



Risk Management Services

COMBAT PIPE FREEZE WITH PHLY'S **HEAT** STRATEGY

Winter weather can be difficult to forecast. However, one thing that's certain is that freezing temperatures will hit each year, resulting in pipes freezing, breaking, and subsequent water damage to thousands of businesses throughout the U.S. Sub-freezing temperatures have been experienced in all 50 states, leaving virtually no region immune to this exposure. Fortunately, pipe and plumbing freezes can be prevented and controlled by using PHLY's HEAT strategy, a four step process developed by PHLY's Risk Management Services (RMS).

HEAT STRATEGY

HEAT

<input checked="" type="checkbox"/>	Action	Explanation	Additional information
<input type="checkbox"/>	Direct heat to all areas with water pipes	Heating ducts and vents should be located and directed so that all areas with water lines and fixtures are maintained at a minimum of 45° F. Portable heaters should be used only temporarily and with proper fire safety measures in place.	Use of an infrared survey and temperature monitoring can identify areas in need of additional heat.
<input type="checkbox"/>	Insulate water lines with foam insulation	If ambient temperatures are at risk of dropping below 45° F, or if the piping is subject to cold air drafts, use foam insulation around water pipes.	Start with pipes along exterior walls, or in poorly heated attics, crawl spaces, and basements.
<input type="checkbox"/>	Use heat tracing tape or cables	Similar to waterline insulation, this may be used if ambient temperatures drop below 45° F or if the piping is subject to cold air drafts. Use heat tracing tape/cables only during time periods when severe cold weather puts your pipes at risk. Or use heat tracing that automatically turns on and off based on their temperature sensors.	To control the fire risk, only use heat tracing that is UL listed. Inspect the heat tracing for signs of wear both before and after use.

PHLY'S HEAT STRATEGY - *continued*

EXAMINE

	Action	Explanation	Additional information
<input type="checkbox"/>	Make necessary repairs and new installations	Conduct your winterization inspections in fall months to allow sufficient time for appropriate repairs and/or new installations. Ensure that these are listed on your ongoing preventative maintenance schedule.	Access PHLY's Winter Weather Checklist for additional review items
<input type="checkbox"/>	Inspect for additional insulation needs	Inspect attics, basements, crawl spaces, and exterior walls to determine if additional insulation is needed	Residential: https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_insulation_table Commercial: https://www.iccsafe.org/gr/Documents/IECC-Toolkit/2009_IECC_Update.pdf
<input type="checkbox"/>	Test building systems	Boilers, furnaces, and hot water heaters should be inspected and serviced prior to winter. Also, inspect and test any other freeze control devices, such as temperature monitors, water detection devices, and water flow monitors. If your fire sprinkler system uses antifreeze for piping in cold areas, have the solution tested for proper concentration. Dry pipe fire sprinkler systems should be fully drained. Ensure all systems have properly functioning alarms.	For antifreeze fire sprinkler system requirements, see: http://www.nortechsystems.com/2018/03/16/antifreeze-fire-sprinkler-system/
<input type="checkbox"/>	Conduct an infrared survey	An infrared survey, using a thermographic camera, can help identify air drafts and other areas vulnerable to freezing exterior temperatures. This heat-sensing camera can produce digital photos with thermal readings. Action can then be taken to weatherize your building in the areas that will produce the most impact.	PHLY's RMS can help arrange for this service. For more information see: https://www.energy.gov/energysaver/thermographic-inspections
<input type="checkbox"/>	Seal your building envelope	Take the results of your infrared survey and physical inspections of your building and reinforce gaps in the building envelope with caulk, spray foam sealant, or other materials to keep cold drafts out.	For more information, see: https://smarterhouse.org/home-systems-energy/building-envelope

ALLEVIATE

	Action	Explanation	Additional information
<input type="checkbox"/>	Keep water lines warm and moving	Keep kitchen and bathroom cabinet doors open. Allow water to slowly run during severely cold weather events. If the water pipes freeze, an open water outlet will help alleviate pressure and possibly prevent a pipe breakage	Run both hot and cold water lines.

PHLY'S HEAT STRATEGY - *continued*

TECHNOLOGY

	Action	Explanation	Additional information
<input type="checkbox"/>	Install temperature monitoring devices	Temperature monitoring devices can be the size of a coin, can be wireless, and can send realtime alerts if ambient temperatures fall below a set limit. These devices can be relocated as needed and can help identify problem areas so that action can be taken before pipes freeze. You can integrate these devices with your building alarm systems and can monitor them via web-interface or smart phone apps. Prices range from \$300 - \$600 for basic installation and monitoring.	PHLY has pre-qualified two vendors who sell and monitor these devices: Monnit www.monnit.com Temperature Alert http://www.temperaturealert.com/
<input type="checkbox"/>	Install water flow monitoring and shutoff devices	Water flow monitoring devices measure the total volume of water flow throughout a building at any point in time. If the water flow exceeds pre-set limits, the monitoring device assumes there is a pipe breakage and automatically shuts off the primary water main valve. These systems use "home" and "away" settings. The home setting allows for a higher amount of water flow for every day, normal operations. The away setting lowers the threshold for the amount of water flow allowed before the device determines there is a pipe leak and shuts down the water main. This lowered threshold can be set for nights, weekends, or however designated by the user. These devices can be tied into a building's existing alarm systems. Prices range from \$1,500 - \$3,000 per system.	PHLY has pre-qualified a vendor who sells these devices: Flogic www.flogic.com Leak Defense System www.leakdefensesystem.com
	Install water leak sensing and shut-off devices	These systems have sensors – either wired or wireless – that are placed near water sources or areas potentially vulnerable to pipe freeze and breakages – such as unheated crawl spaces. If water comes in contact with a sensor, an alarm is signaled and a valve automatically shuts off the primary water main. The sensors and shut-off valves can be monitored via web-interface, sending notifications to the user via email, text, or phone call.	PHLY has pre-qualified a vendor who sells these devices: PipeBurst Pro www.pipeburstpro.com

PHLY's HEAT strategy can help prevent and mitigate pipe freeze, breakage and water damage incidents. A modest investment of time and resources now can help prevent a major property disaster down the road. Many people put off these simple steps because they believe a property damage incident won't happen to them or will not be significant if one does occur. Each year, hundreds of thousands of homes and businesses find that these assumptions were wrong. Help your organization weather safely through this season by implementing PHLY's HEAT strategy today.

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