



MUNICIPAL

Products Overview

Providing a Total PVC System Solution

Westlake
Pipe & Fittings

PVC: America's Preferred Municipal Pipe



Our municipal waterworks and sewer infrastructure demands pipe systems that are proven to last. Our water and wastewater infrastructure is in critical condition and PVC pipe has become the clear economic choice for long-lasting functionality. Today, PVC pipe is specified more than twice as much as any other pipe material for its lifetime durability, corrosion resistance and ease of installation.

Westlake Pipe & Fitting' Municipal PVC Pipe Solutions are proven for potable water, gravity & force main sewers, and the growing use of water reclamation pipe as potable water becomes a precious commodity in the drought regions of our country. Repairs and new installations are simply easier and more cost effective with our PVC pipe systems:

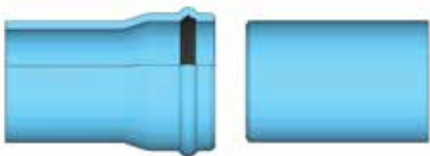
- Corrosive and chemical resistant, inside and out
- Segmented pipe for simple assembly in restrictive job site conditions
- Certa-Lok® restrained joint pipe systems are completely non-metallic
- More dimensionally stable than HDPE and faster to install & repair than fused joints
- Proven solutions for trenchless & open-cut applications
- Available with Certa-Lok® Technology for restrained joint applications
- UV/Impact-resistant Yelomine® formulation available for bypass and temporary pipe systems
- Products are selectively listed, see product specification sheets for industry listings:



Only products bearing the NSF Mark are Certified

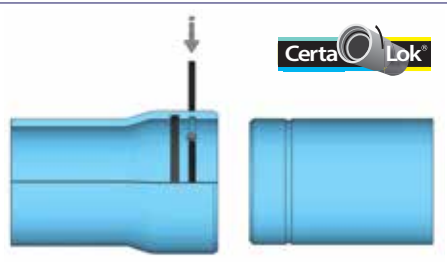


Make the Connection



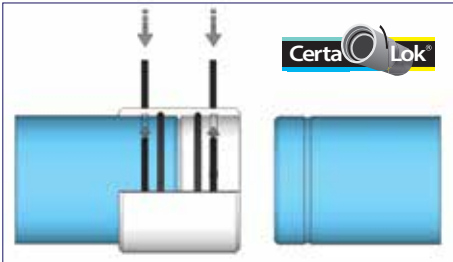
IB: (Bell & Spigot)

- Water, Sewer, & Reclaim
- Open cut installation
- CIOD: AWWA C900
- IPS: ASTM D2241
- PSM: ASTM D3034/F679
- Rieber Gasket/ASTM F477



RJIB: (Restrained Joint Integral Bell)

- Water, Sewer, & Reclaim
- Trenchless or open-cut installation
- CIOD: C900 Certa-Lok®
- IPS: D2241 Certa-Lok®
- Certa-Flo® Gravity Sewer
- Yelomine® – temporary bypass
- 6" through 18"
- Certa-Com® electrical/communication
- O-ring or Profile Gasket/ASTM F477



RJ: (Restrained Joint Coupled)

- Water, Sewer, & Reclaim
- Trenchless or open-cut installation
- CIOD: C900 Certa-Lok®
- IPS: D2241 Certa-Lok®
- 2" through 24"
- O-ring or Profile Gasket/ASTM F477

AquaSpring™ C900 IB PVC Pressure Pipe

Gasketed Integral Bell

Our AquaSpring™ AWWA C900 Gasketed Integral Bell PVC Pipe product line is manufactured to meet the needs of modern municipal water, wastewater, and reclaimed water systems. With top quality raw materials and modern processing technology, our C900 pipe meets all industry standards in addition to our own rigorous quality control requirements.

Our C900 pipe utilizes Rieber style gaskets throughout the entire product offering to create a leak-free joint.

Short Form Specification											
Pipe Standard:	AWWA C900-16										
Diameter Std.:	Cast Iron Outside Diameter (CIOD)										
Nominal Sizes:	4", 6", 8", 10", 12", 14", 16", 18", 20", 24", 30", 36"										
Dimension Ratios & Pressure Ratings	<table border="0"> <tr> <td>DR 51 – 80 psi</td> <td>DR 18 – 235 psi (185 psi)**</td> </tr> <tr> <td>DR 41 – 100 psi</td> <td>DR 14 – 305 psi (250 psi)**</td> </tr> <tr> <td>DR 32.5 – 125 psi</td> <td></td> </tr> <tr> <td>DR 25 – 165 psi</td> <td></td> </tr> <tr> <td>DR 21 – 200 psi</td> <td></td> </tr> </table>	DR 51 – 80 psi	DR 18 – 235 psi (185 psi)**	DR 41 – 100 psi	DR 14 – 305 psi (250 psi)**	DR 32.5 – 125 psi		DR 25 – 165 psi		DR 21 – 200 psi	
DR 51 – 80 psi	DR 18 – 235 psi (185 psi)**										
DR 41 – 100 psi	DR 14 – 305 psi (250 psi)**										
DR 32.5 – 125 psi											
DR 25 – 165 psi											
DR 21 – 200 psi											
Lay Length:	20' [6.1m]										
Pipe Compound:	ASTM D1784 Cell Class 12454										
Pipe Joint Std.:	ASTM D3139										
Max. Angular Joint Deflection:†	1°										
Gasket Standard:	ASTM F477, UL 157										
Gasket Material Offerings:	Standard – SBR Optional – NBR or EPDM										
Installation Std.:	AWWA C605										

Applications	Potable Water	Wastewater	Reclaimed Water
Color:	Blue	Green	Purple
Certifications:*	NSF 14, NSF 61 CSA B137.3* UL 1285 FM 1612** BNQ 3624-250 (24in)*, BNQ 3660-950 (24in)	CSA B137.3*	CSA B137.3*

*See Certification Letter for full explanation and list of exceptions.

**FM 1612 calculates pressure ratings differently than AWWA for 4"-12" only with DR 18 as 185 psi and DR 14 as 250 psi.

†See Installation Guide for more information.



IB: Integral Bell

Our Integral Bell & Spigot design is excellent for open-cut applications where the affordability and durability of PVC are required.

Pressure Pipe	Pipe Sizes	DR	Pressure Class
CIOD: AWWA C900 Potable Water, Force Main & Reclaim	30", 36"	51	80 psi
	16" thru 36"	41	100 psi
	16" thru 36"	32.5	125 psi
	4" thru 36"	25	165 psi
	14" thru 36"	21	200 psi
	4" thru 30"	18	235 psi
4" thru 16"	14	305 psi	
IPS: ASTM D2241 Potable Water, Force Main & Reclaim	1.5" thru 12"	SDR 13.5 thru 41	100 thru 315 psi

Gravity Sewer	Pipe Sizes	SDR	Pipe Stiffness
PSM: ASTM D3034	4" thru 15"	SDR 35	46 psi
	4" thru 15"	SDR 26	115 psi
	4", 6"	SDR 23.5	153 psi
PSM: ASTM F679	18" thru 36"	PS 46	46 psi
	18" thru 36"	PS 115	115 psi

RJIB: Restrained Joint Integral Bell

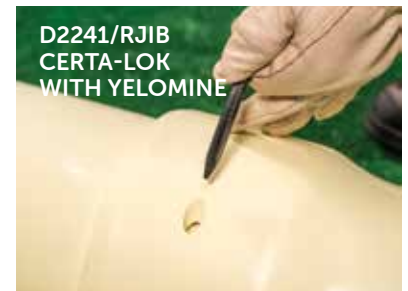
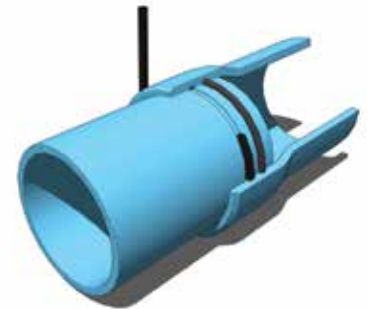
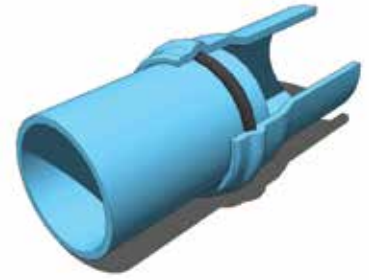
AquaSpring™ C900 Certa-Lok® RJIB PVC Pipe has a smooth profile perfect for horizontal directional drilling & static pipe bursting applications. Available in Certa-Lok® D2241/RJIB with Yelomine® for temporary bypass applications.

Pressure Pipe	Pipe Sizes	DR	Pressure Class
CIOD: C900/RJIB Certa-Lok Potable Water, Force Main & Reclaim	16" & 18"	25	165 psi
	6" thru 18"	18	235 psi
	6" thru 12"	14	305 psi
IPS: D2241/RJIB Certa-Lok with Yelomine Potable Water, Force Main, Reclaim, Aboveground & Temporary Bypass	4" thru 8"	21	200 psi
	4" thru 8"	17	250 psi
Yelomine is a unique modified PVC compound designed to be sunlight & impact resistant for reliable above ground use. NSF approved for potable water use.			

Gravity Sewer	Pipe Sizes	DR	Pipe Stiffness
Certa-Flo IPS Gravity Sewer	10", 12"	26	115 psi
	4", 6", 8"	21	224 psi

Conduit	Pipe Sizes	Schedule	
Certa-Com	3", 4", 5", 6"	40	
	8"	80	

Certa-Com PVC pipe features Certa-Lok, the industry original non-metallic mechanically restrained joint system designed for use in electrical & communication conduit systems. Certa-Com PVC pipe is made in iron pipe size (IPS) outside diameters and meets all performance requirements of NEMA TC-2 and UL 651.

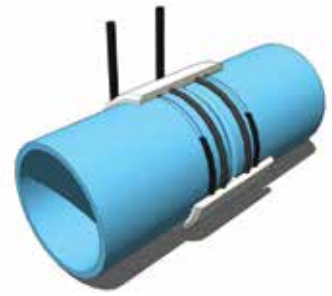


RJ: Restrained Joint – Coupled

AquaSpring™ C900 Certa-Lok® RJ PVC Pipe offers design flexibility for trenchless or open-cut applications. Available with Yelomine® for temporary bypass applications.

Pressure Pipe	Pipe Sizes	DR	Pressure Class
CIOD: C900/RJ Certa-Lok Potable Water, Force Main & Reclaim	14" thru 24"	25	165 psi
	14" thru 24"	21	200 psi
	4" thru 24"	18	235 psi
	4" thru 12", 16"	14	305 psi
IPS: D2241/RJ Certa-Lok with Yelomine Potable Water, Force Main, Reclaim, Aboveground & Temporary Bypass	6" thru 12"	32.5	125 psi
	6" thru 12"	26	160 psi
	16"	26	90 psi
	4" thru 12", 16"	21	200 psi
	2" thru 8"	17	250 psi
	4" thru 8"	13.5	315 psi
	4" thru 8"	12.43	350 psi

Yelomine is a unique modified PVC compound designed to be sunlight & impact resistant for reliable above ground use. NSF approved for potable water use.





AquaMax™ C909 IB PVCO Pressure Pipe

Gasketed Integral Bell

Our AWWA C909 Gasketed Integral Bell (IB) PVCO Pipe product line is manufactured to meet the needs of modern municipal water, wastewater, and reclaimed water systems. With top quality raw materials and modern processing technology, our C909 pipe meets all industry standards in addition to our own rigorous quality control requirements.

Compared to C900 pipe, C909 pipe meets the same performance standard with a thinner wall, resulting in approximately 40% less weight and approximately 10% more flow area (when PC 235 is compared to DR18).

Our C909 pipe utilizes Anger-Lock™-style gaskets throughout the entire product offering to create a leak-free joint.

Short Form Specification	
Pipe Standard:	AWWA C909-16
Diameter Std.:	Cast Iron Outside Diameter (CIOD)
Nominal Sizes:	6", 8", 10", 12"
Pressure Classes:	235 psi [1,620 kPa]
Lay Length:	20' [6.1m]
Pipe Compound:	ASTM D1784 Cell Class 12454
Pipe Joint Std.:	ASTM D3139
Max. Angular Joint Deflection:	1 Degree
Gasket Standard:	ASTM F477, UL 157*
Gasket Material Offerings:	EPDM
Installation Std.:	AWWA C605, Pressure Pipe & Fittings Installation Guide
Hydrostatic Design Basis:	7,100 psi (Finished PVCO Pipe) 4,000 psi (PVC Starting Stock Pipe)

Applications	Potable Water	Wastewater	Reclaimed Water
Color:	Blue	Green	Purple
Certifications:**	NSF 61, NSF 14 CSA B137.3.1 UL 1285 FM 1612 BNQ 3660-950	CSA B137.3.1*	CSA B137.3.1*



Only products bearing the NSF Mark are Certified

C909-16

*Coming soon

**See Certification Letter for full explanation and list of exceptions.

Each length of pipe is shipped factory sealed on both ends.

Anger-Lock™ is a trademark of Trelleborg Incorporated

AquaConnect™ C900 Fabricated PVC Fittings | C-Series

FABRICATED IN SIZES 10" – 36"

The C-Series line of DR18 and DR25 gasketed pressure fittings is for CIOD applications. Our C900 fittings are designed to be used with engineered joint restraints or concrete thrust blocking. They are a tough alternative to cast iron fittings, but have the benefit of being resistant to corrosion because they contain no metallic parts. Our fittings contain the same long-term hydrostatic strength as our CIOD pressure pipe.



The gasket ensures watertight joints with virtually no risk of infiltration or leakage. Only pure clean water that enters the system, leaves the system. A standard bell OD facilitates joint restraint installation while allowing all fittings to have fiberglass reinforced wrap, where required, for added strength.

Bends of 45° or less are manufactured of one piece construction, where available, providing a lightweight, compact fitting which can easily be handled in the field.

DESIGN ADVANTAGES

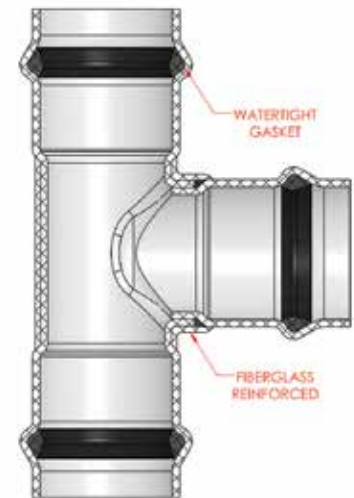
- Corrosion-resistant
- Thermoformed, glued and fiberglass reinforced, where required
- Watertight gasket for system integrity
- Durable, easy to install and long lasting

APPLICATIONS

- Used in both higher pressure water systems and low pressure sewer force main systems.

TYPICAL USES

- Potable Water Supply
- Industrial Process Lines
- Municipal Water Mains
- Sewer Force Mains
- Fire Lines



ATTENTION: Our fittings are not to be used or tested with compressed air or gases.

C-Series fittings are a fully-integrated DR18 and DR25 fitting line used for connections with CIOD. Fully reinforced with fiberglass wrap, where required, and designed for easy installation.

SHORT TERM SPECIFICATIONS

Fabricated fittings 10" and greater shall conform to the requirements of AWWA C900. Fabricated fittings shall have a dimensional ratio equal to that of the pipe they are being installed on. All PVC CIOD fittings shall incorporate integral elastomeric gasket bell joints. Materials used in the manufacture of PVC fittings shall equal or exceed cell class 12454 (ASTM D1784) with a hydrostatic design basis of 27.58 Mpa at 23°C as outlined in AWWA C900. The compound shall be listed with the National Sanitation Foundation. Fabricated fittings shall be manufactured from segments of PVC pipe bonded together and over wrapped with fiberglass-reinforced polyester, where required, to the requirements of AWWA C900. All bends, up to and including 45°, shall be constructed from a single section of PVC pipe, without joints, bonding or fiberglass-reinforced polyester wrapping, where available.

Note: Where the bends 45° or less are one piece, fiberglassing is redundant and can be eliminated. The pressure rating of the fittings shall be equal to the pressure rating of the pipe they are being installed on. All fittings shall be marked with the following identifications: Nominal size, CIOD, Manufacturers name or trademark, AWWA pressure rating, pressure class and standard number to which the fitting is made, and an indication of potable water use, potable, P, PW and proper handling label.

CERTIFICATION

Our Pressure C.I.O.D. Gasketed Sewer fittings conform to AWWA C900. Fabricated fittings are made from NSF-61 certified pipe and gaskets.



Some or all of these products are protected by patents. Visit www.westlakepipe.com/patents for more information.