

Reducing the Potential for Water Damage and Severe Weather Claims

Have you ever noticed that people tend to refer to their property insurance coverage as fire insurance? It makes sense. After all, it seems that fires are our greatest fear. But property insurance coverage is certainly a more appropriate term. The policy covers far more than just damage from fires. As a matter of fact, it might surprise you to learn that the insurance industry pays many more claims for water damage than they do for fire damage. And the number of losses spike during the cold winter months. Furthermore, the cost of water damage can be staggering. A simple broken one-half inch domestic water pipe can result in millions of dollars in damages – not to mention lost productivity or other disruptions.

So, what should you be looking for? And what can be done to prevent water damage? Water damage such as ruined furnishings, equipment, and personal property; fires (from electrical short circuits); and mold (which can result in illnesses to employees, guests or family members).

This bulletin addresses steps that can be taken to reduce the potential for water damage from:

- **Wind-Blown Rain, Sleet and Snow from Severe Storms**
- **Ice Damming**
- **Flooding and Damage from Surface Water**
- **Accidental Activation or Damage to Piping Containing Water**
- **Roof Collapse**

Wind-Blown Rain, Sleet or Snow from Severe Storms:

- When severe weather is expected, inspect the envelope of the building to identify any potential sources of entry for wind driven rain: open windows, louvers stuck in open position, defective caulking, etc. are all potential entry points. Look for loose siding, fascia or soffits which can be blown from the building.
- Develop a caulking inspection and repair program. This is especially important if your building is clad with EIFS (Exterior Insulation Finishing System) which can trap water resulting in mold and interior damage.
- Inspect all roof surfaces at least every spring and fall, and before and after all anticipated severe storms. Look for torn roof seams, loose or missing flashing, blistering, large sections of roof covering membrane that is loose or otherwise poorly adhered. Inspect roof drains. Are they blocked? Are they equipped with appropriate covers? Are rain gutters secure and not blocked? Are downspouts directed well away from the foundation?

- If wind-blown rain typically results in severe pooling (minor flooding) make certain that grade level door thresholds are in good condition. After the storm, seek a permanent solution to the pooling.

Ice Damming:

It is a common misnomer that ice damming is caused by a building being too well insulated. Actually, the opposite is true. If the roof is inadequately insulated, snow on the roof will melt. When the water reaches the portion of the roof that overhangs the building walls (where warmth from the building cannot be collected), the water freezes. Over time, the resulting ice can back up under the shingles and re-melt, resulting in water damage to the interior of the building. The best (and most cost effective) solution is to prevent the snow from melting on the roof surface in the first place.

- Make certain that your attic is insulated in accordance with U.S. Department of Energy standards. Details can be found at this [Department of Energy](#) website. Most Murray Securus customers are located in

Reducing the Potential for Water Damage and Severe Weather Claims

Zones 4 and 5. But consider your locations beyond your corporate office. Be particularly cautious if you are in a warmer climate, such as Zones 2 and 3. These are the locations where an unusual cold snap can cause most damage.

- Is the insulation in the attic tight? If there are gaps between batts or between batts and joists, heat can escape to the attic space. The same can happen if batts are haphazardly placed in the attic.
- Snow and ice can present more than just a water damage exposure. If you have a sloped roof, it can slide off the roof damaging equipment below or injuring people who just happen to be passing by. If you have a slippery roof surface, such as standing seam metal, slate or even the new solar panel shingles that have recently been introduced, install “snow angels” or metal roof ice breakers. These will help prevent snow and ice from sliding off the roof, or in the case of ice, break it up into smaller, less dangerous pieces.
- If you choose to use heat trace cable to melt ice that accumulates, use only UL listed heat trace cable. In addition, inspect the cable at least once per year to make sure that metal from the gutters or other sources has not cut the insulation or otherwise damaged it. Heat trace cable is a common source of fires, and should be used only as a last resort.

Flooding and Damage from Surface Water:

- Know where you are located. Seriously! If you don’t know that your business is in a flood zone, you don’t know to protect yourself with insurance or prepare for the inevitable.
- If your building is located in a flood zone, establish a formal flood emergency response program. Your program should cover prevention, response and mitigation procedures. Many sample programs can be found on the internet.
- Look at your property. Is there pooling, particularly near your building? Does the terrain channel runoff toward your building? Toward your walkways or parking lots (ice/slipping hazard)? If these conditions are

identified, correct them before storm water can damage your building or freeze presenting a slipping hazard.

- Do your downspouts divert water away from your building, walkways and parking lots?
- Establish a program for making certain storm sewer grates are clear of debris that can block the efficient removal of storm water.

Accidental Activation or Damage to Piping Containing Water:

When discussing water damage, you automatically think of Automatic Sprinkler Systems, Domestic, or Sanitary Water Lines. But you must think beyond this. Consider water pipes associated with HVAC systems. Know what production systems have water lines, or any fluid containing lines that could be subject to damage.

- Begin by following the procedures described above for Wind-Blown Rain (including sleet and snow) from Severe Storms, and Ice Damming. The same conditions addressed for those conditions can result in sprinkler piping, domestic water piping or sanitary sewer piping freezing and rupturing.
- Are domestic water or automatic sprinkler system pipes visible above the insulation? Insulation should always be “tented” over the pipes, with no insulation located between the pipe and the ceiling below. This allows the heat from the finished area below to keep the pipes warm while insulating them from the cold temperatures.
- Have the locations of all water valves, whether sprinkler or domestic, been identified? Are all valves clearly marked showing exactly what they control?
- Have employees been trained on the location of valves, how to shut off valves, and when ***NOT*** to shut off valves (especially important for automatic sprinkler systems)?
- Is piping inspected periodically to make certain that hangers are in place and in good condition; that no slow leaks exist; that corrosion is not excessive; that they are not subject to damage (i.e. from a forklift hitting it)?

Reducing the Potential for Water Damage and Severe Weather Claims

- You will generally know if a sprinkler system pipe has broken or a head has errantly activated – water flow alarms will alert authorities. The same, unfortunately, is not true of domestic water and other lines. This can result in extensive damage, especially if you are in a multi-story building which is not occupied 24/7, where water will trickle down to lower floors. If you have a roving security team during off hours, have them periodically check restrooms and other areas where water lines are located. If you do not have a security team, check these areas each day before locking down the building.

Roof Collapse:

Roof collapse is usually far more damaging and costly than water damage. And if the occurrence is sudden and unexpected, the human toll can be even worse. The potential for roof collapse increases if there are different adjacent roof heights (as little as 3 – 4 feet is all it takes), if roof loading has changed by adding new equipment, or if the roof structure is deteriorating due to roof leaks or other factors

- If a new addition is added to an existing building, make certain that the lower roof level is reinforced to handle expected increased snow loads. Wind eddies tend to cause snow to accumulate against the wall of the higher building section, resulting in greater snow loading on the lower roof.
- Before replacing equipment or adding new equipment to a roof, have an engineering study completed by a licensed structural engineer to make certain that the new load can be handled.
 - Note that this applies to new equipment suspended from the underside of the roof as well, not just positioned on the roof.
- If there is evidence of structural deterioration, normally caused by roof leaks or moisture from processes within the building, proactively have the structure evaluated to make certain that the roof is not at risk of collapse.
- If you have a flat roof, inspect it periodically to make certain that roof drains are open. This is especially important if your roof has a perimeter parapet. At 8+ pounds per gallon, just a few inches of standing water on the roof could bear enough weight to cause collapse.
- If you have never experienced serious roof deflection but are concerned about an impending blizzard, contact your roofer to arrange to have your company be *first* on their list to have snow cleared from the roof. A word of caution, however. This is a reactive approach. If this is done, expect roof damage from shovels and snow blowers. Thawing snow will result in water damage internal to your building.

One issue is key to all of the above exposures. That is, protecting critical equipment. Whether the equipment is your data center/server rack, a critical production machine, or critical pollution control equipment, evaluate what damage could occur, and take measures to prevent the damage. Controls could include soft shutdown of your computer system or computerized equipment; covering equipment with tarps to prevent water damage; disconnecting power sources from critical equipment and sand bagging it; etc.

The following is a checklist for a Water Damage program. This is a starting point. Any checklist that you create must be tailored to your facility, and must change as conditions change. Please contact Murray Securus' Risk Control Department at 717-397-9600 if you have questions or need more information.



Reducing the Potential for Water Damage and Severe Weather Claims

Water Damage Prevention Inspection Checklist

	Not Acceptable	Corrective Measures Taken Date
Roof:		
Roof covering free of cuts or tears? Torn seams? Missing shingles? Missing ballast?	<input type="checkbox"/>	_____
Roof covering secure – no bubbles or loose areas?	<input type="checkbox"/>	_____
Debris that can cut roof covering removed from roof?	<input type="checkbox"/>	_____
Any evidence of significant pooling on the roof?	<input type="checkbox"/>	_____
Vegetation growth on roof or in gutters?	<input type="checkbox"/>	_____
Flashing/coping secure and in good condition?	<input type="checkbox"/>	_____
Roof drains clear of obstructions and flowing freely?	<input type="checkbox"/>	_____
Gutters and downspouts clear and not blocked?	<input type="checkbox"/>	_____
Downspout outlets directed away from foundations/walkways?	<input type="checkbox"/>	_____
“Snow angels” and ice guards provided if appropriate and in good condition?	<input type="checkbox"/>	_____

Exterior Envelope of Building:		
Any broken windows or doors blocked open?	<input type="checkbox"/>	_____
Any louvers blocked in the open position?	<input type="checkbox"/>	_____
Any loose or damaged siding?	<input type="checkbox"/>	_____
EIFS (Drivit, Flexite, etc.) in good condition?	<input type="checkbox"/>	_____
Caulking in good condition?	<input type="checkbox"/>	_____
Caulking inspection/maintenance program in place?	<input type="checkbox"/>	_____
Landscaping configured to divert water away from the building and foundation walls?	<input type="checkbox"/>	_____

Interior Considerations:		
Any areas where doors tend to become blocked open or maintaining heat has been problematic?	<input type="checkbox"/>	_____
Adequate heat provided where fresh air intake louvers are in close proximity with water piping?	<input type="checkbox"/>	_____
Flashing and gaskets around doors in good condition?	<input type="checkbox"/>	_____



Reducing the Potential for Water Damage and Severe Weather Claims

	Not Acceptable	Corrective Measures Taken Date
Interior Considerations (Continued):		
Evidence of leaking fire protection, domestic or sanitary water lines?	<input type="checkbox"/>	_____
Any stains on ceilings or walls from previous water leaks? Source identified? Damage repaired?	<input type="checkbox"/>	_____
Condensate lines identified and insulated?	<input type="checkbox"/>	_____
Sump pumps operable? Battery Back-up?	<input type="checkbox"/>	_____
Locations of domestic and fire protection shut off valves identified, and employees trained when to and not to shut them due to leaks?	<input type="checkbox"/>	_____
Spill carts available where appropriate? (Buckets, mops, wet floor signs, "pigs", etc.)	<input type="checkbox"/>	_____
Attic:		
Attic insulation provide full coverage, uniform, and tight against roof joists and exterior wall?	<input type="checkbox"/>	_____
No evidence that insulation was removed and reinstalled in a haphazard manner?	<input type="checkbox"/>	_____
Opening doors to attic tightly fitted with weather stripping?	<input type="checkbox"/>	_____
Any pipes visible above insulation?	<input type="checkbox"/>	_____
Do you have a program for draining low points in sprinkler piping before winter and periodically throughout winter?	<input type="checkbox"/>	_____
Other Considerations:		
Storm sewer grates in area of your building kept clear?	<input type="checkbox"/>	_____
If minor flooding is unavoidable/uncorrectable, or wind-blown rain is common, are materials available to divert water from openings? (sand bags, plywood, etc.)	<input type="checkbox"/>	_____
Do you have a formal emergency response plan for water damage, wind storms, and other emergencies?	<input type="checkbox"/>	_____
Has critical equipment been identified and plans developed in order to protect them in the event of an emergency?	<input type="checkbox"/>	_____
	<input type="checkbox"/>	_____