



Nu Flow - Nu Line Frequently Asked Questions

1. Who/What are Nu Flow/Nu Line?

Nu Flow is a lining company that restores and extends the life of utility pipe, drains and a variety of other pipe applications using our technologies.

Nu Line is a technology that blows in an epoxy resin coating internally within a section of pipework using BELT (Blown Epoxy Lining Technology) in either domestic/non-domestic dwellings as an alternative to replacing it.

2. How long has Nu Flow been in business?

Nu Flow began operating in 1998 manufacturing and installing patented and proprietary trenchless drain and sewer lining solutions throughout North America. In 2005, Nu Flow added blown in epoxy coating for restoration of potable pipes and mechanical systems. Between 2007 & 2012, Nu Flow acquired several industry partners and added comprehensive bio water filtration solutions. In 2016, Nu Flow began to establish itself in the United Kingdom and has continued to build a customer base since.

3. In what type of building structures and piping systems can the Nu Line system be used?

The Nu Line system can be used in single and multi-residential structures such as homes, apartments, hotels and dormitories, In addition, office buildings, schools, hospitals and manufacturing and food plant systems can be treated as well. Underground distribution mains which deliver water to these systems can also be restored. The process has also been used extensively for the marine industry in shipboard drain piping systems in salt water-based environments. In summary, any metal-based piping system is generally treatable using the Nu Line system.

4. What are the common symptoms in problematic pipe systems which would make the Nu Line system a good option for potential customers?

Coloured rusty water, leakage requiring the need for ongoing repair work, poor water flow/pressure, internal corrosion, foul smelling water and the detected presence of lead or copper in the water all indicate situations where the Nu Line system is a good option.

5. What sizes, specific types of pipe and situations can be restored with the Nu Line system?

Galvanized steel, copper, cast iron, black malleable iron, ductile iron and lead pipe can be lined in pipes sized between 15mm to 300mm (½" to 12") in diameter being used in the following situations;

- Potable water pipes
- Heating & cooling pipes
- Gas pipes
- Fire Suppression systems
- Chemical lines
- Airlines
- Conduits

6. How does Nu Flow differ from its competitors?

Nu Flow is a modest company which does not take its past successes for granted. Each customer is treated with courtesy and respect, regardless of project size. The Nu Flow management & operations team continually strive to be competitive, friendly and customer-oriented going out of their way to keep its customers happy.

7. What are some of the features and benefits of the Nu Line system?

Ten features and benefits of Nu Line are:

- An immediate and permanent solution to internal pipe corrosion.
- Substantial savings over traditional pipe replacement.
- It's safety and ability to be completed in a relatively short time.
- No need for occupants/personnel to completely move out of their units/building during the pipe restoration.
- Limited impact to business/daily life.
- Avoidance of disruption to wall/ceiling/floor within the infrastructure.
- Use of non-hazardous materials that are safe to the environment.
- Restores flow/pressure, and reduces repair and maintenance costs.
- Introduces an inert status to the pipe eliminating any leaching of copper, lead or other heavy metals determined to be harmful in higher concentrations.
- Elimination of future leaks through internal corrosion.

8. What tests will the installing team undertake to validate the integrity of the epoxy resin on completion of the curing process?

We keep detailed batch records of each mix and retain samples to confirm mix quality. Temperature and dew points in the pipe are monitored to ensure coating quality. Our technicians perform a pressure test prior to handover to confirm coating integrity.

9. What does the customer do while their pipes are being treated? Can they remain in their home/ business/operation?

Occupiers or personnel can remain in the property being lined although consideration will need to be given to;

- The provision of sanitary and other welfare facilities whilst the water supply is being worked on.
- The presence of cables and hoses.

10. What is required for the customer to obtain pricing from Nu Flow?

A site survey is required to understand the scope of work required and obtain detailed information regarding the piping system. Plumbing and mechanical drawings are beneficial as an aide although when drawings are not available, any general building sketches or schematics which show floor plans and the general layout of the property are helpful.

11. How is pricing to customers conveyed? By unit? By fixture?

Pricing can be proposed by price per unit in the case of apartments and condominiums. For larger non-residential structures (schools, commercial office building, etc), pricing should normally be presented on a lump-sum basis. If priced by fixture connection, prices range depending on the scope of work, diameter, size and length of the pipes to be lined.

For example, galvanized pipe takes about 3 times the abrading material and much more time to clean than copper tubing.

12. What quality assurance procedures are used in the Nu Line system to ensure a satisfactory restoration?

Through the process, compliance to key steps are recorded using a web-based application. On completion, visual inspections (naked eye, camera/borescope) and an air pressure test are undertaken.

13. What does Nu Flow do when a given pipe section or fitting cannot be treated due to age and wear?

Sections of pipework that are either not suitable to be lined due to heavy external corrosion or fail during the lining process will need to be replaced by a competent person.

14. Can more than one (1) pipe run or segment be restored at one time, to shorten the work time?

Depending on the length of pipe and especially its diameter, multiple runs can be treated. This will require additional equipment and manpower.

15. Is Nu Flow an approved product and are licences/permits necessary to perform work on customers' facilities?

Nu Flow has various certificates/approvals to undertake epoxy lining work.

16. What is the size of the typical work crew?

Typically, 2 -5 operatives per crew.

17. How do Nu Flow manage asbestos?

Nu Flow do not work on or with any asbestos containing materials. Nu Flow personnel will request a copy of the building's asbestos register at the time of survey. Should asbestos containing material be either present or suspected in any proposed working area, the customer/client will be asked for these to be dealt with in accordance with asbestos legislation prior to Nu Flow undertaking work.

18. How much room does Nu Flow need for equipment storage and staging on a customer's property?

Typically, 45 square metres of open outdoor space will suffice. The size of the compressor being used will often dictate the space requirement.

19. Is the air compressor and related equipment noisy?

In certain circumstances, an acoustic tent will be erected around our compressor to control noise whilst the lining process on-going. Some parts of process may create higher levels of noise intermittently. Nu Flow will always manage these occasions to minimise noise and other environmental impact.

20. What consultation do Nu Flow provide?

Experienced consultant engineers will survey and offer detailed pipework analysis and corrosion assessment.

21. How soon can Nu flow provide pricing to a customer after the initial visit?

Nu Flow aim to provide pricing on most projects within 1 week provided an adequate survey has been completed.

22. What is typically excluded in Nu Flows standard scope of work for Nu Line?

Excluded items include; asbestos survey & removal, building/carpentry work to expose or make-good pipework to be lined in walls/floors/ceilings, removal and re-installation of pipe insulation, wall/ceiling repair. However, these services can be provided at an additional cost.

23. What is Nu Flow's standard warranty on its Nu Line installations?

10 years for corrosion protection and de-lamination of the lining from the metal substrate. Additional extended warranties are available.

24. What is not covered by the Nu Flow warranty?

Exposure to acids or solvents, acts of god and damage to or use of the pipe system because of use outside the designed scope of its intended use will invalidate the warranty.

Technical Questions

25. How does the Nu Line system basically work?

The Nu Line system involves conditioned pressurised air delivered in a vortex to clean and epoxy line aging and/or failing piping systems. An abrading agent (garnet) is first used to remove existing corrosion deposits from within the pipes interior wall, followed by the application of our liquid epoxy coating to line the newly cleaned piping. The cured epoxy lining provides an immediate and permanent monolithic barrier within the pipe to prevent further deterioration of the piping.

26. What applications can the Nu Line process be used in?

In addition to potable water, Nu Line has been successfully used to remediate a range of different substances in pipework in many sectors. For example; Natural Gas, Chemicals, Fire Suppression systems, Heating & Cooling systems etc.

Note: - Case studies for each sector can be provided

27. How safe is the cleaning abrasive and epoxy material which remains in the pipe and is in contact with drinking water?

The garnet is silica free and is approved for closed blasting purposes. The epoxy lining is a 2-part system (base resin and hardener) which is approved for use in potable water (drinking water) systems as small as 15mm pipe diameter and larger. The material is certified by WRAS in the UK and holds the appropriate accreditations including potable drinking water in each country it operates. This standard governs the use of man-made materials in contact with potable water. The epoxy is solvent free, non-toxic and contains no VOC's. (Volatile Organic Compounds).

28. How long does the epoxy take to cure before the system can be returned to service?

Typically, with proper heating and drying of the pipe, it may be returned to service in less than 24 hours.

An overnight dry time is adequate to achieve a hard durable epoxy finish. Once applied and properly cured in place, the epoxy material will continue to cure even in wet or damp conditions.

29. What is the expected life of the epoxy?

The epoxy material has a rated life of 50-60 years in standard domestic systems. However, when used on pipework in contact with salt water (e.g., shipboard piping systems), it's rated life is halved.

30. Are there different types of epoxy that can be used with the Nu Line system?

Nu Flow can apply epoxies through its Nu Line system that cure in different times and that are used for a variety of temperature requirements including steam. Only the Nu Flow 7000 series carries the potable water approval.

31. Is a single coat of epoxy adequate for most applications?

A single coat of epoxy which is approximately 0.25mm thick is usually adequate for pipe diameters up to 80mm (3"). A second coat is recommended for pipework with a diameter larger than this.

32. What, if any, are the application limitations of the process?

In-place epoxy restoration is not normally recommended for use on pipes which:

- Are severely corroded to the point where several leaks are present (repair-clamped) along a given short-to-medium length e.g. 3 – 5m segment of pipe.
- Are corroding on the exterior, very common with buried piping and pipe which is wrapped in very old insulation.

In the latter, the insulation will pull apart from the pipe, causing condensation which does not always easily evaporate. The continued moisture will promote rust formation and eventual pinholes.

33. How long does it take to treat a section of pipe (clean and line)?

Typically, a given pipe run can be cleaned and coated in the same day on residential applications. It is then returned to service / re-assembled the next day.

34. What kind of air flow is used to deliver the Nu Line System?

Typically, the Nu Line requires the following airflow;

- Initial purging of content out of the pipe to be lined - 1.02 m/s (metres per second)
- Heating/drying the section of pipe – 1.53m/s
- Cleaning the section of pipe – 1.78m/s
- Epoxy lining the section of pipe – 1.4m/s
- Curing the section of pipe – 0.8m/s

Pressure relief valves are installed on Nu Line apparatus to release pressure should a problem be encountered.

35. Will the Nu Line epoxy system seal leaks?

Nu Line can seal joints and pinholes internally within the wall of the host pipe up to 1.4mm in diameter.

36. Does the cured epoxy provide any structural strength to the piping being lined?

Nu Line doesn't offer any additional structural capacity to the pipe it is lining. However, in situ testing, the coating has been proven to withstand mechanical damage within the host pipe.

37. What quality checks are observed post lining?

Post curing, the quality of the lining is observed through a camera survey. There will be no defects within the pipe wall such as pinholes, blisters, bubbles, voids or no residual loose deposits / debris.

38. What happens to any existing valves in the pipework being lined?

Valves located within the section of pipework being lined need be removed prior to the Nu Line system being applied. A valve can be lined through but will become inoperable.

39. What happens to any joints or T-pieces internally?

The flow of the liquid epoxy resin transverses the complex internal contour of screwed joints and t-pieces.

40. What is the maximum temperature rating of the cured epoxy material?

60°C on Nu Line's standard treatments which covers potable water. However, where necessary, treatments are available that have a temperature rating in excess of 100°C.

41. What happens to the epoxy material if a coated piece of galvanized pipe at a valve or pipe fitting must be removed in the future as part of a pipe modification?

The epoxy lining will fracture and leave a hair-line crack at the point of disassembly. Nu Flow offers pint-sized Nu Line touch-up kits for purchase if a customer wishes to "swab" the joint to re-establish the integrity of the connection.

42. Can the Nu Line system be used on drain systems?

Nu Flow has a product called Nu Drain that is designed for use with drains.