



Preventing Water Damage in the First Place

Are you prepared for water damage? This probably seems like a silly question until you consider that water damage is the second most severe source of property damage after fire and smoke, based on Fireman's Fund Real Estate claims research. In buildings over 50 years old, water damage may even be more significant than fire.

Reviews of our claims over a four-year period show water damage due to:

- plumbing (not caused by freezing)
- roof leaks / flashing leaks
- fire sprinkler leakage

These three sources are the most common water leak sources, contributing to 75% of losses. Other common factors include water backup from drains/sewers and freezing.

Making things worse, most businesses now rely on computer and communication equipment that can be damaged or destroyed by even a small amount of water. Basement storage is also highly susceptible to water damage, particularly in older buildings that do not meet current building codes. Another major concern is that water damage greatly increases the potential for mold and other microbial contamination.

Start at the Top

What steps can you take to minimize the potential headaches of water damage? Let's start at the top with your roof. When is the last time someone qualified inspected your roof? Is your roof still under warranty? Check out our Loss Control Insights "How to Get the Most Out of Your Roof," available in the Customer Library. If you're in the snowy northern states or wind-prone areas also check out "Roofs - Snow Loads" and "Wind and Hail Resistance of Roof Coverings." Granted these will not appear on anyone's "top 100 things to read" list, but they can give some great pointers for your building maintenance team. For example in "How to Get the Most Out of Your Roof" it notes that a blocked roof drain with four inches of water over 10 square feet adds a ton of weight to your roof.

If your building's roof is 10 years old or older, it's generally worth evaluating the need for replacement. Bring in a professional to evaluate the roof condition. Typically they will look for splits or tears, brittle surfaces, spongy surfaces or other signs of potential failure. You may not need a new roof but only repairs to extend its useful life. A good sign of a roofing professional: they will often recommend infrared thermography of the roof. IRT is essentially a sensitive heat scan of the roof surface: water leaks will show up as cooler areas, particularly in the evening. IRT can often help to pinpoint the source of a leak that may be yards away from where it enters the building.

Fun with Flashing

In addition to the roof, consider the condition of flashing around the building's perimeter or penetrations. Flashing damage from wind, contractors or other sources can allow water incursions. The problem with flashing damage is that the resulting water incursion may not be obvious. Often the leaks follow the interior wall and may damage several floors below. The problem is made worse by freeze / thaw cycles, potentially damaging facades as well.

Roof Drains

As noted above, standing water can add immense weight to a roof, imperiling the building's structure. It is imperative that all roof drains be maintained to facilitate roof drainage. Leaves, trash and other debris frequently impede drains' effectiveness. Now look below the drains to see the condition of the drainpipes: have they been bashed by forklifts and taped back in place? Do they terminate away from the building?

Plumbing

Plumbing will leak; toilets will overflow; and, sprinklers heads will be bumped. With newer buildings the current building codes or smart architects have probably thought ahead to put floor drains in bathrooms and other places where water leaks are likely. Many older buildings may not be as well equipped. Coffee makers, refrigerators, sinks and water fountains can spill a LOT of water, particularly if not noticed right away or if they happen over a weekend.

It almost goes without saying then to inspect plumbing and replace any that exhibits signs of decay (corrosion, physical damage, weeping, etc.). If possible, install drained collection pans or floor drains to carry away and contain any areas where leaks are likely. And don't place valuable items or electronic equipment under areas where pipes or plumbed items are located: if you must, then install something to shield the valuable stock / equipment (but don't block any sprinklers!). Talk to your plumber about installing water leak sensing devices (<http://www.watercop.com/>). Have your central station monitored alarm company (fire sprinkler, burglar, fire) add water leak monitoring to your alarm-monitoring package for a few more dollars per month.

Here's a great question: if your domestic water supply or sprinkler system had a leak, who would know how to shut it off and where? There has been more than one instance of hundreds of gallons of water flowing each minute while someone tried to find the shut off valve, or the person with the key to reach the shut off valve. In one classic case, the shut off for a manufacturing plant was in the street and the street had recently been repaved, covering the valve. You don't need the area's largest indoor swimming pool in your basement.

Sewer and drain back-ups may be tougher to handle. Many new building codes require sewer back-flow preventer valves in new construction. Basically, these are a one-way valve that keeps the nasty stuff from entering your building.

Freezing can lead to extensive plumbing and water damage. It need not be anything major, like a furnace failure. More likely, someone forgot to shut a window and the nearest sprinkler pipes froze. Often the leak will not even be apparent until things thaw enough for water flow. If you suspect a freezing condition, call a plumber to inspect affected areas. Better still, have your central station monitored alarm company monitor key areas of your building for temperature, alerting your team if the temperature drops below a threshold.

Leak "First Aid"

If you have read the lines above too late to prevent the leak, you may be wondering how to mitigate damage. Let's start with some basics.

1. Don't store anything on the ground unless you want it to be wet. Even placing items on a pallet will reduce the damage due to a small leak.
2. Keep LOTS of plastic sheeting handy. When the water is coming down from above, plastic sheeting will save the day.
3. Train your maintenance team and provide them leak prevention products. One example I saw at the recent National Facilities Management and Technology Expo was "Stop It," a pipe repair system that allows the pipe to be wrapped to temporary containment. <http://www.stopit.com/>

4. Store materials in leak resistant containers. Retailers in urban areas must make use of all available space, which often means the basement where leaks are most likely: the smart ones store their expensive items in plastic containers or covered with plastic.
5. Plan for the worst. If that small creek behind your building becomes a raging torrent when two storm cells converge over your building, how will you keep the water out? Consider flood barriers. They are often a reliable means for keeping floodwaters out of your building. (www.hendee.com)
6. Protect windows and doors against wind. Frequently the damage from hurricanes is not due to the wind, so much as the damage the wind causes. Damaged roofs, broken windows and blown out doors allow wind driven water inside the building. Wind shutters are one option, moving valuable goods to an interior portion of the building is another.
7. If your building has a basement, then install a sump pump. And plan for the power to go out, if you're in an area where that is likely, by having an emergency generator with plenty of fuel. Be sure to situate the generator where exhaust fumes will escape and have it wired by a professional electrician.

Author's note: The product references above are not meant to constitute an endorsement of a particular product or manufacturer, rather to inform the reader that many new products are available to protect property. For a more complete listing or to discuss what products are best suited for your facility, consult your property manager, architect, or a building organization such as Building Owners and Managers Association International (www.boma.org) or consult the iCustomer Series "Tools and Links" page.



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