

# RISK SIMPLIFIED

## RESOURCES

[National Fire Sprinkler Association](#)

[Ready.gov: Winter Weather](#)

[National Weather Service: Weather Radio](#)

[National Weather Service: Alerting Services](#)

## QUESTIONS

[Email PRISM Risk Control](#)  
or call 916.850.7300

## Strategies for Preventing Frozen Pipes and Bursts

by Kristin Skorka

As the days grow shorter and temperatures drop, it is crucial for agencies to prepare for the challenges that winter can bring. A common and potentially costly problem during the cold season is frozen pipes. When the temperatures dip low enough, the water in pipes can freeze. As ice builds up in a single location, it applies pressure to the pipe, leaving it vulnerable to bursting. A burst pipe can release gallons of water into a facility in just a short amount of time, causing significant structural and water damage. Fortunately, taking proactive steps can prevent these situations from occurring.

Key strategies to preventing pipe freezes and pipe burst include:

- **Monitor Weather Forecasts:** By keeping track of upcoming cold temperatures, agencies can take preventative action before freezing conditions set in. Install a reliable weather application on your smartphone or set up custom alerts to get real-time weather updates, forecasts, and temperature trends.
- **Proactive Heating System Maintenance:** Regularly inspect and maintain heating, ventilation, and air conditioning (HVAC) systems, boilers, and radiators to ensure consistent heating.
- **Use Heat Tape or Cables:** Apply electric heat tape or heat cables along pipes, especially for pipes in vulnerable areas. These can be turned on during cold periods to maintain a consistent temperature.
- **Install Low Temperature Alarms:** These devices are designed



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to give an alert when the temperature drops below a preset threshold.

- **Leak Detection Systems:** These systems monitor water pressure and flow, and can detect early signs of freezing or leaks.
- **Keep Water Moving:** Water moving through the pipes is less likely to freeze. During extreme cold, turn faucets to a slow drip.
- **Seal Leaks and Drafty Areas:** Look for any gaps, cracks, or holes where cold air can enter the building, especially in areas with plumbing. Use caulking, weather-stripping, or insulation to seal these areas.
- **Maintain Consistent Indoor Temperatures:** Even in areas that are not heavily used, such as storage rooms or mechanical spaces, it is important to maintain a consistent temperature of 50°F.
- **Open Cabinet Doors:** If pipes are located under sinks or in cabinets, leave those doors open to allow warm air to circulate around the pipes.
- **Winterize Outdoor Water Systems:** Drain and disconnect outdoor water lines and sprinkler systems to prevent freezing. Turn off the water supply to outdoor faucets and drain any remaining water in the lines. Use frost-proof faucet covers and hose bibs to provide additional protection.
- **Keep Exterior Doors Closed:** Keeping the facility or shop doors closed helps retain heat and keeps cold air from entering. If possible, install weather-stripping around the doors to seal gaps and prevent drafts.
- **Insulate Exposed Pipes:** Properly insulate pipes in vulnerable areas like attics, basements, and exterior walls to protect them from cold temperatures.
- **Backup Heat Sources:** In areas prone to power outages, have an alternative heat source, such as a generator or portable heater. Keep fresh, additional fuel on hand.
- **Emergency Preparedness:** Develop protocols for pipe bursts, locate water shut-off valves, and train designated staff in handling frozen pipes.
- **Winterize the Fire Protection System:** Consider using dry-pipe systems in colder areas, which are filled with compressed air instead of water until activated by a fire. Inspect and test antifreeze solutions, if used, to ensure they are in compliance with safety standards set by the National Fire Sprinkler Association (NFSA).



## Understanding How to Identify Frozen Pipes

Despite best efforts, there may still be times when pipes freeze. Assessing and identifying frozen pipes is a critical task during cold weather to prevent further damage and restore water flow. The first step is to check areas of the building that are prone to freezing, such as exterior walls, basements, attics, crawl spaces, and any place with inadequate insulation or heat. Signs of frozen pipes include reduced or no

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water flow when faucets are turned on, visible frost on pipes, and unusual sounds, such as gurgling or clanking, from the plumbing. Additionally, localized cold spots on walls or floors near pipes may indicate freezing. If a frozen pipe is presumed, inspect it carefully for bulging or cracks, as these are signs the pipe may be under pressure and at risk of bursting. Quick identification and thawing are crucial to prevent severe water damage.

## How to Safely Thaw Pipes

Knowing how to safely thaw pipes can prevent further damage. Begin by opening the faucets connected to the frozen pipes to relieve pressure and allow water to flow once thawed. Use safe heat sources such as electric heating pads, heat lamps, or hair dryers to warm the pipes gradually. Avoid using open flames or propane torches, as they can damage pipes or cause fires. Insulate the surrounding areas to prevent further freezing. Agencies should maintain a list of experienced contractors or internal resources that can respond. Always ensure that any heating equipment used complies with safety standards to prevent accidents.

Preventing pipe freezes and breaks requires a combination of insulation, temperature control, and proactive winterizing efforts. By understanding the risks and taking steps to protect exposed pipes, agencies can significantly reduce the likelihood of frozen pipes and the resulting damage from pipe bursts. Ultimately, taking these preventative actions not only protects property but also provides peace of mind during the winter months.

For questions or additional information regarding frozen pipe prevention, please contact [Risk Control](#).