Technical Specifications

- Restores full-strength to original pipeline
- Environmentally safe
- Manufactured to high quality standards
- Stops water infiltration and exfiltration, root intrusion and soil loss
- Smooth pipe finish improves flow characteristics
- Pliable nature fills in cracks and bridges gaps
- Drastically reduces public inconvenience and disturbance to the environment caused by traditional repairs
- Low cost Installation
- Fast installation using existing manholes
- Less future pipe maintenance
- Well-trained, experienced team of installers

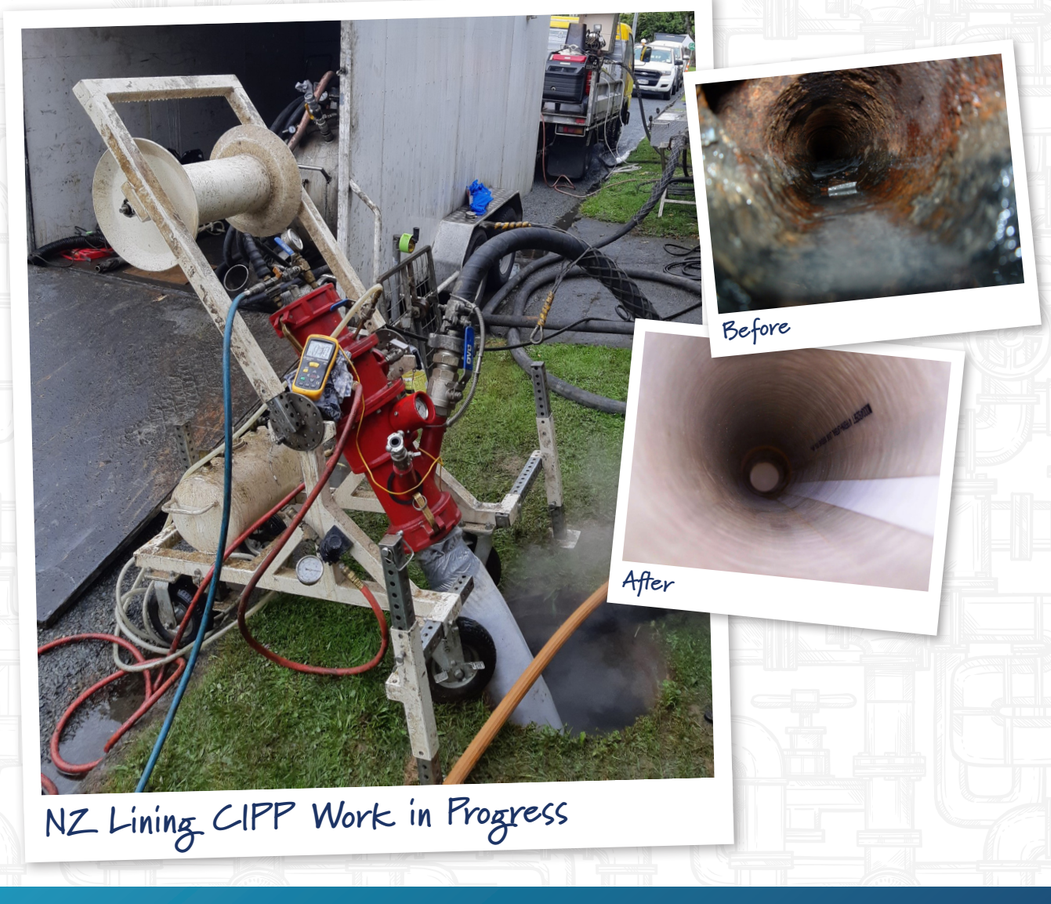
Lateral Connection

Robotic Cutter

Before

After

Diameter Range	100mm—3000mm	**pH Range**	0.5—10.5
Effluent Temperature	Up to 120°C	**Pipe Condition—Fully Deteriorated & Partially Deteriorated**	Yes
Host Pipe Material	All Materials	**Bends**	Yes
Offset Joints	Yes	**Host Pipe Shape**	All Shapes
Test Specifications	ASTM D790	**Design Standards**	ASTM F1216
Design Life	50 Years	**Types of Resins**	Polyester, Vinelester or Epoxy to suit the pipe application



Cured-In-Place-Pipe (CIPP)

Trenchless rehabilitation used to repair existing pipelines of all shapes and sizes

Quikshot trading as NZ Lining
580D Rosebank Rd, Avondale, Auckland 1026
PO Box 71171, Rosebank, Auckland 1348
Phone: 09 820 0407 Email: info@nzlining.co.nz

SHE Health & Safety Software · SITEWISE GREEN 2019/20 · impac PREQUAL

NZ Lining PIPELINING SPECIALISTS

www.nzlining.co.nz

Quikshot trading as NZ Lining
580D Rosebank Rd, Avondale, Auckland 1026
PO Box 71171, Rosebank, Auckland 1348
Phone: 09 820 0407 Email: info@nzlining.co.nz
www.nzlining.co.nz

NZ Lining PIPELINING SPECIALISTS

The NZ Lining CIPP process works on pipes of all shapes (circular and non circular) and sizes varying from 100mm to 3,000mm in diameter.

The CIPP process is one of the most effective trenchless rehabilitation methods used to repair existing pipelines. The CIPP has applications in water, sewer and gas pipelines, for both gravity and pressure lines. A resin-saturated felt tube made of woven or non-woven polyester is inverted using water or air pressure. It is usually done from an access point (manhole or excavation).

The pressure required for inversion can be generated using pressure vessels, scaffolds or a Controlled Head Pressure Unit, known as a 'Chip Unit". Hot water, UV light, or steam is used to cure the resin and form a tight-fitting, jointless and corrosion-resistant replacement pipe. Service laterals are restored internally with a robotic cutter unit

The service lateral connection can be sealed with specially designed CIPP materials. The material used for this seal is epoxy-vinyl ester or silica resin. The ends of the CIPP line are sealed at the access points with a hydrophilic material. The rehabilitated pipe is then inspected by closed-circuit television (CCTV).

CIPP is considered a fully trenchless technology with the following advantages:

Affordability

The NZ Lining CIPP process is usually less expensive than conventional dig methods of sewer repair, even for everyday problems. When you consider the lost business revenues, traffic congestion and social costs associated with other methods the savings are immeasurable.

Infiltration Reduction

Water entering pipeline systems through cracks, holes and joint failures can significantly overload treatment facilities, especially during wet weather. The CIPP can significantly reduce this infiltration and leakage issue.

In dry climates, tree and plant roots find the pipeline systems an attractive source of water and nutrients. As they enter through pipe defects, roots create blockages and causes overflows.

The CIPP contains flow within the pipe while keeping external water and roots out. We can help you to avoid large capital cost of expanding sewer treatment facilities and the environmental problems caused by overflows.

Structural integrity

The CIPP restores the structural integrity to damaged pipes. The design models used combined with independent test results confirm that the CIPP is a structural product with at least 50 years + design life.

Increased flow capacity

The CIPP provides the least cross-sectional reduction of all methods used to rehabilitate pipes. Despite the cross-sectional reduction, the smooth, jointless interior of our product typically improves flow capacity.

Research has suggested that the CIPP lining process increases the hydraulic flow of an existing pipeline by 23%.

Installation Flexibility

NZ Lining offers flexibility in both the method of installation and the curing process. With our equipment we can install CIPP lines with either air, water pressure or the liner can be pulled through the pipeline. All processes are consistent with recognised standards and NZ Lining's own quality control program. Since each job is unique, we can apply the most cost effective, technically optimal solution to solve your pipeline problem.

Why choose NZ Lining for your CIPP Requirements?

Meeting your needs

Large-diameter repairs tend to be put on hold in order to address less expensive, small-diameter problems. However, large-diameter failures pose enormous risks to public safety and can be very disruptive to large populations. Emergency repair costs to large-diameter pipes can be devastating to your maintenance budget.

Experience

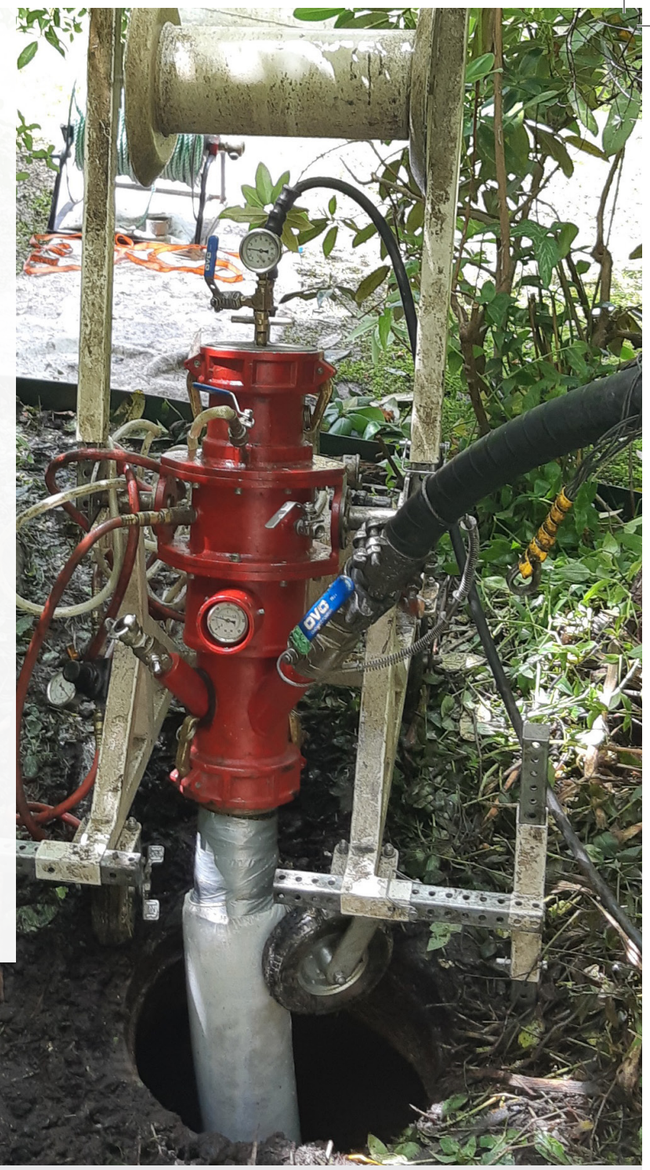
- NZ Lining has a combined 100+ years of experience between our staff

Installation capacity

- Crews throughout New Zealand
- Ability to mobilise quickly

Specialised, safe crews

- Our crews are internationally trained and accredited to install CIPP lining
- Every staff member has gone through extensive safety training
- Our installation teams follow a site specific safety plan and a step-by-step quality installation process to ensure the compliance of the final product.



The NZ Lining CIPP Installation Process

Step 1:

Fabric liner is saturated with a heat-activated resin using a vacuum impregnation process.

Step 2:

The liner is either inverted or pulled in line by air or water.

Step 3:

Heat is introduced through hot water, steam or UV light to cure the resin and form a tight fitting jointless and corrosion-resistant replacement pipe.

Step 4:

Service laterals are restored internally with robotically controlled cutting devices. Rehabilitated pipe inspected by closed circuit TV.

Step 5:

Repairs and seals of the re-opened lateral connections are completed to reduce future risk of infiltration, these are known as Lateral Junction Repairs (LJR's).