

INSURANCE & RISK MANAGEMENT PRIORITY:
Effective Plumbing Leak Protection
for Residential, Commercial
& Common-Risk Properties

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Insurance and Risk Management for Plumbing Leaks and Water Damage – Stemming the Tide of Exposures

When it comes to plumbing-related water damage, Risk Managers, Insurers and Agents/Brokers share a common objective: avoiding or minimizing catastrophic water damage and its impact on the property they insure or are responsible for.

Plumbing-related leaks can cause catastrophic loss in terms of direct damage to property and interruption of tenant/occupant businesses, not to mention increased insurance costs.

Insurance and Risk Management professionals have a number of tools at their disposal to prevent, mitigate and/or fund for the effects of plumbing-related water leaks. What might be new to some is the ability to prevent the unnecessary costs and disruptions by employing water leak alarms and automatic water shut-off systems to proactively prevent minor leaks from turning into catastrophic events.



Why Worry About Plumbing Leaks?

Plumbing leaks occur in homes and buildings of all shapes and sizes every day — even those employing high-quality products and superior workmanship. Every building is at risk of water damage from undetected leaks. The key is to put systems in place to stop the uncontrolled water flow before the damage becomes catastrophic.

Savvy CFOs, CRMOs, Insurance Carriers and Agents/Brokers have come to realize that preventing or mitigating plumbing leaks of any size should be an integral part of any Enterprise Risk Management and Water Conservation Program that has been or is being established.

The statistics around the frequency and severity of water damage and related insurance claims are alarming. Here are just a few examples:

- Water damage leads to billions of dollars in structural, operational, reputational and financial losses each year for commercial property owners. ^[1]
- In 2015, liquid damage was the leading cause of property losses in offices, apartments and other real estate facilities. 57% of all Zurich Real Estate claims were tied to water damage, accounting for 71% of total loss dollars. ^[2]
- More than 720 gallons of water can be lost daily from a leaking pipe or broken water line! ^[3]

References:

[1] <https://www.zurichna.com/en/knowledge/articles/2015/10/avoiding-common-water-damage-claims>

[2] <https://www.zurichna.com/en/knowledge/articles/2015/10/cure-for-water-damage-offices-habitational-facilities>

[3] <http://www.emwd.org/use-water-wisely/water-consumption-and-leak-facts>



**3RD-FLOOR DENTAL
OFFICE LEAK:**

Est. Damage: \$110,000

**UNREPORTED COLLEGE
DORM LEAK:**

Est. Damage: \$1.2 million

Beyond significant water loss and structural damage, extensive water leaks at a commercial or industrial building can lead to business interruption and reputational loss – severely impacting owner and tenant experience and relationships for years to come.

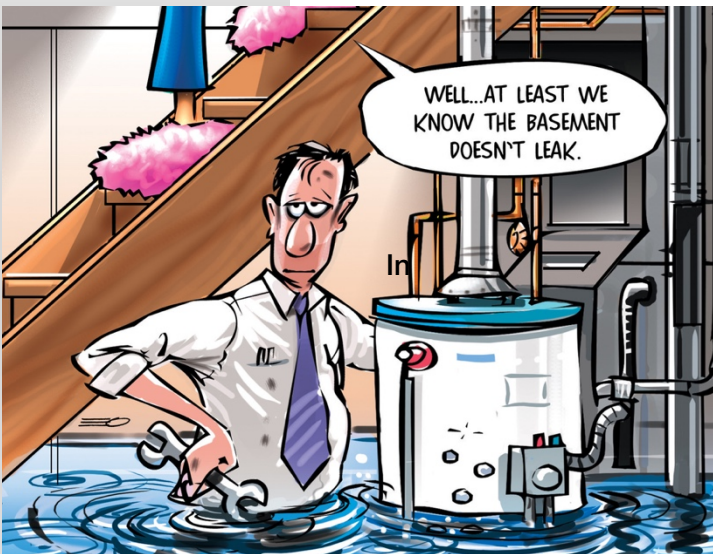
Water damage can also lead to mold growth and potential health issues.

While water damage can be devastating in private standalone residences, it is compounded in common-risk properties such as residential or commercial high-rises; college dormitories and classroom/laboratory buildings; and healthcare facilities and medical office buildings, where leaks can quickly spread into neighboring units and floors.

Imagine a dentist who opens his third-floor office Monday morning to find that water has been leaking undetected over the weekend. Below, on the second floor, partners of a law firm slosh through the debris of their board room and find a very expensive legal copier, several computers and irreplaceable legal documents and files all destroyed. Damage could be upwards of \$100,000.

Or, consider this scenario that seems like fiction, but really happened. A large-caliber handgun was accidentally discharged in a dorm room on an upper floor. The bullet passed through two adjoining rooms before penetrating a water pipe, causing a large-scale water leak that for some reason went unreported for an extended period of time as water ran down through several floors below. A huge, 7-figure clean-up bill and insurance claim could have been avoided by a leak detection system that would have shut off the water flow and immediately reported the leak to the maintenance department.

In complexes where a large number of units were constructed at the same time, plumbing and water heater failures tend to run in batches. This can easily result in an insurance nightmare from successive claims. Multiple-unit insurance claims are also the norm when one unit's water leak quickly spreads to involve neighbors on all sides. The hassle of handling the cleanup, mold remediation and required repairs pales only in comparison to irate owners and tenants.



Common Sources of Plumbing Leak-Related Insurance Claims

Water damage in residential, commercial and common-risk properties typically results from:

- Leaking pipes and plumbing fixtures
- Frozen pipes that burst
- Broken feed water lines on:
 - o Dishwashers
 - o Refrigerator ice makers and water dispensers
 - o Toilets
- Leaking hot water heaters – both tanks and tankless units
- Broken washing machine hoses
- Tenants forgetting to turn off bath water
- Cuspidors and tool feed lines in dental offices



The Leak Detection Discussion: Who are the Stakeholders? What are the Benefits?

In the context of insurance and risk management, there are several key stakeholders who can benefit from initiating a proactive, comprehensive plumbing leak detection strategy.

Insureds have the opportunity to:

- Mitigate potential water damage to structural, business and personal property.
- Minimize or avoid one of the largest causes of insurance claims – namely, water-related damage and freezing pipes, as well as liability and business interruption claims.
- Enjoy additional premium savings or lower deductibles. Many Insurance Carriers have special programs offering premium discounts if the Insured installs a qualifying leak detection system.
- Become eligible to purchase more comprehensive coverage.
- Minimize liability and avoid potential litigation from tenants.
- Minimize potential business interruption and lost revenue.
- Avoid the hassle of insurance claims and costly deductible payments.
- Comply with insurance mandates.
- Help optimize asset management performance.
- Support proactive tenant engagement initiatives.
- Increase effectiveness of BMS/BAS or other smart building systems.
- Comply with local, state and federal zoning, building and water conservation codes and requirements.
- Support Zero Net Energy, LEED and other sustainability programs.

Insurance Agents and Brokers can also realize some substantial benefits:

- Increased value in the eyes of customers through negotiating premium discounts, lower deductibles or expanded water leak damage coverage on their behalf.
- For Agents who develop and manage a portfolio of accounts with reduced water damage claims, the Insurance Companies may reward the Agent with additional contingent commission or profit sharing.

Insurance Companies that develop and provide loss prevention/loss control programs and resources can benefit from:

- Preferred risk/more profitable accounts.
- An effective way to differentiate themselves from competitors.

Types of Leak Detection Systems

Generally speaking, leak detection solutions can be broken down into four main categories:



1. Simple Battery-Operated Alarms

Low-cost audible water leak alarms are available commercially for less than \$10 a sensor. These devices are typically battery powered and can be placed just about anywhere. They work great, as long as the batteries are changed regularly and someone is present 24/7 to respond to the alarm.

Pros: Lowest cost; flexible use/placement; easy to install

Cons: Minimal water damage mitigation benefits

2. Simple Plug-In Alarms

One step up from battery-powered alarms are wall outlet-powered units, which often have dry contacts to tie into a building management system, home automation platform or text messaging service. These types of water sensor alarms still require someone to be on-hand to shut down the water feed to avert catastrophic damage. Unless on-board battery backup is available, these systems are vulnerable to power outages and can leave property unprotected. Because there is no proactive intervention, these types of systems are primarily used in low-risk facilities with around-the-clock security personnel who can respond fairly quickly to an emergency involving the building infrastructure.

Pros: Lower cost; easy to install; output connectivity

Cons: Minimal water damage mitigation benefits



3. Appliance-Based Systems

The true benefit of leak detection is realized with the integration of automatic water shut-off. Systems with out-of-the-box integrated valves allow for automatic water shutoff response to mitigate damage. These systems often come in task-specific configurations for appliances such as water heaters, washing

machines and HVAC overflow pans. Typically priced in the range of a few hundred dollars, these systems can easily pay for themselves by preventing just one plumbing leak from getting out of hand.

Pros: Low cost; proactive shut-off of water supply

Cons: Less than 100% coverage, leaving some areas of the building exposed



4. Full-Facility Systems / Wireless Technology

Leak detection systems that can monitor multiple locations on floors throughout one building typically require some type of wireless communication, as the cost of running wires to every potential leak point throughout a large building can be cost prohibitive (if not physically impossible). While these systems are typically more expensive than those mentioned above, their capabilities certainly make them worthy of consideration.

Wireless systems often communicate by piggybacking on existing Wi-Fi infrastructure or through a closed-loop RF system. Many of these more advanced leak protection systems incorporate low-temperature detection into the water fault monitoring, thus protecting against frozen and burst pipes in geographic areas where freezing temperatures can be a concern. Most also provide on-board battery backup to ensure coverage during temporary power outages.

Obviously, a plumbing leak protection system can only work when it is deployed properly and the system remains intact. This is especially true with wireless technology, where sensors can be inadvertently knocked out of range. Ideally, the system should provide some form of positive confirmation or self-testing to indicate it is intact and fully operational.

Pros: Proactive system monitoring and testing; “smart” capabilities; easy installation

Cons: Requires regular “maintenance” to be sure that the system remains fully operational.

Additional factors and specification considerations:

Scalability: Can the system accommodate future expansion?

Flexibility: Can the system accommodate different types of sensors where there are various physical/aesthetic considerations (such as hard-to-reach areas)? Can the system easily interface with building automation or home automation platforms?

Technical Support: Is the manufacturer or distributor able to provide installation, operation and ongoing support and troubleshooting?

Installation: How easy is the installation process? Are any special certifications, tools, skills or knowledge required?

Reputation: How long has the manufacturer been in business? Where are the components manufactured? Who are their supply chain partners?

If this seems like a daunting task, it really shouldn't be. A qualified manufacturer will be able to easily walk you through initial product selection.

Benefits

There are a variety of benefits that should be considered when assessing the total cost of any leak protection system:

Possible insurance premium discounts – As previously mentioned, many insurers will offer premium discounts or lower deductibles if a plumbing leak detection system is installed. In many cases, the system cost is actually less than the cost of the insurance deductible.

Scalability – A scalable system can provide the flexibility needed to accommodate incremental facility growth over time, not to mention cash flow considerations.

Peace of mind – Consider the intangible value of knowing that the proper system is in place to detect and help protect against the devastating consequences of plumbing-related water damage.

Installation Considerations – Any system involving an automatic shut-off valve should be installed by a licensed plumbing contractor. This is typically a straightforward installation.

Conclusion

Plumbing-related water leaks can happen at any time, even in the presence of the most meticulously designed and installed plumbing system. The damage caused by undetected leaks is unnecessary and can be substantially mitigated with the use of a plumbing leak protection system. Many Insurance Companies are not only rewarding customers who proactively install leak detection systems via reduced premiums, but they are also mandating a system be installed before a policy will be renewed following a water damage claim.

Protect your clients' buildings and your tenants' assets by requiring a plumbing leak detection system as a standard feature for every property. For new projects and retrofits, be sure that plumbing leak detection is specified by your architect, engineer or consultant.

RDT has also published a companion Product Selection Guide to this white paper to provide professionals and property owners with a number of options for specifying the product that is best suited to the needs of their clients. For a copy of the companion guide, please send a request to info@RelianceDetection.com or visit www.RelianceDetection.com.

About Reliance Detection Technologies, LLC

In an effort to address the ever-increasing demand for more sophisticated monitoring and detection capabilities from its FloodMaster® product line, Madison Company founded Reliance Detection Technologies, LLC (RDT) in early 2015. RDT's mission is to meet those increasing market demands by drawing on the depth and breadth of Madison Company's 55+ years of engineered sensor design and application experience. The first triumph of that mission is the newly released, state-of-the-art, RS-360 wireless system which combines low temperature / freezing pipe and water leak detection capabilities. www.RelianceDetection.com

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