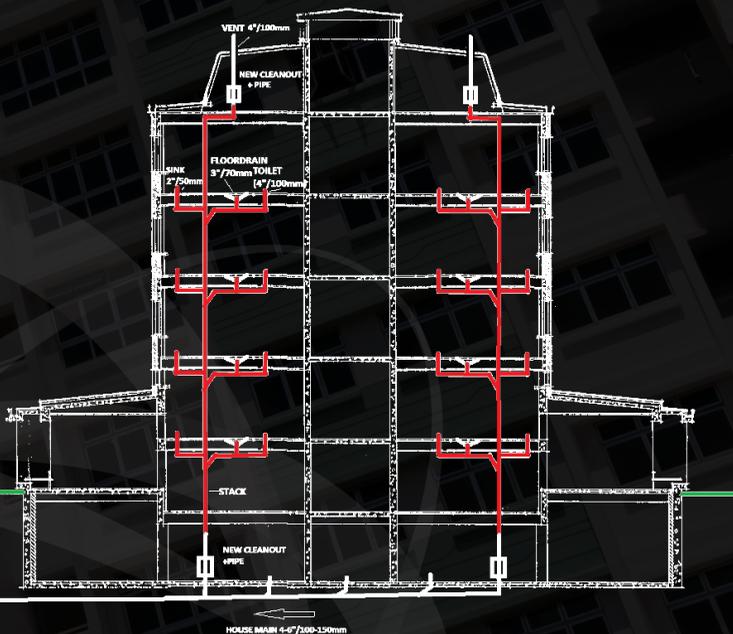




NON-INVASIVE IN-WALL PIPE REHABILITATION

ENGINEERED, COST EFFECTIVE IN-WALL PIPE REHABILITATION
FOR MULTI-STORY BUILDINGS

Apartments | Condos | Hotels | Offices



WHY REPLACE?

Completely rehabilitate your building's plumbing system from the inside out.



Total System Solution:

Restore pipe flow, repair cracks, stop leaks



Pipes Rehabilitated:

Stack, branch, rainwater, sewer



Method:

CIPP or BIPP



Non-Disruptive:

Tenants stay in place



Savings:

60-70%

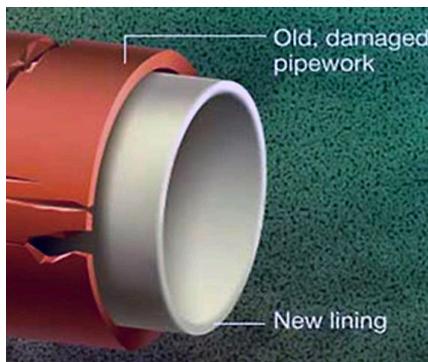


Out of sight, Out of mind.

A building's internal plumbing system is very much like our underground sewers. It's an **intricate series of waste and drain lines** that tie into vertical stack lines, that ultimately **feed into the main horizontal sewer line** below the building.

With **average age of U.S. commercial building being 53 years old**, facility managers are faced with two issues when it comes to maintaining the plumbing system: the condition of the pipes and safe, cost-effective repair. While older buildings may still have the presence of asbestos-based drywall, managers also must consider the astronomical cost of remodeling and tenant relocation if they chose to physically re-plumb the building, all of which is time consuming, cost-prohibitive and extremely disruptive.

For those seeking a better alternative, there is a **non-invasive method called In-Wall pipe rehabilitation** that, depending on pipe diameters and a host of other factors, utilizes either a Cured-In-Place Pipe (CIPP) or Brushed-In-Place Pipe (BIPP) epoxy coating approach. This form of pipe rehabilitation can **reduce costs by as much as 60-70%** when compared to a traditional pipe replacement. In-Wall Pipe Rehabilitation also eliminates the need to provide tenant relocation while repairs are being conducted.



WHY IN-WALL PIPE REHAB?

With In-Wall rehab, the building remains fully functional, and there is no need to relocate tenants during repair. Additionally:

- **Cost-effective**
- **Low environmental impact**
- **Minimal service interruptions**
- **Quick turnaround**



COMMON METHODS OF IN-WALL PIPE REHAB



Cured-In-Place Pipe (CIPP)

- Resin-impregnated composite liner
- Creates a pipe within a pipe
- Provides structural rehabilitation
- Only one access point needed in most cases
- Liner is impregnated with resin and inverted into host pipe
- Can seal cracks and large voids
- Stops infiltration of water and tree roots
- 50-year design life

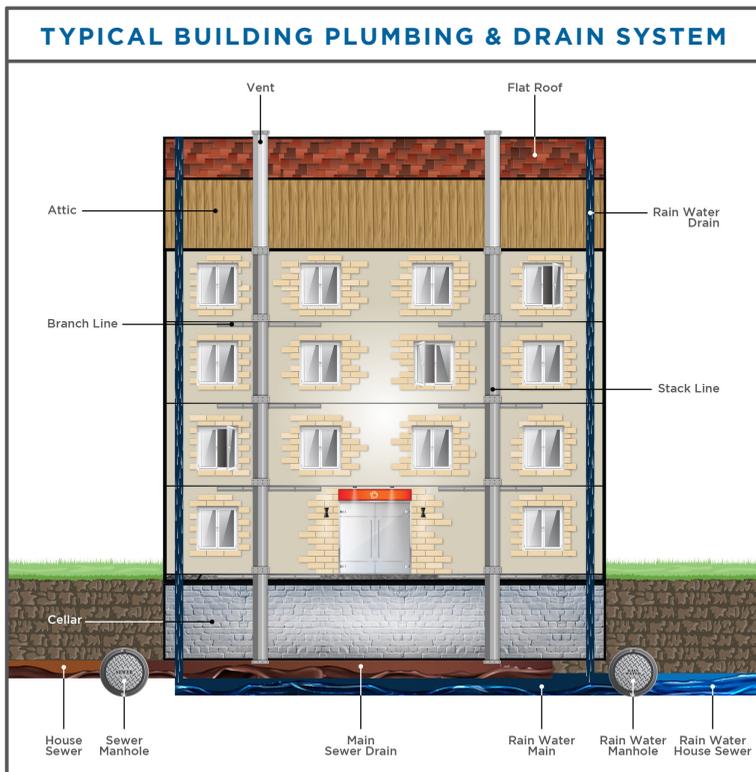
Brush-In-Place Pipe (BIPP)

- 100% solids epoxy lining material
- Provides protective barrier inside pipe
- Bonds to many substrates
- Utilizes various types of resin systems
- Can be brush applied or spin cast
- Highly resistant to many harsh chemicals
- Very low risk installation
- Suitable for small diameters
- Can be applied in potable water mains

FIELD-PROVEN PROCESS PERFORMED IN THOUSANDS OF BUILDINGS AROUND THE WORLD

For the last 20 years, this process has been restoring, high-rise commercial and multi-tenant residential properties' plumbing systems, more cost effectively and with less environmental impact.

Historically, when building owners are forced to relocate their tenants while conducting plumbing replacement, even if for only a few days, costs exceeding \$1 million are not uncommon. This is why In-Wall Pipe Rehab is gaining in popularity.



In-Wall Pipe Rehab is a non-invasive method of repairing stack, branch, drain lines installed inside walls and between floors.

CASE STUDY

An expansive 10 story 120-unit retirement community in Oregon had 18 vertical stacks, 130+ branch lines and an aging horizontal sewer main in need of total rehabilitation. With 150 residents, the In-Wall Pipe Rehab process was an ideal choice to avoid disruption and high cost of temporarily relocating its elderly residents.

The Vortex team worked closely with the building staff to coordinate the entire project from assessment, prep, cleaning, and relining. On any given day, there were 4 to 5 crews working on different phases of the project. Since Vortex manufactures its own lining materials, there was no downtime waiting on third-party material delivery. This ensured a quality installation and allowed the expansive project to be completed in just five months while residents remained in their units.



Prepping branch line



Wet-out of CIPP liner to rehab stack and branch lines.



Inserting CIPP liner into branch line located inside apartment.



Vortex Consultative Process

Prior to every project, the Vortex team will assess and recommend the best solution to address the building owner's problem. As both a product manufacturer and service provider, Vortex is in the unique situation to provide the material and equipment solutions or self-perform the work with it's own highly-experienced crews.



Vortex works with customers to get the right solution for their specific project. Not pushing one solution or approach. Pipe rehab should meet the needs of the pipe system not the rehab option.

Our engineered approach to In-Wall Pipe Rehab, combined with more than 20 years of experience in sewer and drain rehabilitation, results in the best process and best materials for each project.

Vortex is your single-source provider for all your pipe rehabilitation needs. Contact us today at sales@vortexcompanies.com for an engineering-driven evaluation of your project.

DETERMINING THE BEST IN-WALL REHAB SOLUTION:

PIPE DETAILS	CIPP	EPOXY PIPE COATING
PIPE DETAILS		
Vertical Stack Pipe	X	X
Branch Waste Lines	X	X
Drain Lines	X	X
Horizontal Sewer Main	X	X
PIPE CONDITION		
Corrosion Protection	X	X
Sealing	X	X
Cracks	X	
Structural	X	
Leaks	X	X
DIAMETERS		
1-¼" - 8"		X
2" - 8"	X	X

WWW.VORTEXCOMPANIES.COM

SALES@VORTEXCOMPANIES.COM

1-855-WHYDIG1

18150 IMPERIAL VALLEY DR.

HOUSTON, TX 77060