



Where life interacts with infrastructure.



Nu Flow Technologies began as a new technology company in 1998, manufacturing and installing trenchless drain and sewer lining solutions. Today, Nu Flow Technologies manufactures, installs and distributes cost-effective, green repipe alternatives and no-dig solutions, including epoxy coatings for potable water lines and structural liners for drain lines.

We are the only small-diameter pipe lining company to manufacture all of our own epoxies, lining materials and certain specialty installation equipment. Nu Flow Technologies is the manufacturing and distributing branch that provides our licensees with high-quality materials needed to solve customers' inside-infrastructure problems.

THE BENEFITS

1. Safe And Durable

Nu Flow's epoxy is UL certified safe to NSF/ANSI Standard 61 and has full WRAS approval. The epoxy was developed and patented by the U.S. Navy and has been successfully applied by Nu Flow technicians since the mid 1980s for the U.S. government and in domestic, commercial, industrial, and other applications. Testing engineers estimate the life expectancy of the epoxy is roughly 100 years.

2. Cost Effective

Pipe lining is as much as 50 percent less expensive than traditional pipe replacement costs such as repiping. Lining is a non-invasive process, so there is no destruction to buildings, hardscape or landscape. Reconstruction costs for repiping are as much as 60 percent of direct pipe repair costs and epoxy lining eliminates the need for reconstruction.

3. Minimal Downtime

The epoxy lining process takes a fraction of the time of traditional repipe methods. For example, a repiping job that would normally take a full 6 to 8 weeks can take as little as two weekends (or 4 days) for Nu Flow to complete.

4. Minimal Disruption and No Occupant Displacement

Nu Flow's pipe restoration process is quick, quiet, non-invasive, and requires no displacement of a building's occupants. When needed, temporary bypass water systems are quickly installed to provide uninterrupted water service so that occupants, businesses, and clientele may continue business as usual in an undisturbed environment.

5. Versatility in Applications

Epoxy lining can be performed in any metal pipe in any building, structure, or environment, above or below ground. Lining has been installed by Nu Flow technicians in the piping systems for hotels, high-rise condominiums, hospitals, restaurants, airports, schools, museums, U.S. Navy ships and many other commercial and industrial companies. The solution is available for potable water pipes as well as hot water recirculation systems, fire sprinkler and fire suppression systems, chiller lines and HVAC systems.

Epoxy Lining as an Eco-Trend

Lining is an eco-friendly solution that creates no waste for landfills or for recycling and generates no carbon emissions during manufacturing. Lining prevents toxic heavy metals from leaching into drinking water and prevents leaks and breaks in pipe systems that contribute to water pollution and cause billions of dollars annually in water damage. Revolutionary, green technologies such as epoxy lining have replaced temporary, outdated pipe replacement methods as an eco-friendly trend that efficiently and economically controls pollution of our water sources and helps conserve valuable water supplies.



EPOXY LINING



Nu Flow's patented epoxy lining system is applied regularly in pipe diameters of 13mm (1/2") to 300mm (12").

Epoxy lining restoration of plumbing, structural pipe, and mechanical systems in a non-invasive process that uses epoxy to coat the inside walls of pipes without destruction to interior or exterior surfaces of building structures, hardscape, or landscape. Epoxy lining is used not only as a long-term solution to prevent corrosion and leaks, but is commonly used as a preventative tool to preserve the life of existing piping systems.

Chemical additives react in a hostile manner in metal pipes, and corrosion can also result from high oxygen or low pH in water. Higher water temperatures corrode piping more quickly while inferior plumbing techniques or poor piping design can cause erratic water flow patterns that accelerate spot corrosion and cause fractures and other problems. The corrosion and erosion of pipe walls result in pinhole leaks that, over time, will appear throughout the entire piping system. Undetected, slow leaks over time can cause catastrophic water damage and mold growth.

Lining prevents heavy metals from leaching into drinking water and stops leaks and breaks in sanitary lines that pollute watersheds and seep pollution into groundwater. Nu Flow's lining system leaves the smallest possible jobsite footprint and the shortest installation cycle of any small-diameter lining system in the industry. Our process is less disruptive, better for the environment and a better value for customers.

Nu Flow manufactures our own epoxies and guarantees the highest possible quality control standards. Nu Flow's potable water epoxy meets or exceeds all industry standards for safety and performance. The life expectancy of the epoxy is estimated to be 100 years and has withstood the test of time for more than 40 years in Japan, and almost 25 years in the United States.

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How it works

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Epoxy lining can be performed in any metal pipe in any building, structure, or environment, above or below ground. Lining has been installed by Nu Flow technicians in the piping systems for hotels, apartment complexes, hospitals, restaurants, airports, schools, museums, U.S. Navy ships and many other commercial and industrial companies. The solution is available for potable water pipes as well as hot water recirculation systems, fire sprinkler and fire suppression systems, chiller lines and HVAC systems.

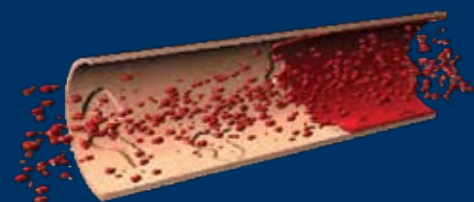
Metal piping systems begin to deteriorate from the moment they are put into service. Buildings built in the 1950s and early 1960s typically lasted 40 or more years with few incidents of leaks. Buildings built in the 1970s often achieved 20 to 30 years or more of leak-free service. Older pipe systems using stronger grades of copper regularly achieved these life spans even with particularly aggressive water. However, mandatory chemical additives to drinking water since the 1970s is causing pipe failure in above ground and below ground piping systems in as little as 5 to 10 years of service.



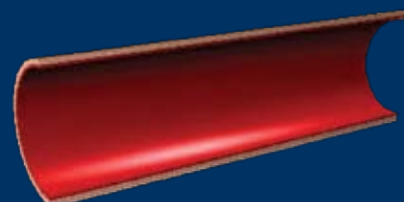
Pipes erode over time, causing leaks, reduced flow, and even health hazards. Metal pipes leach heavy metals and lead into drinking water.



A mild, abrasive component safely cleans the internal walls of pipes.



Liquid epoxy is blown through pipes to coat internal walls, forming a smooth, evenly coated barrier between pipes and water.



The permanent barrier coating cures within hours, and the system is promptly returned to service.



STRUCTURAL LINING

Nu Flow's patented, cured-in-place pipe (CIPP) system creates a protective, structural pipe inside the existing host pipe system, without digging or destruction to buildings or landscape. Our CIPP is a seamless, jointless, pipe-within-a-pipe that is used to rehabilitate deteriorating sanitary drain and storm sewer lines, including mechanical systems, with minimal disruption. Our structural lining technology is best suited for pipe 19mm (3/4") to 225mm (9") in diameter with specialty applications available for larger pipe systems.

How Cured-in-Place-Pipe ("CIPP") Technology Works

A crucial transition has been the adoption of "inside" underground lining applications for repairs to "outside" pipes where, in the past, those repairs were managed as external trenchless repairs requiring external solutions. CIPP restoration is a non-invasive procedure that uses epoxy inside a liner to create a new pipe inside deteriorated host piping systems and can span missing sections of pipe. CIPP is a long-term solution for leaks and breaks, blockages, root intrusion, calcium build-up, water damage, mold, sewer backups and increases flow capacity.

Benefits

- Prevents Root Intrusion and Stops Leaks
- Increases Flow
- No Digging or Destruction
- Alternative to Sewer Drain Replacement
- Offers the Structural Strength of New Pipes

The life expectancy of Nu Flow's liner is over 50 years and can be installed in pipeline with diameters from 19mm (3/4") to 225mm (9") and custom 254mm (10") and above.

Nu Flow's drain and sanitary lining system has been successfully used in two primary types of applications: the 'pull-in-place' (PIP) method and the 'inversion' method. Nu Flow specializes in the PIP method, where the liner is pulled into place, filled with epoxy and cured in place. The greatest advantages to the PIP method versus Inversion is the ability to line multiple 45° and 90° angles and the option of lining specific sections of pipe without lining the entire length. The other most common method of CIPP lining is Inversion, which is an alternate, less innovative technique, where the liner rolls out from the point of entry as it is filled with water, air or steam and, once cured-in-place, the end and connection points are trimmed to allow for flow.

Millions of linear metres of drain and lines have been saved using the pull-in-place process. We realise every building and project is unique and Nu Flow installers have the experience and technical knowledge to meet your specific needs, regardless of the depth of the pipe or corrosive nature of the environment.

The Problems

Aging Sewer Lines

Most facilities/structures built prior to the early 1970s had sewer lines composed of primarily cast iron and clay. The primary problem seen in these lines is cracking and the bottom of the pipe rusting out. Common problems seen in clay pipes are root intrusion at the joints and cracks.

Root Intrusion

Root intrusion into sewer pipe systems is reported to cause 50% of all sewer blockages. Interference of trees into sewer systems is likely to occur in older systems and in cracked pipes. Factors that contribute to damage include older pipes with joints, shallow pipes, small-dimension pipes and fast-growing tree species. Cost associated with caring for root intrusion in the past has been expensive and laborious and unfortunately, is rarely a long-term fix.

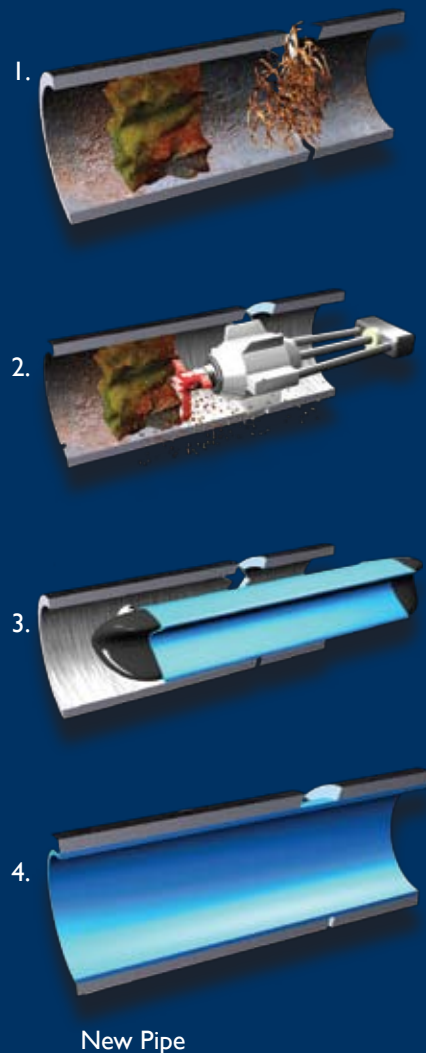
Calcification in Sewer Lines

Over time, calcium deposits from water form a crusted coating called 'calcification' which clogs up household pipes and drain lines, especially when hard water is in use. Once pipes are lined with epoxy, calcification can no longer occur because the deposits cannot adhere to the interior walls of the new epoxy barrier pipe.

Ground Movement Affects Sewer Line Integrity

Major seismic activity can cause breaks in sewer lines, but more frequently, minor seismic activity causes cracking and structural damage at the joints. The seamless, "jointless" nature of the PIP method means not only is the existing problem solved, but the new, seamless pipe will avert future problems as well.

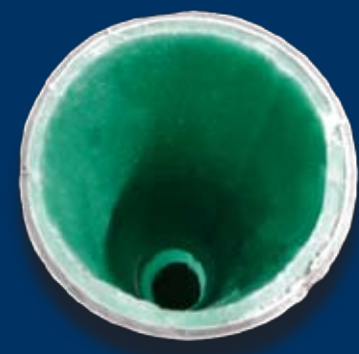
Root-intruded pipe



Before



After



Nu Flow Offers Environmentally Friendly Solutions

Nu Flow's innovative green solutions rehabilitate piping systems from the inside, ensure healthy and safe water, leave virtually no carbon footprint on the environment and prevent pollution to water resources.

Nu Flow manufactures and installs innovative green technologies to rehabilitate the inner infrastructure of deteriorated or failing water piping systems without digging and destruction of exterior landscapes and hardscapes or interior walls and ceilings. By eliminating the need for pipe replacement, existing systems are restored without generating landfill waste, recycling costs or carbon emissions.

Epoxy coatings and structural lining technology are endorsed by the EPA, as well as by a multitude of industry professionals and water infrastructure engineers and experts, including a host of global, water-related agencies.

Nu Flow lining technologies are permanent, affordable, and mean less time, less mess and less cost than repiping drinking water systems, mechanical systems and drain and sanitary lines.

Nu Flow Reuses 100% of the Host Pipe

Structural Liners: Cost-effectively restores deteriorated and failing underground or in building piping systems without creating landfill waste. The new liner acts as a barrier between water and pipe walls. Restored drain systems further prevent pollutants from contaminating ground and surface water supply sources making sure no water is lost in the delivery system.

Epoxy Coatings: Restores corroding pipes in a safe and efficient manner by coating the existing pipes. This provides a permanent solution to corrosion, erosion and leaching of lead and other heavy metals into drinking water. Furthermore, the process helps maintain water flow and eliminates the risk of pinhole leaks.

Nu Flow's solutions are Permanent, Affordable and Eco-friendly



NUFLOW OFFICES



Where life interacts with infrastructure.

The Business Centre,
The Courtyard,
Glory Park, Wooburn Green,
Buckinghamshire HP10 ODG

Tel: +44 (0)1 494 411 075
Fax: +44 (0)1 628 531 221
info@nuflowtech-uk.co.uk
www.nuflowtech-uk.co.uk