

Eco-Friendly Practices

Strategies to Enhance the Water Quality Coming Into Your Building

By Larry Gillanders, Co-founder, Ace DuraFlo Systems



Mr. Gillanders

Americans are increasingly concerned with their water quality. But you should be, too. You may not even know that your property could be liable for delivering lead-contaminated water to guests. But what causes high lead levels in water, anyway? What actions can you take to ensure your hotel's water is safe and healthy? How do insurance companies leave you liable? This article will help provide vital knowledge about the current lead problem and how you can make your property's water safe.

Just when you thought it was safe to drink the water, along came news of Flint, MI, and lead-tainted drinking water showing up at a tap near you. Ok, well this may not be the latest "Revenge of Jaws" movie, but in this case, it is a reminder that lead that is lurking in our drinking water.

Surprising to many, you don't need to have lead pipes to get excessively high lead levels at the tap. Even more surprising, you may even be liable and left uninsured for delivering lead-contaminated water to your guests.

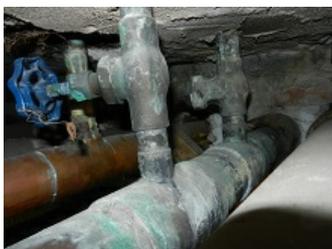
This article touches on what are called "lead contributors," how to identify them, what causes high lead levels, what you can do about it and use of lead exclusions by insurance providers.

Lead in Water Crisis

Americans are extremely concerned about water quality. And it's no secret. Proof of growing uneasiness includes the public's outrage to Flint's lead leaching crisis, a 2016 Gallup Poll revealing that Americans' greatest environmental concern is drinking water pollution, a rapidly increasing number of schools getting their drinking water tested and even the bombardment of coverage over the polluted water in Rio de Janeiro, Brazil, before the Olympics.

However, we have known for years that our country's water infrastructure has been crumbling beneath us: thousands of news articles were published about it and elected officials have included infrastructure investments in their policies. But throughout the past few decades, the government's focus on water quality fell by the wayside, and while pipe leaks and water main breaks became more commonplace, drastic change did not start to be talked about until disturbed families from Flint, MI, came forward about their families being slowly poisoned by lead in their water.

The fruition of providing healthy, safe drinking water is significant for many commercial industries, but especially the hospitality industry, because water is technically a service that is administered to the guests of the building. Hotels give their guests a working bathroom and a comfortable place to sleep, it's pretty simple. It is your obligation to provide clean drinking water at the tap. Without knowing, you could potentially be exposing your guests with lead-contaminated water, which could leave you facing a serious litigious and public relations problem. An important lesson from the lead paint crisis: check your general liability insurance coverage and exclusions for lead.



Lead Solder in Piping

In response to the lead paint crisis, many organizations in the insurance industry responded with "lead liability exclusions." While the standard Insurance Services Office general liability policy form does not contain a lead-specific exclusion, many insurers began issuing policies in the mid-1990s with endorsements intended to exclude coverage for lead-based liabilities. Some of these exclusions, such as absolute lead exclusions, were written broadly to apply not only to claims involving exposure to or ingestion of lead paint, but also to liabilities arising out of plumbing solder, pipes and fixtures.

Lead exclusion language from one insurance provider reads:

We do not pay for:

1. actual or alleged bodily injury arising out of the ingestion, inhalation or absorption of lead in any form;
2. actual or alleged property damage (or personal injury or advertising injury, if provided by the Commercial Liability Coverage) arising out of any form of lead;

3. any loss, cost or expense arising out of any request, demand or order that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize or in any way respond to or assess the effects of

4. lead; or any loss, cost or expense arising out of any claim or suit by or on behalf of any governmental authority for damages resulting from testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing or in any way responding to or assessing the effects of lead.

The takeaway - Check with your insurance provider in regards to lead exclusions at your property.

Solutions to Lead Leaching

In order to understand the best solutions to enhance water quality, we must first recognize how lead and other contaminants get into water. It is important to know that water treks through many miles of pipes before it reaches the tap. Potable water first travels from water treatment plants, through municipal water mains (mostly located beneath roads), then passes through a branch line, which is the connecting underground pipe from the city main to a home or building, where it finally goes through the pipe system inside the building to the eventual point of use be it at the faucet or toilets, etc.

If your building was built before the mid-1990s, faucets or plumbing fixtures inside your facility could be leaching lead into the drinking water.

The water from the treatment plant to a building often meets U.S. Environmental Protection Agency guidelines for safe traces of lead, copper and other hazardous materials inside the water. But if your building was built before the mid-1990s, faucets or plumbing fixtures inside your facility could be leaching lead into the drinking water making healthy water unsafe.

Possible ways your hotel's pipes are contaminating your guests' water:

- Lead leaching
- Copper leaching
- Corrosion
- Rust sediment
- Spread of Legionella and other microbials

While utility companies and municipalities continue to focus on removing lead water mains and other sources of lead in the public water supply system, we must keep in mind that the EPA states a significant source of lead leaching occurs right inside your building. Leaching can occur from what are commonly called lead contributors. These lead contributors are most notably recognized as leaded solder, brass faucets, valves and fixtures. Until the late 1980s, lead solder was commonly used with the installation of copper piping systems in North America. But unfortunately, lead solder is a serious contributor that can elevate lead levels from 10 to 60 times the legally safe limit. Although the water coming from the local utility company might be safe, a building's pipes can turn clean water toxic.

Making international headlines in 2015, Hong Kong's toxic lead contaminated water crisis came about as a result of lead contributors in the buildings drinking water piping systems. There were not any lead pipes in these buildings - only lead contributors.

This means our own piping system could be the enemy

How does one prevent a building's pipe system from leaching lead and other contaminants into its clean water? Start by completing a LeadSmart™ recommended review of your water distribution systems for possible sources of lead. Consider these steps:

- Have your water tested for lead using the U.S. EPA Guideline.

If those tests show you have lead in your drinking water near or in exceedance of the Maximum Contaminant Level (MCL), currently at 15 ppb (parts per billion), you can ask your water supplier to test the incoming water supply and you can complete an inspection of possible sources of lead in your buildings water distribution system.

Those sources may include lead solder, galvanized pipes, brass faucets and valves. Still concerned about lead? The most effective solution is to reduce the water from touching any iron, steel, galvanized, copper or lead pipes, fixtures or lead solder in your piping system. There are only a few options to prevent this from happening. Two of those options include pipe replacement and pipe lining.

Replacing Pipes

The traditional way to resolve pipe system problems is to replace your pipes with new pipes (also called repiping) and update your fixtures to lead free units.

Repiping a system with a new pipe system is a large, destructive, construction process that depends on several factors including the vacancy of the building. For busy properties in the hospitality industry, this is unacceptable and could even result in bankruptcy. Other disadvantages of replacing pipes are high costs, damage to expensive or irreplaceable wallpaper or floors, a lengthy project

schedule, inconvenience of hiring multiple contractors to complete the job, high noise level and it being extremely wasteful.

Now that you know more about the option that you would not want to choose, let's learn more about the preferred option...

Pipe Lining

Pipe lining is the most economical, environmentally-friendly and (most importantly) effective solution to prevent contamination in healthy drinking water. Why? Because pipe lining creates a safe barrier between the water and the pipes, protecting the water and saving the integrity of the pipes.



ePIPE was used to restore this hotel's potable hot water system

The particular type of pipe lining for water piping, called epoxy coatings, was brought to the United States in the 1980s and has been progressively improved on. Epoxy coatings are installed by taking advantage of existing access points within the pipe system (at fixtures, in mechanical rooms, etc.) and using clean, compressed air to push epoxy through a prepared piping system. This non-invasive process is described as in-place, meaning that the technique is applied while the original host pipes remain in place. Once the epoxy coats the interior of the pipes, it sits to cure. After it has thoroughly cured, it forms a strong, yet thin protective barrier inside the pipe system, and the pipes are safe to use. The epoxy coating greatly reduces the likelihood of metal leaching, corrosion buildup, leak formation, low water pressure and other problems. Epoxy coating applications are a proven, internationally-accepted method to restore aging or failing pipe systems. These specific types of restoration processes are especially useful for

buildings that cannot have operations disruptions and pipes that are difficult to access. Not strictly for potable water usage, epoxy coatings can be applied to all types of pressurized pipe systems to greatly extend their useful lives, including HVAC, fire suppression, air and natural gas systems.

Pipe lining is a superior long-term solution for America's aging pipes crisis. When municipalities rely on the chemical treatment of drinking water, it can lead to major problems, such as what happened with Flint, MI. Pipe lining techniques, such as epoxy coatings, do not require the addition of expensive and questionable water treatment chemicals, but instead use non-invasive methods to make pipes safer, which greatly lengthens the pipe system's lifespan, improves the quality of water for guests and can even increase the property value.

Different pipe lining companies produce different epoxies and application technologies, each with their own benefits. For instance, ACE DuraFlo's patented ePIPE® epoxy coating process has the fastest cure time in the small diameter pipe lining industry, at two hours, and is also the only epoxy to have a patent for its proven ability to reduce lead and metal leaching to a safe level, much lower than the U.S. EPA's cut-off levels at 15ppb and the World Health Organization's (WHO) cut-off levels at 10 ppb. Outside of buildings, ePIPE installers have been active in protecting underground lead water service pipes for water utility providers in cities like London and Dublin where a myriad of lead pipes mixed in with other underground services and surface challenges like road and buildings make replacement uneconomical and often times totally impractical. In the UK, ePIPE is the only epoxy lining product that meets the stringent requirements for use in both public and private water supply systems that have small diameter lead pipes.

Be careful when conducting research for a pipe lining company for a restoration project on your building. As is the same in any industry, not all businesses in the pipe lining industry are created equally. First and foremost, you must pick a company with a team that can handle a property of your size and complete the project on deadline. Next, you need to make sure that the epoxy is approved for ANSI/NSF Standard 61, making it safe for potable water pipes, as well as other plumbing codes. Other qualifying questions should include city approvals, references from past projects on similar buildings, sales presentations, product demos and, obviously, bid price, trust and rapport.

A Value of Water Coalition poll found that 95 percent of Americans want our government to increase investments in our nation's water systems. While it is clearly important for public officials to do so, it is equally important that we invest in the pipe systems within our buildings.

In conclusion, some helpful tips to ensure healthy water for your property are as follows:

- Routinely clean, monitor and analyze the health of your pipe systems.
- Get a plumber to tie-off or remove any unused water branch lines that can become a breeding ground for microbials.
- Research pipe lining technologies to extend the useful life of the pipes.

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