



# Union Mutual of Vermont Companies

## TAKING A BITE OUT OF WINTER

### PREVENTING WATER DAMAGE, ROOF COLLAPSE & FROZEN PIPES

It is important to prepare your home for the long and cold winter months by protecting against water damage from ice dams, roofs collapsing under the weight of snow and ice, and frozen, burst pipes. The effort you spend on prevention may be the best investment you ever make.

#### ATTIC VENTILATION & WATER DAMAGE

Ice dams (see Figure 1) are the most common cause of winter water damage. Rising heat from the home's living space becomes trapped in the attic and warms the underside of the roof. Enough heat can be generated to start melting a layer of snow on the roof, even though the outside temperature may well be below freezing. As the snow melts, water travels down the roof under the snow layer until it reaches the roof's edge. Here, the temperature of the roof underside is below freezing; it hasn't been warmed by the attic heat. As the water collects, it turns back to ice, forming a "dam" at the edge of the roof. The ice dam blocks water flow from the melting snow above, preventing its drainage from the roof, and forming a pool of backed up water. This water eventually seeps under the shingles and into the house, damaging rafters, ceilings, insulation and walls.

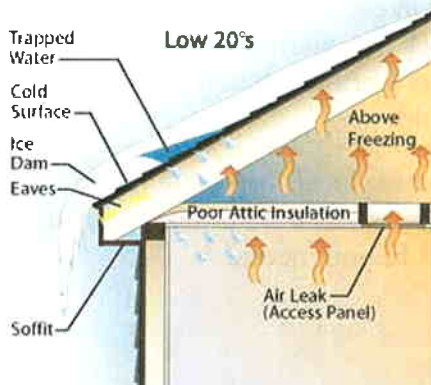


Figure 1

#### MINIMIZING HEAT LOSS BY ADEQUATELY INSULATING THE ATTIC

Provide adequate insulation (see Figure 2) to reduce the transmission of heat from the living spaces into the attic above. The U.S. Department of Energy recommends an R value of 49 for attic insulation in existing New England homes.

Inches of Insulation Required to Achieve Desired R-Value				
Insulation Type	R-19	R-30	R-38	R-49
Fiberglass Blanket or Batt	5.9	9.4	11.9	15.3
High Performance Fiberglass Blanket or Batt	5.0	7.9	10.0	12.9
Loose Fill Fiberglass	7.6	12.0	15.2	19.6
Loose Fill Rock Wool	6.8	10.7	13.6	17.5
Loose Fill Cellulose	5.4	8.6	10.9	14.0
Perlite or Vermiculite	7.0	11.1	14.1	18.1

Figure 2

#### PROVIDE ADEQUATE VENTILATION AT THE ATTIC EAVES AND ROOF EDGES

This can be done best by placing a combination of continuous soffit vents along with a continuous ridge vent. In homes built without soffits, fascia board can be blocked out from the sidewall to allow unrestricted flow of air. This type of vent system provides an unrestricted air flow under the rafters, expelling any heat before it can build up. Various other combinations of commonly available soffit vents and roof gable louvers also provide good ventilation. It pays to check with a local ventilation expert to determine the kinds of vent systems which could be appropriate to your home.

## ROOF COLLAPSE

If your roof was constructed in compliance with local building codes, chances are it can withstand considerable weight from snow and ice. If in doubt, have a roofing contractor inspect the roof and confirm its strength.

Have snow removed from the roof by an experienced snow removal contractor. An inexperienced homeowner's dangerous attempt to remove snow from their roof often results in extensive damage to the roof and/or injury to the homeowner.

## FROZEN PIPES

Your carpet is soaked. Your furniture is ruined. You have to walk through six inches of water to get across your kitchen. You have fallen victim to a catastrophe, but it wasn't a flood or a hurricane. You could have avoided this disaster. **You can prevent frozen pipes.**

Insulate pipes in your home's crawl spaces and attic. These exposed pipes are most susceptible to freezing.

Seal leaks that allow cold air inside, especially where pipes are located. Look for air leaks around electrical wiring, dryer vents and pipes. Use caulking or insulation to keep the cold out and the heat in.

Disconnect garden hoses, and if practical, use an indoor valve to shut off and drain water from the pipes leading to the outside faucets.

A trickle of water might be all it takes to keep your pipes from freezing. Let warm water drip from a faucet on an outside wall. Open cabinet doors to allow heat to get to uninsulated pipes under sinks and appliances near exterior walls.

## WATER LEAK DETECTION SYSTEMS

Frozen pipes are not the only culprits of water damage in your home. Water damage can occur almost anywhere. Appliances and fixtures such as refrigerators, ice-makers, dishwashers, washing machines, toilets and water heaters are common locations of leaks.

Unfortunately, slow leaks with these appliances and fixtures are often impossible to see until it's too late. If it goes undetected, a slow leak can lead to damaged subfloors and framing. A water leak detection system may help prevent greater damage from frozen pipes and mechanical breakdown of appliances.

**Passive Leak Detection Systems** are intended to alert you of a leak, sounding an audible alarm and possibly even flashing a light. These systems are frequently battery-operated, stand-alone units. They are inexpensive and easy to install. They are useful in locations where it is easy for someone to hear the alarm, such as near water heaters and toilets.

**Active Leak Detection Systems** are intended to stop the water flow when a leak is detected. They feature shut-off valves and a means to determine that a leak is occurring. Most devices use a moisture sensor to detect the leak. An active leak detection system can either control water flow on an individual appliance or it can operate and control the water flow of a whole house.

Individual appliance systems are designed to detect a leak from an appliance and shut off the water valve that controls the appliance.

Whole house systems shut off the water at the main service when a leak is detected. An automatic shut-off valve is installed on the main water service piping between the water meter and first branch piping. This valve would need to be installed by a qualified plumber.

Some whole house systems monitor several moisture sensors (also called water sensors). These detectors may work in conjunction with a home security or fire alarm panel. An alarm is sent to an off site company, the same as a central station reporting fire or burglary alarm would.

Contact your local hardware store or a licensed plumber to discuss a water leak detection system that would best fit your needs.

**T H I N K   S A F E T Y**  
*Protect your Family and Home*