

Non-INvasive Pipe Renewal

IN Building | IN Wall | IN House
 Engineered, cost-effective pipe renewal for multi-story buildings.
 Apartments | Condos | Hotels | Offices | Schools | Campuses | Resorts

WHY REPLACE WHEN YOU CAN RENEW?

By specifying alternate methods, the building remains fully functional, and there is dramatic construction reduction during repair.

When **buildings reach the 30-year-old mark, it is not uncommon for plumbing problems to occur** and replacing old and leaking pipes is disruptive, time-consuming and expensive. There are also potential environmental risks if the building's walls contain asbestos.

For those seeking a better alternative, there is a **method called Non-Invasive Pipe Renewal** that, depending on pipe diameters and other factors, utilizes a Cured-In-Place Pipe (CIPP) liner 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 methods. Savings are even greater depending on the extent of collateral replacement, such as wall treatments, cabinets, tiling, etc.



SERVICE
 Minimal Service Interruptions



60-70% SAVINGS
 From Pipe Replacement



CIPP & BIPP
 Fit for Purpose Options



IMPACT
 Low Environmental Impact



TURNAROUND
 Quick Turnaround

20+ YEAR PROVEN OPTION

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. For many years prior this method has been used in below ground sewer and water infrastructure and has proven to be effective in even the harshest environments.

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 non-invasive pipe renewal is gaining in popularity.

VORTEX CONSULTATIVE PIPE RENEWAL SYSTEM 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.



DETERMINING THE BEST COMMERCIAL PIPE RENEWAL SOLUTION

Depending on the condition and diameter of piping system, there are two options.

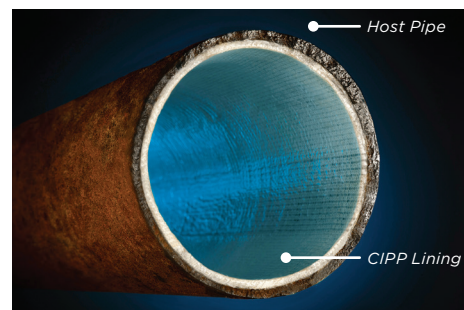
Cured-In-Place Pipe (CIPP)

- Choose from UV CIPP or traditional heat/steam 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, inverted into host pipe and cured
- 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

PIPE DETAILS	RECOMMENDED APPLICATION		
	UV-CIPP (LED)	CIPP	BIPP
PIPE TYPES			
Vertical Stack Pipe	X	X	X
Branch Waste Lines	X	X	X
Drain Lines	X	X	X
Horizontal Sewer Main	X	X	X
PIPE CONDITION			
Corrosion Protection	X	X	X
Sealing	X	X	X
Cracks	X	X	
Structural	X	X	
Leaks	X	X	X
DIAMETERS			
1-¼" - 8"			X
2" - 8"	X		
2" - 24"		X	X



CIPP/UV-CIPP Lined Pipe



BIPP (Brushed-In-Place Pipe)