Pull-in-Place Structural Liner

NU FLOW®

RELINE REPAIR RENEW

Where life interacts with infrastructure.

What is “Pull-in-Place pipe lining?” Why is it better than replacing the pipes?

Pull-in-Place pipe lining is an effective procedure that restores corroded or eroded drain, waste and vent piping systems without the costly expense and disruption of pipe replacement.

Pipe replacement in aging facilities, the traditional alternative to pipe lining, comes with a host of concerns and issues that must be dealt with, some of which can render such work highly prohibitive. These include:

- Destruction of existing walls, ceilings, floors and underground structures
- Patching and repair of the damaged structure
- Inconvenience and disruption to building/facility occupants or residents
- Safety concerns where asbestos insulation or other contaminants are present
- The need to temporarily vacate occupants and dwelling tenants
- High monetary cost

Pipe lining provides an efficient, effective alternative with many benefits, which include:

- Significant savings over other methods
- Increases useful life of piping system
- Very little disruption, if any
- Preservation of building structure and surrounding landscape or hardscape
- Eco-friendly practices
- Protective liner prevents corrosion and leaching of harmful elements into the soil or building structure

Don’t replace! Renew with Nu Flow!

About Nu Flow

The Nu Flow Companies manufacture and install innovative, noninvasive, eco-friendly technologies for the restoration of failing pipe systems. Nu Flow is the only small diameter pipe lining company to provide dual lining technologies from a single source and is master licensee for the longest time-tested small diameter epoxy lining in North America. Our CIPP structural liner restores aging sanitary drain, waste, vent, storm drain, roof drain, industrial piping and chemical piping systems in place. This patented Pull-in-Place technology extends the useful life of the pipe system at a fraction of the cost of traditional replacement.

Epoxy pipe lining was brought to North America in 1987 by American Pipe Lining. The company began employing its epoxy lining technology as a sole source contractor to the United States Navy aboard its carrier vessels. American Pipe Lining's success with the U.S. Navy brought immediate attention to land-based clients that required similar services in their buildings and underground piping installations. Following EPA approval of its coating in 1988, American Pipe Lining began providing in-place pipe restoration services to clients that faced aging potable water systems and poor water quality, including a variety of low and high-rise housing developments, schools, industries and water utilities.

In 2006, APL granted an exclusive license to Nu Flow to utilize all technologies and patent rights, making Nu Flow the only pipe and drain rehabilitation company which both manufactures and installs combined technologies for potable water lines, as well as trenchless sewer repair. Nu Flow acquired APL in early 2008, solidifying Nu Flow's position as the industry leader in small diameter pipe restoration.

The Nu Flow Companies have several regional offices throughout the United States and Canada, with 300+ licensees throughout North America and the globe. Nu Flow offers a full turnkey in-place pipe restoration service to a variety of customers.

Process Features

The in-place pipe restoration process is an economical and efficient alternative to traditional pipe system replacement. Our technology allows us to restore aged, corroded piping systems in-place to a “better than new” condition without the use of chemicals or mechanical devices. The epoxy liner installed to the pipes’ interior will seal and protect the system from further deterioration, dramatically extending the system’s life. The process can be used on a variety of pipe materials, which includes clay, concrete, metal, iron, steel, PVC and fiberglass.

Nu Flow’s Pull-in-Place structural liner process is unique and patented. This non-destructive procedure permits residents and workers to continue with their daily activities, preventing displacement, business closure and pipe system downtime.

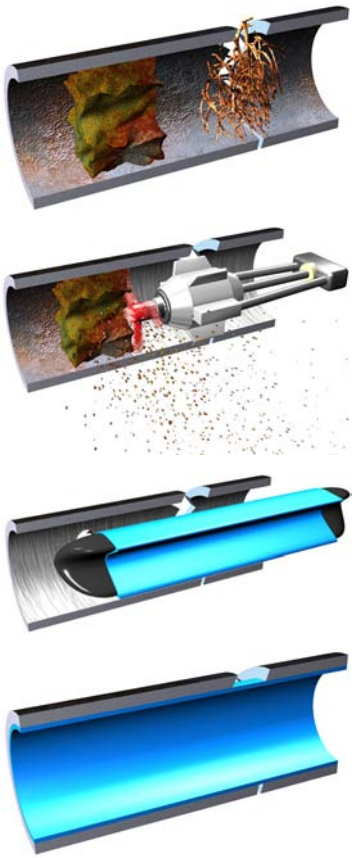
This innovative, cured-in-place pipe (CIPP) system creates a long-term, structural pipe inside the existing host pipe system without digging or destruction to buildings or landscape. The pipe system is rehabilitated to a better-than-new condition, with an increased flow rate, eliminated weakened joints, sealed cracks and eradicating the chance of groundwater pollution. Our structural lining technology is best suited for pipe 3/4" to 12" in diameter with specialty applications available for larger pipe systems.

Examples of Applicable Pipe Systems:

- •Mains, Horizontal Laterals, Vertical Stacks
- •Sanitary Systems
- •Storm/Roof Drains
- •Vent Systems
- •Processed/Industrial/Chemical Piping
- •Other Waste Systems
- •Elbows, Ts and Wyes
- •3/4" to 12"+ Diameter Pipes
- •Residential, Commercial, Industrial, Municipal and Federal Properties

Pipe Restoration General Work Sequence

The Inside View



Step 1: Pipe system diagnosis and set-up
Expose existing access points or create access points. The existing pipe system is inspected for integrity and breaks in pipe using a drain camera. Corrosion, roots and missing sections in the pipe are located. Temporary bypass drain piping provisions are installed as necessary.

Step 2: Pipe cleaning
Debris, roots and corrosion are removed from the pipes using a Nu Flow pneumatic cutting tool. A wide variety of different cutting heads can be selected for use depending upon the type of pipe system and the severity of the buildup inside. The pipe is restored back to its original diameter.

Step 3: Pipe lining
An epoxy-saturated felt liner with an internal bladder is pulled through the cleaned pipe system, using the existing access points. The bladder is inflated, which pushes the epoxy liner along the internal circumference of the pipe. This liner can bend through elbows, Ts and Wyes.

Step 4: Cure and System Evaluation
The epoxy cures within hours. The bladder is removed, leaving a strong, seamless, structural pipe within the host pipe. This protective liner will prevent future failures. A final leak test and inspection is performed.

Process Benefits

1. Safe And Durable - The pipe cleaning process is safe and simple. It does not use toxic chemicals or mechanical devices. This patented pipe lining method utilizes a closed system safe for use inside buildings and their surroundings. Removed corrosion products do not require special handling for disposal. The epoxy meets or exceeds the physical properties set forth in ASTM standard F-1743 for CIPP rehabilitation and ASTM standard F-1216 for inversion rehabilitation.

2. Cost Effective - Building and ground demolition is unnecessary with in-place restoration, making the process highly cost-effective over traditional pipe replacement. There is no need to jackhammer thick concrete slab in order to access underground drain lines. Extended downtime and related loss of revenue to businesses is therefore alleviated. There is also no need for subcontractors to reconstruct access areas.

3. Flexible - The process can be applied wherever drain plumbing systems are installed: residential properties, schools, hotels, office buildings, skyscrapers, hospitals, manufacturing facilities, municipal structures and federal properties. A wide variety of pipe piping materials can be cleaned and lined, including metal, iron, steel, PVC, fiberglass, clay and concrete. Structural liners can be installed in a variety of piping applications, such as piping laterals, vertical stacks, elbows in all configurations, above and underground piping system risers, gradient piping, branches, etc. The process will also accommodate a single pipe segment as short as 10 feet or as long as 1,000 feet.

4. Fast - In-place pipe rehabilitation is quick and involves little or no disruption to ongoing resident, tenant, student, personnel or public activities. Temporary drain bypass systems can be installed to reduce any disruption to the property. Within hours, the epoxy will cure and the piping system returns to an operational state.

5. Guaranteed - All drain lining restoration work performed includes a full 10 year installation guarantee. The lining installed for drain and vent applications has a life span of approximately 50 years.




Experience

Nu Flow has experience of over 60 years. With the largest base of installers and the highest success rate in the industry, we have completed thousands of restoration projects ranging from residential homes to naval ships and commercial skyscrapers to industrial structures. No job is to big or too small.

Nu Flow has committed itself to working closely with industry groups that test, audit and certify drain, waste, vent and sewer products and systems. Listing agencies for our patented Nu Drain system include the National Sanitary Foundation (NSF), International Association of Plumbing and Mechanical Officials (IAPMO) and International Code Council Evaluation Services (ICC-ES). Our product is in compliance with the following codes: Universal Plumbing Code (UPC), International Plumbing Code (IPC), International Residential Code (IRC) and the ASTM F1216 or ASTM F1743, NSF-14, NSF SE 13004 & ICC-ES LC1011.

Based on the number of clients and variety of pipe systems lined, no company is better equipped to meet all of your pipe lining needs.

Applicable reference lists can be provided upon request.

This technician utilized existing access points to rehabilitate this 12-story Synagogue's ten roof drain risers in-place.

Nu Flow's unique flow-through system that acts as an internal bladder during the structural lining process, also keeps mains operational during our work.

Why Is “In-Place” Pipe Lining Better Than Replacing the Pipes?

Nu Flow’s patented technologies restore corroded or eroded piping systems without the costly expense and disruption from a traditional pipe replacement. During a typical repipe, the failed pipes are removed, which causes destruction and inconvenience to the property. Replacing the pipe does not extinguish the root of the problem, so the new pipe system will inevitably suffer the same fate. That is why Nu Flow’s blown-in and no-dig pipe liners are the preferred, long-term solutions.

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