

Pipe A-30

Restrained Joint PVC Pressure Pipe

Certa-Lok™ Yelomine™ PVC Restrained Joint Pressure Pipe



The Certa-Lok Yelomine piping system can provide a unique solution to many of your speciality and standard piping system needs, either temporary or permanent applications. Certa-Lok Yelomine's jointing system and physical properties allow this pipe to be used in a broad range of piping applications.

Certa-Lok Yelomine pipe offers a reusable, easy to assemble, fully self-restrained spline locked joint, virtually eliminating thrust blocking. A gasket provides a hydraulic seal while the spline securely locks the coupling to the pipe.

Certa-Lok Yelomine is manufactured from a specially formulated PVC compound which contains impact modifiers and UV (ultra violet) inhibitors. These modifiers and inhibitors provide a higher impact strength over an extended period of time and allow Certa-Lok Yelomine to be used in above-ground, exposed applications.

Toughness

Special PVC compounds used in the manufacturing of Certa-Lok Yelomine pipe give it high tensile and impact strength. Yelomine pipe also has excellent resistance to chemicals and scale build-up and it can't corrode.

Flexibility

Certa-Lok Yelomine pipe can bend around many obstacles, thus reducing the number of fittings required. When assembled, couplings (joints) are not affected by standard pipeline bending.

Safety

Certa-Lok Yelomine pipe has the highest physical strength available in PVC (2000 psi design stress). This means it has a longer life and is more reliable than roll grooved PVC. Yelomine pipe is self-extinguishing.

Lightness

Light weight means pipe can be handled manually in convenient 20' sections.

Abrasion and Chemical Resistance

Certa-Lok Yelomine pipe will outlast steel pipe in slurry applications because it doesn't rust or corrode. Its chemical resistance exceeds the requirements of ASTM D-1784 and it is not damaged by acids found in mine water.

Sustained Pressure

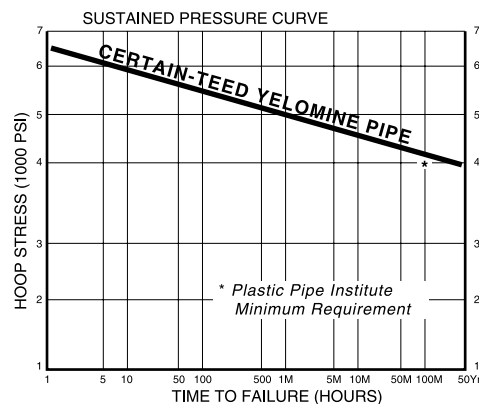
An important property of plastic pipe is its long term strength under pressure. This property is best expressed by a stress vs. time curve which becomes a straight line when plotted on logarithmic scales. Data for this straight line is obtained by conducting long term hydrostatic pressure tests in accordance with ASTM D-1598 and ASTM D-2937. This plot is known as the stress regression line and basically is a response to applied internal pressure over a long period of time.

The hydrostatic design basis is chosen at the 100,000 hour value (11.4 years). This minimum design stress life of 100,000 hours at 4,000 psi is modified by a safety factor of 2:1, resulting in a pipe life expectancy of over 100 years at 2,000 psi design stress. As shown in the graph below, test samples of Yelomine exceed the minimum requirement of 4,000 psi at 100,000 hours.

Impact Strength

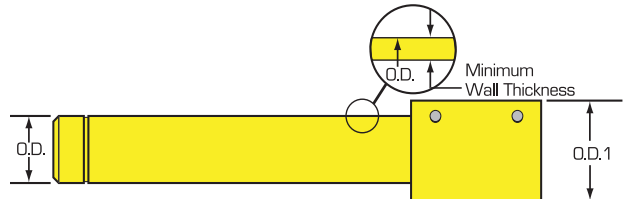
The PVC compounds used in Yelomine pipe greatly exceed the impact strength of conventional Type 1 PVC. Impact strength tests are regularly made on Yelomine pipe in accordance with the requirements of ASTM standard D-2444.

Average impact values are two to four times greater than the impact resistance of conventional PVC.



Pipe A-31

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CertainTeed Yelomine PVC Pipe is made from a special formulation of Polyvinyl Chloride, Type 1, Grade 1, 2000 psi design stress material, Class 12454B in accordance with ASTM D-1784 . The Yelomine PVC formulation contains additional impact modifiers and ultraviolet inhibitors to give it higher impact strength over a longer period of time.

Yelomine meets all PVC Pipe requirements as specified in the ASTM Standard Specification D-2241 for Polyvinyl Chloride Plastic Pipe, (pressure rated SDR pipe).

CertainTeed Yelomine Certa-Lok joints meet ASTM D-3139, Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.

Rubber rings meet ASTM F-477, Standard Specification for Elastomeric Seals (Gaskets) for Joining PVC Pipe.

MINIMUM TYPICAL PROPERTY VALUES		
PROPERTY	MIN. VALUE	ASTM NO.
Tensile Strength	7,000 psi	D-638
Modulus of Elasticity	400,000 psi	D-638
Izod Impact	0.65 ft. lbs./in. of notch	D-256
Deflection Temperature	150°F	D-648
Flammability	Self-Extinguishing	D-635
Chemical Resistance	B	D-543

CertainTeed Yelomine PVC Pipe has Potable Water Service Certification in accordance with NSF No. 14 (National Sanitation Foundation Standard) for Thermoplastic materials, pipe fittings, valves, traps, and joining materials.

PIPE SIZE	O.D (in.)	O.D. 1 (in.)	CLASS				
			125	140	160	200	250
MINIMUM WALL THICKNESS (inches)							
2"	2.362	3.20	—	—	—	—	.140
3"	3.503	4.38	—	—	—	—	.206
4"	4.488	5.47	—	—	.175	.214	.265
6"	6.614	7.84	.204	—	.255	.316	.390
8"	8.622	10.19	.265	—	.332	.410	—
10"	10.748	12.44	.331	—	.413	—	—
12"	12.755	14.65	.392	—	.490	—	—
14"	14.015	16.00	—	.612	—	—	—
16"	15.984	17.50	.615	—	—	—	—

PIPE SIZE	O.D	PRODUCT NUMBERS	
		SDR 25	SDR 26
2"	2.362	—	—
3"	3.503	—	—
4"	4.488	—	—
6"	6.614	—	22103
8"	8.622	—	22159
10"	10.748	—	22183
12"	12.755	—	22228
14"	14.015	—	—
16"	15.984	—	—

SIZE	O.D	PRODUCT NUMBERS	
		SDR 21	SDR 17
2"	2.362	—	22017
3"	3.503	—	22035
4"	4.488	22080	22079
6"	6.614	22102	22101
8"	8.622	22158	22157
10"	10.748	22182	—
12"	12.755	22227	—
14"	14.015	—	—
16"	15.984	—	—

NOTES:

- 20' standard laying length
- Also available in SDR 41 and SDR 32.5
- See Section B for Restrained Joint PVC Pressure Fittings.

Restrained Joint PVC Pressure Pipe

Non-Permanent Use Certa-Lok Joint

This product offers a Teflon coated “O”-Ring, which is blue-black in color. Non-Permanent Use Certa-Lok Yelomine minimizes assembly and disassembly effort required to install, remove and reinstall a system.

The Non-Permanent Use Certa-Lok joint is typically used in above-ground, exposed installations and where disassembly and reuse may be required.

Non-Permanent Use Certa-Lok joint is **NOT** recommended in buried installations or installations where the joint is subject to long-term or excessive misalignment due to external forces such as earth loads, live loads, etc.

2" through 6" sizes typically do not require lubricant for assembly due to the Teflon coating on the “O”-Rings. 8" through 16" sizes require lubricant to assemble.

Assembly and Disassembly

1. Start — Couplings and pipe have matching grooves. Just wipe them clean and apply a small amount of lubricant to rubber rings and pipe ends.



Permanent Use Certa-Lok Joint

This product is the same as Non-Permanent Use with the exception that the “O”-Ring used, has a slightly larger cross section and is not Teflon coated. The joint assembles easily using lubricant. Disassembly can be achieved, but can be extremely difficult depending on the diameter of the pipe being used.

Permanent Use Certa-Lok joint is intended for use in buried applications, bridge, river and road crossings and all installations that would be considered permanent, as well as installations that would encounter joints being subject to long-term or excessive misalignment due to external forces such as earth loads, live loads, etc. This joint requires lubricant to assemble.

2. Push — Couplings slip easily onto pipe. When pipe end seats against stop, grooves are automatically aligned for spline insertion.



3. Lock-Up — Nylon spline is pushed into aligned grooves around the pipe's circumference, securely locking pipe to coupling. Special rubber seals provide bottle-tight fit. Assembled coupling is so strong that no blocking is needed to support it.



4. Tear-Down — Nylon spline is pulled out and pipes pulled apart. Use silicone lubricant (available through your local Team EJP sales office) if pipe is to be disassembled.



NOTES:

- Non-Permanent and Permanent Use joints are totally interchangeable and can be mixed in the same piping system. The only difference is the “O”-Ring gasket.
- If in doubt as to which system to use contact your local Team EJP sales office for assistance.