



Winterizing Your Home

Winters here! If you haven't winterized your home yet you need to get busy. Winterization will help protect your home against heat loss and freezing water pipes.

Air Leaks:

Air loss from leaky window frames, doorframes, and electrical outlets allows warm air to escape outside which causes your furnace to run more thereby increasing your energy bills.

- Windows that leak allow cold air into the home. Feeling for drafts with your hand or watching for horizontal smoke from an incense stick is a few easy ways to inspect for leaks. Leaky windows can be repaired with tape or caulk.
- Electrical outlets and switches are a big source of air movement and are commonly overlooked when it comes to insulation. Behind your outlet and switch faceplates are large holes. Easy to use Styrofoam gaskets is an inexpensive option.
- On a breezy day, a homeowner can walk through the house and find far more leaks than you realize. Leaks are most likely in areas where a seam exists between two or more building materials

Attic Insulation:

Many older homes have less insulation than homes built today, but even adding insulation to a newer home can pay for itself within a few years.

- Because hot air rises into the attic, a disproportionately larger amount of heat is lost there than in other parts of the house. Adequate attic insulation will prevent warm indoor air from escaping. Attic insulation should be 12 inches thick in cold climates.
- Hot air will rise into the attic through all the electrical light fixtures, ceiling fans, bathroom fans, switch and electrical outlets.
- Look in the attic and if the insulation is above the ceiling joist it is adequate. However, if it is below the ceiling joist more insulation should be added.

Heating Systems:

The heating system is used most during the winter therefore it is a good idea to make sure that it works before it is desperately needed. Murphy's Law states that if you **do not** have your furnace inspected it will go down at the worst possible time, when it is the coldest and all the HVAC service companies are up to their ears in emergency repairs. The following inspection and maintenance tips can be of some help to homeowners. However, it will not and should not replace a full inspection performed by a HVAC service contractor:

- Test the furnace by raising the temperature on the thermostat. If it does not respond to the adjustment quickly, it might be broken.
- Listen to the furnace. Does it come on and off too often in a short period of time. If so, this is called short-cycling and needs to be repaired.
- Test the furnace for carbon monoxide.
- Replace the air filter if it is dirty, or at a minimum of every three months.
- If the furnace is equipped with an oil or propane tank, the tank should be full.

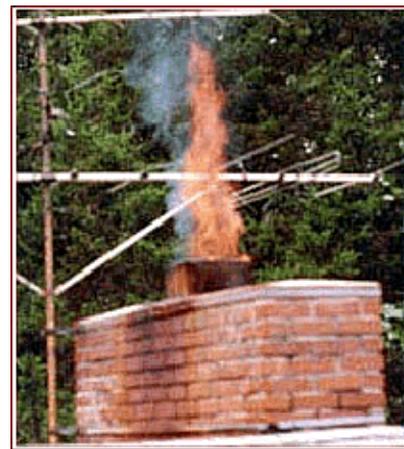
Cooling Systems:

- Use a hose to remove leaves and other debris from the outdoor condensing unit.
- Cover the top of the unit with a sheet of plywood to protect the interior of the unit.
- Remove and store window air conditioners when they are no longer needed. Cold air can damage their components and enter the house through openings between the air conditioner and the windowpane.
- Ceiling fans can be reversed in order to warm air trapped beneath the ceiling to re-circulate. A fan has been reversed if it spins clockwise.

Chimneys and Fireplaces:

Each year unsafe fireplaces & chimneys cause significant numbers of injuries and deaths, and account for more than \$200 million in property losses.

- The chimney should be inspected for nesting animals trying to escape the cold. Squirrels and raccoons have been known to enter chimneys for this reason.
- The damper should open and close with ease. Smoke should rise up the chimney when the damper is open. If it doesn't, this means that there is an obstruction in the chimney that must be cleared before the fireplace can be used.
- A chimney-cleaning service professional should clean the chimney if it has not been cleaned for several years.
- The damper should be closed when the fireplace is not in use. An open damper might not be as obvious to the homeowner as an open window, but it can allow a significant amount of warm air to escape.
- Glass doors can be installed in fireplaces and wood stoves to provide an extra layer of insulation.



Roofs:

When looking to protect your home against the elements, it's a good idea to start at the top. That is because your roof is the first line of defense against the high winds, heavy rains, sleet and snow that can occur in the winter.

- If debris is left in gutters, it can get wet and freeze. This permits the formation of ice dams that prevent water from draining. This added weight has the potential to cause damage to gutters. Leaves, pine needles, and all other debris must be cleared from gutters. This can be done by hand or with a hose.
- Leaves and debris in the roof valleys must be removed. Roof debris will hold moisture and in the wintertime this moisture will freeze and prevent any melting ice or snow to drain properly which will contribute to ice damming.
- Damaged or missing shingles should be replaced.
- Check for buckling or damage flashings.
- Check the roof edge where it is more susceptible to wind, driving rain and ice dams (when water freezes and backs up under the roofing systems), and make sure shingles are firmly secured and sealed to the roof.

Ice Dams:

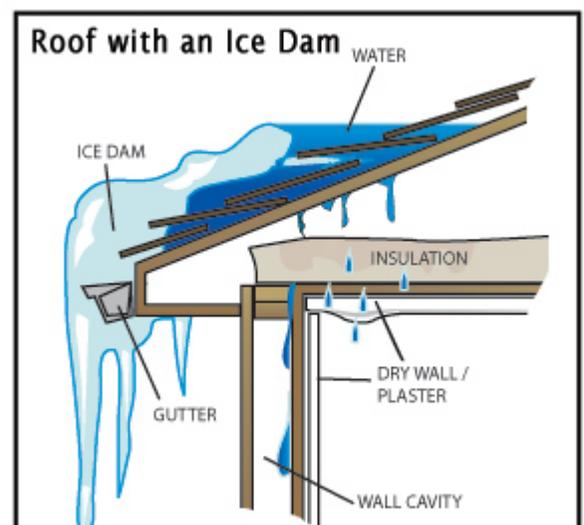
Ice dams form when melting snow on a roof refreezes at the edge of a roof or in the valleys of the roof.

When the underside of the roof in the attic is above 32 degrees Fahrenheit it is enough that to warm the outside roof surface to the point that snow melts. Warm attic spaces occur because of inadequate outside air circulation (ventilation) through the attic (soffit to roof ridge), which is necessary to keep the roof deck cold. Attic warming from poor ventilation is made worse with the introduction of heat from the occupied floor below the attic including sources such as lighting, air leaks, ductwork, etc.

As mentioned earlier, when roof snow is melted by a warm attic space, the water runs between the snow and the warm roof surface. The water then freezes and turns to ice when it gets past the exterior wall and hits a cold unheated roof edge or gutter. The ice dam grows as the snow pack continues to melt, and as water continues to flow down the roof surface. When the water flow hits the ice, it creates a larger and larger ice dam.

Ice Dam Damage:

If this situation continues, the ice can work its way back up the roof edge, get under shingles, melt and leak into the exterior wall, home or attic. Damage from ice dams may not be readily apparent. As the ice melts and possibly drips into the wall or attic, insulation can become wet and lose its ability to perform. In some cases if the right temperature and humidity exist, mold may begin to grow in the attic.



Trim Any Nearby Trees:

If you have any tree branches hanging near your roof, windows, or driveways, trim them back. Snow and ice will weigh them down and possibly cause them to break.

Reverse Ceiling Fans.

Most people do not know that you can use your fans during the winter to keep your house warm. On every ceiling fan there is a switch that allows you to reverse the direction of the blades. Switch it so your ceiling fan rotates clockwise. That will push warm air down and force it to re-circulate throughout the room. Don't forget to make the switch again when it starts to warm up!

Unoccupied Homes:

Adequate winterization is especially crucial for homes that are left unoccupied during the winter. This sometimes happens when homeowners who own multiple properties leave one home vacant for months at a time while they occupy their summer homes. Foreclosed homes are sometimes left unoccupied, as well. The heat may be shut off in vacant homes in order to save money, which I would not recommend. Vacant homes must be winterized in order to prevent catastrophic building damage.

The following measures to prepare an unoccupied home for the winter:

- Winterize toilets by emptying them completely. Plumbing Antifreeze can be poured into toilets and other plumbing fixtures.
- Winterize faucets by opening them and leaving them open.
- Water tanks and pumps need to be drained completely.
- Drain all water from indoor and outdoor plumbing.
- Unplug all non-essential electrical appliances, especially the refrigerator. If no electrical appliances are needed, electricity can be shut off at the main breaker.
- Drain your water heater and disconnect the inlet water line.
- Do not turn off the furnace but set the furnace thermostat at 55 degrees

In summary, home winterization is a collection of preventative measures designed to protect homes against damage caused by cold temperatures. These measures should be performed in the fall, before it gets cold enough for damage to occur.