

COLD WEATHER TIPS - FROZEN SPRINKLER PIPES

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Every winter thousands of sprinkler pipes freeze and burst due to lack of heat or inadequate insulation. When a frozen sprinkler pipe bursts, the result is always extensive water damage. When water freezes at a temperature of 32°F or below it expands up to 10 percent in volume. Sprinkler pipes tend to freeze before other water pipes because the water is not moving. When water freezes inside a sprinkler pipe, it creates an obstruction that can render the sprinkler system useless in the event of a fire. As the ice expands, it increases the internal water pressure in the pipe and causes the pipe to burst. Interestingly, the burst is often in a section of pipe that did not actually freeze. In as little as 15 minutes, almost 500 gallons of water can saturate a unit and any adjoining units.

PREVENTION

The best way to protect a fire sprinkler system from freezing is to provide sufficient insulation and maintain adequate heat during the winter months. The type and amount of insulation must be suitable for the coldest local temperatures. During construction, sprinkler systems are usually in place before the insulation so there is a possibility that the installer could place the insulation on the wrong side of the pipes thus exposing them to freezing temperatures.

Insulation helps block the flow of cold air from one space to the next. Most sprinkler pipes are within the walls or ceilings. Cold air can enter these concealed spaces through small gaps in the exterior sheathing or insulation, and find its way into pipe chases and soffits that focus the air directly onto the sprinkler piping and accelerate freezing.

It is important to verify that sprinkler piping in walls is located between the heated interior space and the insulation. In attics, piping should be as close to the ceiling as possible with insulation placed over the pipe in the shape of a tent to trap heat around the sprinkler pipe.

When sprinklers are required in unheated spaces such as attics or crawl spaces, the use of a dry system, or special dry sprinkler heads is required.

As of August 2010, the NFPA has banned the use of antifreeze in all new sprinkler systems. For existing systems, NFPA recommends draining the antifreeze, filling the pipes with water, and then providing additional insulation along with other measures to prevent the pipes from freezing.

If you have sprinkler systems that contain antifreeze, contact your sprinkler contractor immediately to drain the antifreeze and refill it with water. Then verify with your sprinkler contractor that there is

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a sufficient amount of insulation installed correctly, in order to prevent the pipes from freezing. The contractor should also install any additional protection needed to prevent the pipes from freezing.

RECOMMENDATIONS:

- ▶ Maintain heat in all buildings and units
- ▶ Require an annual service and maintenance contract on all fire sprinkler systems
- ▶ Provide additional insulation for pipes in unheated areas such as attics
- ▶ Install water flow alarms to alert occupants that water is flowing in the sprinkler system
- ▶ Install freeze alarms to warn of potential freezing conditions before the pipes freeze

INSURANCE POLICY LANGUAGE REGARDING SPRINKLER SYSTEMS

Most policies contain a Protective Safeguard endorsement. It requires the policy holder to notify the insurance carrier when and if a sprinkler system is temporarily shut down as a result of damage. Most policies require this notification if the system is shut down for more than 48 hours. The policy language states that if you knew of the shutdown and did not notify the insurance company, coverage will be voided. Keep this in mind if a sprinkler pipe breaks and you shut the system down for repairs.

For more information, contact:



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