

# Insituform PPL® (Pressure Pipe Liner)



The trenchless solution to pressure pipe leakage and corrosion



Deteriorating pressure pipes need a solution that will improve system reliability and extend the useful service life of the piping system. Insituform PPL® is an advanced, proven and non-disruptive technology that is specially designed to withstand a wide range of system operating conditions. And because it requires limited access and is installed by experienced Insituform® safety-certified teams, there is minimal disruption to system or plant operations.

Insituform PPL® is a custom-engineered, cured-in-place pipe (CIPP) product designed to eliminate leakage and prevent internal corrosion and/or erosion in structurally sound pressure pipe. Insituform PPL® is designed with the flexibility to expand up to and transfer internal pressure loading to the host pipe while maintaining the ability to span any small holes, pits or open joints that may exist in the host pipe. The Insituform PPL® design assumes that the host pipe is currently structurally sound and will continue to carry the internal pressure loading for the life of the piping system.

## **Insituform PPL® is the solution for your pressurized pipe system:**

- Diameter ranges from 200 to 1,500 mm
- Suitable for cast/ductile iron, steel, asbestos cement, RCP and thermoplastic pipes
- Thin wall and close fit minimises reduction in flow area
- Flexibility to negotiate horizontal and vertical bends up to 90°
- Small site footprint required for installation
- Installed inside the existing main so there is no risk of damage or disturbance to adjacent utilities or infrastructure
- Trenchless installation reduces traffic and commercial disruption, site noise, pollution and safety concerns as well as the need for imported backfill and pavement reinstatement
- Rapid installation reduces the duration of the project along with the associated social costs and impact

## **Structure**

Insituform PPL® has a construction similar to that of standard Insituform® CIPP tubes. However, special glass reinforcement is included to address specific service conditions found in pressure applications. The resin system for Insituform PPL® is either a vinyl ester or an epoxy, depending on the application. For drinking water applications, a special epoxy resin system is available for use.

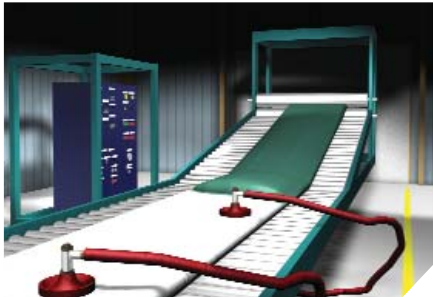
## **Applications**

Insituform PPL® can be used on many different pressure systems:

- Drinking water systems
- Cooling water lines
- Fire water
- Process lines
- Sewage force mains



## How Insituform PPL® is Installed



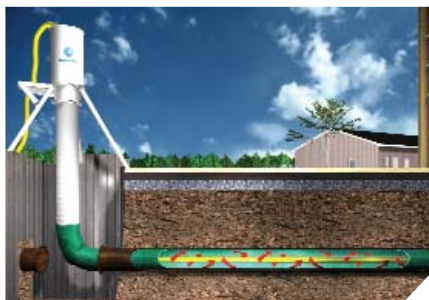
Step 1



Step 2



Step 3



Step 4

### Step 1:

The reinforced Insituform® tube is saturated with a thermosetting resin, then carefully packaged for transport.

### Step 2:

The Insituform® tube is positioned in the pipeline using water pressure to turn the tube inside out. This procedure is known as inversion.

### Step 3:

The continuous hydrostatic pressure of the inversion process results in a close fit with the host pipe.

### Step 4:

Following inversion, the thermosetting resin is cured by circulating hot water throughout the tube. Once cured, the pipe is cooled, ends are cut and sealed and the pipe is returned to service.

## Insituform PPL® Technical Envelope\*

Diametre Range	200 – 1,500 mm
Internal Pressure	Up to 14 bar
Effluent Temperature	Up to 50° C
pH Range	0.5 – 12
Bends	Yes, up to 90°
Typical Shot Length	60 – 300 m

\*Applications outside these ranges may be considered on a case-by-case basis.

## Approvals

- Insituform PPL® is certified by NSF International as complying with the requirements of ANSI/NSF Standard 61.



**Insituform®**

*Clean water for the world.*

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