American Red Cross

Fact Sheet: Preventing and Thawing Frozen Pipes

Many people have asked the Red Cross for information and suggestions about how to prevent water pipes in the home from freezing, and how to thaw them if they do freeze. The following information is provided to address those questions.

Why pipe freezing is a problem

Water has a unique property in that it expands as it freezes. This expansion puts tremendous pressure on whatever is containing it, including metal or plastic pipes. No matter the "strength" of a container, expanding water can cause pipes to break. Pipes that freeze most frequently are those that are exposed to severe cold, like outdoor hose bibs, swimming pool supply lines, water sprinkler lines, and water supply pipes in unheated interior areas like basements and crawl spaces, attics, garages, or kitchen cabinets. Also, pipes that run against exterior walls that have little or no insulation are also subject to freezing.

Pipe freezing is a particular problem in warmer climates where pipes often run through uninsulated or underinsulated attics or crawl spaces.

Preventing Frozen Pipes

Before the onset of cold weather, prevent freezing of these water supply lines and pipes by following these recommendations:

- Drain water from swimming pool and water sprinkler supply lines following manufacturer's or installer's directions. Do not put antifreeze in these lines unless directed. Antifreeze is environmentally harmful, and is dangerous to humans, pets, wildlife, and landscaping.

- Remove, drain, and carefully store hoses used outdoors. Close inside valves supplying outdoor hose bibs. Open the outside hose taps to allow water to drain. Keep the outside valve open so that any water remaining in the pipe can expand without causing the pipe to break.

- Check around the home for other areas where water supply lines are located and are in unheated areas. Look in the basement, crawl space, attic, garage, and under kitchen and bathroom cabinets. Both hot and cold water pipes in these areas should be insulated. A hot water supply line can freeze just as a cold water supply line can freeze if the water is not running through the pipe and the water temperature in the pipe is cold.

- Consider installing specific products made to insulate water pipes like a “pipe sleeve” or installing UL-listed “heat tape,” “heat cable,” or similar materials on exposed water pipes. Many products are available at your local building supplies retailer. Pipes should be carefully wrapped, with ends butted tightly and joints wrapped with tape. Follow manufacturer’s recommendations for installing and using these products. Newspaper can provide some degree of insulation and protection to exposed pipes – even ¼” of newspaper can provide significant protection in areas that usually do not have frequent or prolonged temperatures below freezing.

During Cold Weather, Take Preventive Action

- Keep garage doors closed if there are water supply lines in the garage.

- Open kitchen and bathroom cabinet doors to allow warmer air to circulate around the plumbing. Be sure to move any harmful cleaners and household chemicals up out of the reach of children.

- When the weather is very cold outside, let the cold water drip from the faucet served by exposed pipes. Running water through the pipe – even at a trickle – helps prevent pipes from freezing because the temperature of the water running through it is above freezing.

- Keep the thermostat set to the same temperature both during the day and at night. By temporarily suspending the use of lower nighttime temperatures, you may incur a higher heating bill, but you can prevent a much more costly repair job if pipes freeze and burst.

- If you will be going away during cold weather, leave the heat on in your home, set to a temperature no lower than 55ºF.

To Thaw Frozen Pipes

If you turn on a faucet and only a trickle comes out, make sure your main water valve is turned on. If so, suspect a frozen pipe. Locate the suspected frozen area of the water pipe. Likely places include pipes running against exterior walls or where your water service enters your home through the foundation.

- Keep the faucet open. As you treat the frozen pipe and the frozen area begins to melt, water will begin to flow through the frozen area. Running water through the pipe will help melt more ice in the pipe.

- Apply heat to the section of pipe using an electric heating pad wrapped around the pipe, electric hair dryer, a portable space heater (kept away from flammable materials), or wrapping pipes with towels soaked in hot water. *Do not use a blowtorch, kerosene or propane heater, charcoal stove, or other open flame device*. Make sure a heating pad does not come into contact with water. A blowtorch can make water in a frozen pipe boil and cause the pipe to explode. All open flames in homes present a serious fire danger, as well as a severe risk of exposure to lethal carbon monoxide.

- Apply heat until full water pressure is restored. If you are unable to locate the frozen area, if the frozen area is not accessible, or if you can not thaw the pipe, call a licensed plumber.

- Check all other faucets in your home to find out if you have additional frozen pipes. If one pipe freezes, others may freeze, too.

Future Protection

- Consider relocating exposed pipes to provide increased protection from freezing. Pipes can be relocated by a professional if the home is remodeled.

- Add insulation to attics, basements, and crawl spaces. Insulation will maintain higher temperatures in these areas.

For more information, please contact a licensed plumber or building professional.

For more information on disaster safety, check out: www.redcross.org/disaster/safety

or contact your local American Red Cross Chapter.

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- Mississippi State University Extension Service
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- State Farm Insurance Company
- Vancouver, BC, Waterworks Department