

1.0 Scope

This specification covers restrained joint Polyvinyl Chloride (PVC) Pipe, 16", with a cast-iron pipe (CI) outside diameter. Pipe is intended for use in pressure-rated potable water delivery systems, as well as in sewer piping systems.

2.0 Reference Documents ASTM International

- ASTM D 1784** STANDARD SPECIFICATION FOR RIGID PVC COMPOUNDS AND CHLORINATED PVC COMPOUNDS
- ASTM D1784** STANDARD SPECIFICATION FOR RIGID POLY (VINYL CHLORIDE) COMPOUNDS AND CHLORINATED POLY (VINYL CHLORIDE) (CPVC) COMPOUNDS
- ASTM D2837** STANDARD TEST METHOD FOR OBTAINING HYDROSTATIC DESIGN BASIS FOR THERMOPLASTIC PIPE MATERIALS
- ASTM D3139** STANDARD SPECIFICATION FOR JOINTS FOR PLASTIC PRESSURE PIPES USING FLEXIBLE ELASTOMERIC SEALS
- ASTM F477** STANDARD SPECIFICATION FOR ELASTOMERIC SEALS (GASKETS) FOR JOINING PLASTIC PIPE

American Water Works Association (AWWA)

- AWWA C905** POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FABRICATED FITTINGS, 14 IN. THROUGH 48", FOR WATER TRANSMISSION AND DISTRIBUTION

NSF International

- NSF 61** DRINKING WATER SYSTEM COMPONENTS – HEALTH EFFECTS

3.0 Requirements

3.1 General

Pipe shall be manufactured only from water transmission pipe conforming to AWWA C905. The restrained joint pipe system shall also meet all short and long term pressure test requirements of AWWA C905. Pipe, couplings, and locking splines shall be completely non-metallic to eliminate corrosion problems.

3.2 Materials

3.2.1 PIPE

Pipe shall be made from an unplasticized PVC compound having a minimum cell classification of 12454, as defined in ASTM D1784. The compound shall qualify for a Hydrostatic Design Basis (HDB) of 4000 psi for water at 73.4°F, in accordance with the requirements of ASTM D2837.

3.2.2 COUPLINGS

Filament wound glass/epoxy, with exterior surface area (excluding the ends) to be coated with Carbit Series 12 clear polyurethane coating.

3.3 Approvals

Products intended for contact with potable water shall be evaluated, tested, and certified for conformance with NSF 61 by an acceptable certifying organization.

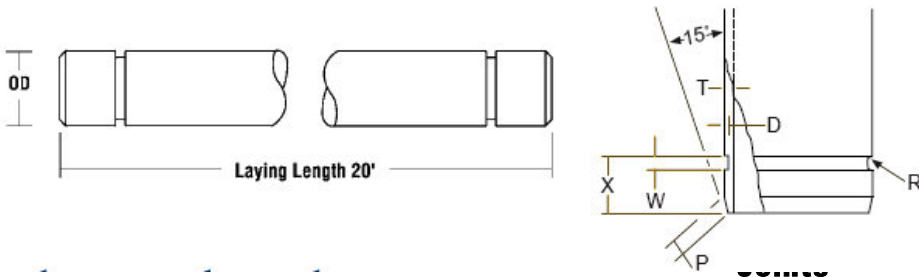
3.4 Dimensions

Nominal outside diameters and wall thicknesses of restrained joint pipe shall conform to the requirements of AWWA C905. Restrained joint pipe shall be furnished in 16" size, in Class 235 (DR18) and Class 165 (DR25). Pipe shall be furnished in standard lengths of 20 feet.

Dimensions of the pipe are shown as follows:

Dimensions and Weights – PVC Pipe with Fiber Wound Coupling

Nom. Size	DR	Press. Rating (psi)	O.D.	Min. Wall, T	Approx. Weight lbs./ft.	X	P	D	Pipe Part Number	Groove Inside Corner Radius, R	
										W	R
16"	25	165	17.400	.696	24.5	3.610	5/8	.210	291302	0.75	.060
16"	18	235	17.400	.967	33.0	3.610	5/8	.210	291319	0.75	.060



3.5

Pipe shall be joined using composite couplings to form an integral system for maximum reliability and interchangeability. High-strength, flexible thermoplastic splines shall be inserted into mating, precision machined grooves in the pipe and coupling to provide full 360° restraint with evenly distributed loading. Couplings shall be designed for use at or above the pressure class of the pipe with which they are utilized, and shall incorporate twin elastomeric sealing gaskets meeting the requirements of ASTM F477. Joints shall be designed to meet the zero leakage test requirements of ASTM D 3139.

3.6 Workmanship

Pipe and couplings shall be homogeneous throughout and free from voids, cracks, inclusions and other defects, and shall be as uniform as commercially practicable in color, density and other physical characteristics.

3.7 Quality Control

Every pipe and machined coupling shall pass the AWWA C905 hydrostatic integrity test requirement of two times the pressure rating for five seconds.

3.8 Marking

Pipe and couplings shall be legibly and permanently marked in ink with the following minimum information:

PIPE

- Nominal size (for example, 16")
- PVC
- Dimension ratio (for example, DR18)
- AWWA pressure rating (for example, 235 psi)
- AWWA designation number for this standard, which is AWWA C905-97 (or latest edition)
- Manufacturer's name or trademark and production record code
- Seal(mark) of the testing agency verifying the suitability of the pipe Material for potable water service

COUPLINGS

- Nominal size (for example, 16")
- Manufacturer's name or trademark
- Seal (mark) of the testing agency verifying the suitability of the Coupling material for potable water service

4.0 Approved Manufacturers

C905/RJ™ PVC restrained joint pipe from CertainTeed Corporation, or approved equal