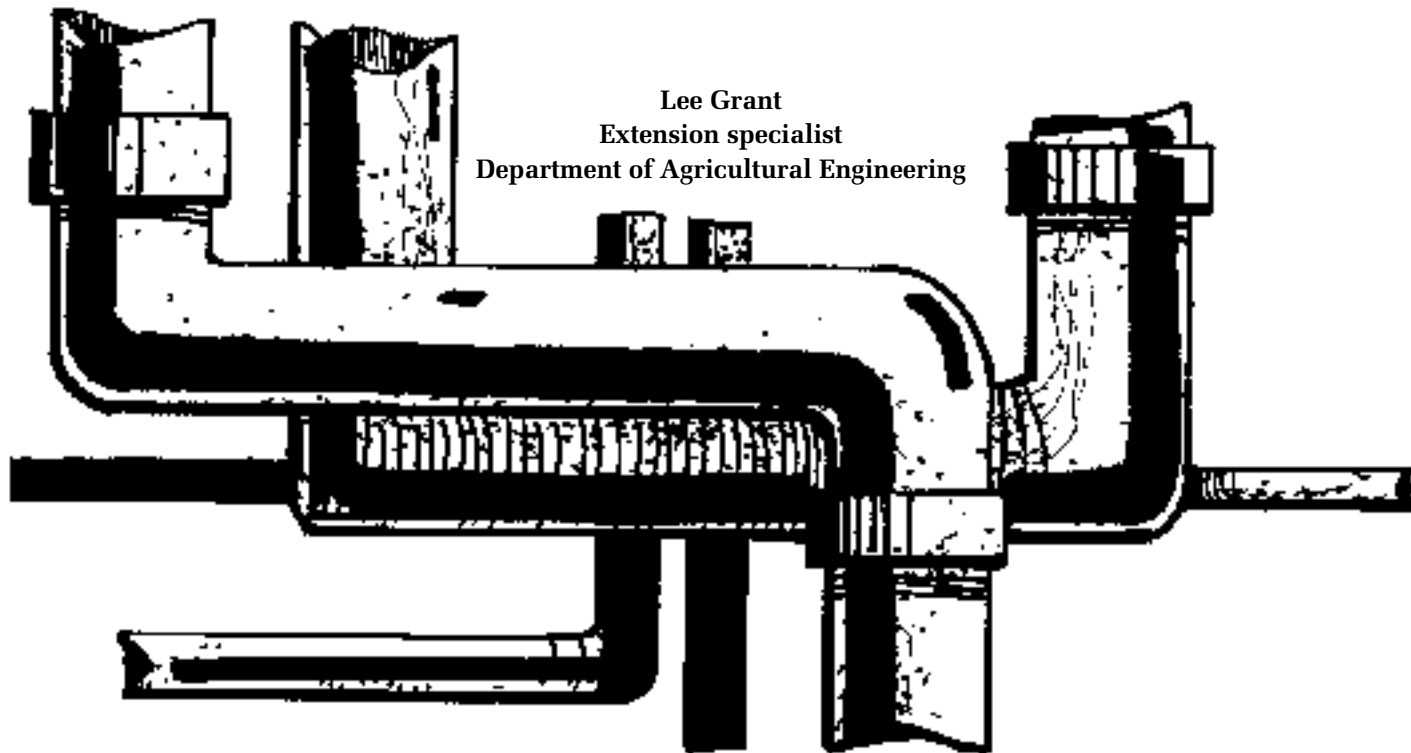




# FACT SHEET

## Winterizing Plumbing

Fact Sheet 479



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As the weather turns colder but before freezing temperatures arrive in November, winterize your plumbing system to prevent it from freezing up.

Your house plumbing has two separate and distinctly different systems: **domestic** or **potable** water (pressure) system, which supplies hot and cold water to the faucets, toilets and showers, for example; and the **drain** or **sewage** system, which carries the waste water away from a building and into the ground. Generally, the potable water system is pressurized by a municipal water supply or a water pump, while the sewage system works by gravity; that is, the water drains away by itself.

This fact sheet tells you how to protect plumbing systems in use year-round, and how to winterize those in use only in the spring, summer and early fall. Also, it is important to winterize certain appliances that use or contain water. Although these appliances are not considered part of the plumbing systems, this publication mentions them briefly.

### Protecting Your Plumbing

#### Systems in Use Year-Round

Plumbing systems in use all year are easiest to write about, but are more difficult to winterize. Whenever the pressure system or drain traps are located in unheated spaces (for example, a crawl space or an unheated basement), you must protect them from freezing weather with insulation or electric heat tape.

Plumbing insulation is available in two forms: 1) foam tubes that fit around the pipes, and 2) fiberglass wrap that you put around valves, traps or pipes. The instructions accompanying each type are easy to follow.

In severe cold weather conditions (or with plumbing that is seldom used), protect your plumbing fixtures in these locations, by wrapping electric heat tape around them. The manufacturer's

instructions on the package are simple, straightforward and easy to follow. Read all instructions carefully and follow all safety recommendations. Not doing so can cause a fire.

### Systems Not in Use Year-Round

For plumbing not used all year (such as systems in vacation homes, temporarily vacant office buildings, houses and others), drain the potable water system and put antifreeze in the drain traps. This is the least expensive and easiest winterization method you can use.

### Pressure System

To drain your potable water system, first, turn the water heater off, then shut off the water supply. If the supply is from a municipal or community water system, locate the supply valve and turn it to the "off" position. If the valve is an underground hydrant/drain-back or frost-free type, it will require no further attention. If the valve is inside the building on the incoming pipe, protect the shut-off valve with insulation or with electric heat tape, or with both, after draining the system. (Insulation alone will not protect this valve in an unheated building.) If the system is a private one with a pump, shut the pump off and drain it along with the rest of the system, or shut it off and protect it with insulation or electric heat tape, or with both. To drain the system, open all faucets and valves, empty the toilet tank and the hot water heater and remove all pipe caps or plugs. These caps and plugs are normally found at the lowest points in the pressure system. If there are low areas without drain plugs, caps or valves, install drains to avoid water from settling and freezing in them. If low pressure (40 pounds per square inch maximum), high volume air is available, blow it through the system to remove any remaining water. This is not necessary in correctly installed systems.

### Sewage System

Pipes in a drain or sewage system do not require special treatment since this system is self-draining. However, each entrance into the system has a liq-

uid seal or trap, which prevents the escape of sewer gases (methane) into the living areas. Beneath each sink, lavatory, shower or bathtub is a trap. Water that remains in the toilet bowl is also a liquid seal. Add antifreeze solution to these traps to prevent them from freezing. In place of ethylene glycol (automotive antifreeze), use propylene glycol because it is nonpoisonous. Propylene glycol is available at recreation vehicle centers. Using a plumber's helper (plunger), remove most of the water from the traps and toilet bowls. Then pour in enough propylene glycol — 2 cups should be enough — to fill each trap. A quart or 2 should seal and protect the toilet bowl. If you prefer not to remove the water from the traps, pour enough antifreeze into the traps to provide a minimum 50 percent water-50 percent anti freeze solution. However, this method is more risky than removing most of the water. A 50/50 solution prevents water from freezing to a maximum of -25°F, but a 60 percent water-40 percent antifreeze mixture prevents water freeze-up to a maximum of only -6°F.

### Appliances

Ice makers or ice making refrigerators, washing machines, dishwashers, hot water furnaces, and central air conditioners are all connected to the potable system, the sewage system or to both. Each appliance has its own complex system and each manufacturing company has its own ideas about designing that system. Therefore, you should get the manufacturer's recommendations for each appliance. Follow the manufacturer's recommendations carefully. Use the accompanying checklist to help you maintain systematic protection for plumbing that will not be in use for an extended time. This guide should ensure that your plumbing systems are in good repair and will be ready for use in the spring.

## Plumbing Winterization Checklist

### Pressure System

- Shut main supply off.  
Municipal supply: close valve and protect it if necessary. \_\_\_\_\_  
Private supply: shut off pump, protect and/or drain it. \_\_\_\_\_
- Open faucets.
 

Kitchen sink	_____			
Laundry	_____			
Bathroom lavatory	#1 _____	#2 _____	#3 _____	
Tub or shower	#1 _____	#2 _____	#3 _____	
Outdoor sill cocks	#1 _____	#2 _____	#3 _____	
Powder room	#1 _____	#2 _____	#3 _____	
Other	#1 _____	#2 _____	#3 _____	#4 _____
- Flush toilets and remove water from tanks. #1 \_\_\_\_\_ #2 \_\_\_\_\_ #3 \_\_\_\_\_ #4 \_\_\_\_\_
- Open all supply valves (not main supply).  
\_\_\_\_\_ Check all locations in 2 & 3.  
\_\_\_\_\_ Check water heater location.  
\_\_\_\_\_ Check branches in the system.
- Remove all pipe caps, plugs and open all drain valves. Look for and make a list of the location of these. Examine all pipes to locate caps, plugs and drain valves.
 

Hot water heater	#1 _____	#2 _____		
Hot water furnace	#1 _____	#2 _____		
	#3 _____	#4 _____		
	#5 _____	#6 _____		
- If low pressure (40 psi maximum), high volume air is available, blow air through the pipes to remove any remaining water.<sup>a</sup>

### Sewage System

Remove water from liquid seals and add antifreeze.

- |  |          |          |          |          |
|--|----------|----------|----------|----------|
| Kitchen sink                               | _____    |          |          |          |
| Laundry                                    | _____    |          |          |          |
| Bathroom/powder room                       | #1 _____ | #2 _____ | #3 _____ |          |
| Lavatory                                   |          |          |          |          |
| Tub or shower                              | #1 _____ | #2 _____ | #3 _____ |          |
| Toilets                                    | #1 _____ | #2 _____ | #3 _____ |          |
| Washing machine, dishwasher & refrigerator |          |          |          |          |
| Air conditioner/heat pump or dehumidifier  |          |          |          |          |
| Other                                      | #1 _____ | #2 _____ | #3 _____ | #4 _____ |

<sup>a</sup> Step 6 is not necessary in a correctly installed system, with no low, undrainable pipes.

