consulted.

PVC Fittings – Manufacturing Types

- Molded PVC fittings
 - Standard: AWWA C907-12
 - Sizes included in the standard: 4- through 12-inch
- Fabricated PVC fittings
 - Standard: AWWA C900-16 (was C900-07 and C905-10)
 - Sizes included in the standard: 4- through 60-inch
- Machined PVC couplings
 - Standard: AWWA C900-16 (was C900-07 and C905-10)
 - Sizes included in the standard: 4- through 60-inch



DUCTILE IRON FITTINGS

The same iron fittings that are used for DI pipe are also used for PVC pipes that have DIOD/CIPS sizes. (Note: DIOD = Ductile Iron Outside Diameter, which is the same as CIPS = Cast Iron Pipe Size). The reason the same fittings can be used for both DI and PVC pipe is that the outside diameters are identical for pipe made from both materials.

The important consideration for utilities and distributors: a single inventory of DI fittings is all that is required. Since the same fittings can be used for both materials, dual inventories are not necessary.

General Information:

- Sizes and configurations available: manufacturer should be consulted
- Pressure classes available: manufacturer should be consulted

DI Fittings – Joint Types

- Mechanical-joint (MJ) fittings
 - Standards
 - AWWA C110: DI full-body fittings
 - AWWA C153: DI compact fittings
 - MJ fittings are widely used
- Push-on joint fittings
 - Standards
 - AWWA C110: DI full-body fittings
 - AWWA C153: DI compact fittings
 - Push-on fittings are used infrequently

References: AWWA C110-12, “Ductile Iron and Gray Iron Fittings” (2012); AWWA C153-11, “Ductile Iron Compact Fittings for Water Service” (2011); AWWA C900-07, “Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. Through 12 in., for Water Transmission and Distribution” (2007); AWWA C900-16, “Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. Through 60 in.” (2016); AWWA C905-10, “Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 in. through 48 in.” (2010); AWWA C907-12, “Polyvinyl Chloride (PVC) Pressure Fittings for Water, 4 in. Through 12 in., for Water Distribution” (2012)