

The background of the entire page is a close-up, top-down view of numerous metal pipes stacked together. The pipes are arranged in a staggered pattern, creating a dense, circular texture. The lighting is dramatic, with some pipes appearing bright and reflective while others are in deep shadow, highlighting the metallic sheen and the circular openings.

BMMH

BUILDING MANAGEMENT HAWAII

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FAILED PIPING NIGHTMARES

Plumbing Issues Property Managers Fear Most

When Good Pipes Go Bad

A neglected plumbing system is a ticking time bomb

By Eric Lecky

As buildings age, building components need to be replaced—some more regularly than others. The best property managers know what these components are, and they plan for (and, more importantly, communicate regarding) their replacement well in advance so building owners can budget and be prepared.

Unfortunately, many building components are hidden and therefore easily overlooked. To make matters worse, some managers and owners operate under the false assumption that certain parts of a building are meant to last the lifetime of the building. This is simply not the case, especially with plumbing.

Whether defective or age-related, plumbing issues can be some of the worst a property can experience, given the nature of flooding leaks and their total potential damage to a building's structure and the property of residents. Other interior wall systems (i.e., electrical wiring or HVAC ducts) tend to have longer lifespans than plumbing, and they fail less often and less spectacularly. It's one thing to have your lights not turn on when you flick the switch—but having water flowing all over your furniture represents a totally different level of urgency and crisis.

As such, it's critical that building owners and property managers inspect their pipes regularly.

Obviously a small leak or drain stoppage is the first warning sign, but as leaks or stoppages begin to occur regularly, it's a good indication that there is a more systemic problem.

While repiping a building is not inexpensive, it can be far less costly and impactful than you might think. And it certainly beats the alternatives of losing insurance coverage or severe property damage as a result of a major flood.



Severely corroded pipe

Determining Your Pipe System

Most buildings have several different piping systems that should be inspected on a regular basis to ensure they're in proper working condition and not showing any dangerous signs of aging. In addition to the water supply piping that brings clean, potable water into the building, as well as the corresponding waste lines that take used water (and waste) out of the building, there are closed loop systems (i.e., HVAC piping) as well as other systems such as fire sprinklers. Some buildings even employ custom systems such as rooftop water heating pipes for heating pools in warmer climates.

These systems are frequently comprised of one or more different types of pipe, which range from metals such as copper, steel and cast iron to a variety of plastics. The lifespan of each material varies considerably

and is highly dependent on local water chemistry and climate. In some regions, copper pipes can last a century or more, while in others they start to show pitting and pinhole leaks within 10 years or less. The same is true for plastics. While many of today's modern materials have excellent warranties, many of the older products, like polybutylene, have failed or been replaced under class-action lawsuits.

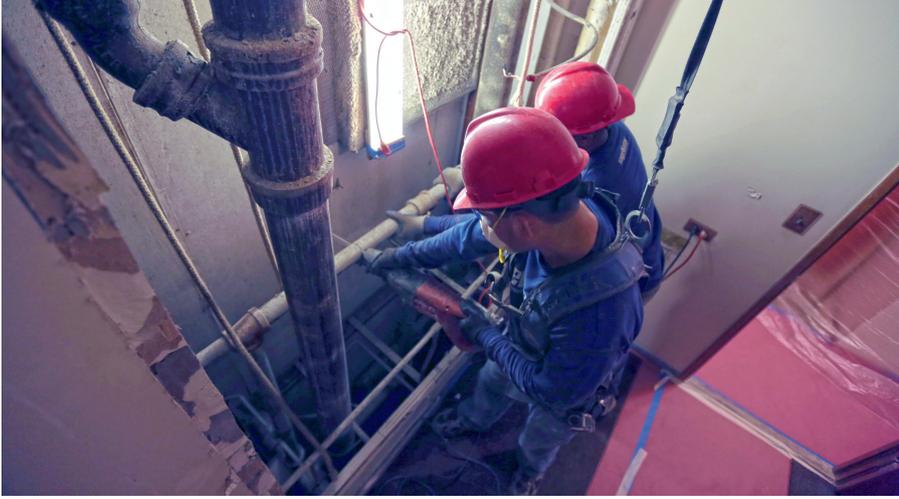
Knowing what's in your building, when it was installed and how well it's aging are critical points in evaluating the length of time you may have before needing to repair or replace your pipes.

Documenting Potential Risks

Log your leaks before any significant problems occur. Sudden changes in water pressure, discolored water or small leaks are early indicators of potentially more pressing issues. While a small pinhole fixed with a piece of foam and clamp may seem like a five-minute fix, it is almost always an indication of a larger problem. Repeated fixes like this mean that a more significant leak is right around the corner.

Visible signs of corrosion—such as changes in water color, oxidization of metal pipes or a metallic taste—are equally important indicators. Track all complaints about the water and your leak/stoppage history in a journal and inspect any visible pipes on a regular basis. One rule of thumb is that if pipes you can see look bad, they probably also look bad behind closed walls.

If water related complaints, leaks and other problems become more frequent, it's time for a professional inspection. Take a proactive approach. If too many insurance claims are filed for plumbing leaks, your insurance company might send its own inspector. At that point, it may be too late to avoid losing coverage.



Piping repairs underway

An inspection by an engineer, a construction manager or a plumbing company experienced in piping renovation of occupied properties can provide documentation of your piping issues and make recommendations for remediation or replacement.

Solutions to Piping Problems

There are a number of ways to go when it comes to repairing failing pipes, and some are better than others. Capital-intensive projects like pipe replacement can yield the best long-term results, but that can be difficult to afford without careful planning or financing. However, in some situations, other options may represent viable interim solutions until you can secure funding for a full pipe replacement.

1. Call a Plumber

At one end of the spectrum is continued ad hoc repairs by your everyday plumber, which involve replacing small sections of pipe as they start to sprout holes and leak. While each individual service call is not too expensive, in the long run, this is a costly and time-intensive option and does nothing to solve the problem. It just buys a bit more time until money can be saved for a more extensive solution.

2. Pipe-Lining Solutions

A midterm solution involves various types of coatings and linings that create a barrier or film on the inside of your pipes. This “pipe within a pipe” concept is widely popular, as it’s less invasive than a full repipe but significantly reduces the number of leaks.

Epoxy coating is the most common type of pipe-lining solution for water supply lines. It involves shutting your water off, drying and cleaning

the inside of the pipes and then blowing epoxy resin on the inside of the pipes. Because there is no easy way to determine the quality of the application, choosing a reputable installer is of utmost importance. The warranty and the company backing it are equally critical, as the final product is only as good as the installer was on the day that he or she installed it.

Poor-quality epoxy coatings are worthless, since they fail to provide adequate protection to failing pipes and can even leach harmful chemicals such as BPH into the water supply. In addition, epoxy coating is expensive and can frequently cost just as much as a total repipe; and, many times, the disruption to residents is about the same for an epoxy system as for a total repipe.

That said, there are certain circumstances in which the epoxy solution makes sense, such as buildings with significant asbestos issues, where remediation would make a full repipe cost prohibitive, or properties with problematic drain lines running underneath concrete slabs, making access to replace the drain pipes nearly impossible. In this instance, cured-in-place linings for drain lines can be an effective semi-permanent solution for underground pipes as well.

For copper and steel water supply piping, silicates solve the problem differently. Rather than creating a semi-structural reinforcement to the pipe like epoxy does, silicates address the issue at the water chemistry level.

With this solution, food-grade additives are injected into a building’s water supply. These additives form a microscopic film on the inside of the pipes, essentially putting existing corrosion in a state of suspended animation. As long as the additives

are maintained at appropriate levels, the film stays in place.

This method is effective because it halts further corrosion by altering the water chemistry, and it stops pinhole leaks from forming. Best of all, this solution is inexpensive, costing just a fraction of the price of epoxy coating. In fact, most public utilities currently use additives to protect pipes that connect to water treatment facilities; unfortunately, they don’t put in enough additives to protect pipes at the end of the line.

3. Repiping

This solution represents the most permanent fix to plumbing problems and the only fix for certain types of pipes, such as closed loop HVAC piping and many kinds of drain piping. By replacing pipes altogether, you are able to reset the clock on your building. Many new potable water supply piping products carry a 25-year warranty, so you’ll have plenty of protection for years to come.

While some managers and owners initially believe that repiping may be too big of a project to undertake, the reality is that it can be managed very efficiently with minimal disruptions to residents. And, it often costs less than you might think, given the nature of the project, and is frequently less expensive than epoxy lining. With specialized crews providing turnkey solutions, these projects can go quickly and are often the best way to deal with piping problems.

Whether you’re currently facing a total repipe project or are just beginning to find leaks and consider solutions, it’s important to understand the magnitude of your problem with a proper inspection. Be sure to weigh the pros, cons and costs of each available solution so that you make the right choice for your building. 📌

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