

ASK THE INSPECTOR COLUMN FOR DECEMBER 1, 2016
HEADLINE: ROOF READY FOR A WILD WINTER?

The recent early snow storm settled in as a reminder of what's to come and a "good old Canadian Winter" is the prediction from all the forecast agencies. We have been spoiled, so to speak, in the past couple of winters. In fact, they are calling for record snow levels for most of Southern Ontario. With the expected winter weather in mind, ice damming will probably become an issue, as will the accompanying damage to the inside of a lot of homes. It's a well-known fact that large amounts of ice contract and expand, causing damage to the actual roof. As the freeze-thaw cycle occurs, the icicles that hang from the roof or eavestrough grow and, if over a doorway or sidewalk, they become a safety hazard.

I had this very question put to me by a reader the day of the storm, "What do we do?" His voice sounded very exasperated as he described how, 3 years ago, they moved into their home in January only to see huge icicles hanging from their roof. There is no "quick fix" answer here. It takes a package of upgrades and changes to your home in order to reduce ice damming.

First there are a couple of factors that cause the issue. The sun has more effect than its often given credit for, no matter how hard you try to reduce the heat loss from inside the home into the attic. One sunny day, even though the outside air is cold, will warm the snow and the roof covering, be it shingles or a metal roof. The accompanying melt will be a result of this solar radiation. With this in mind, removing the buildup of snow off a roof should be the first step in battling ice damming.

The second factor is reducing the amount of heat loss escaping from the home into the attic. Adding insulation is one of the most common suggestions. However, without increasing the attic ventilation, the value of insulation will be negated. The other consideration is that over insulating an attic could compact it, causing the insulation to retain moisture. Unless your home is an R2000 or similar upper end energy efficient home, there really is a necessary balance to the level of insulation and its value. Take the time to seal up the inside of the home. Make ceiling fixtures air tight, especially any pot lights. Vents that enter the attic, such as bathroom fans or plumbing vents should be well insulated. In fact, bathroom fans are one of the most common contributors to warm, damp air entering an attic. The vent run should be insulated right from the insulated fan box to the exterior vent. The discharge point is preferably to the soffit in the home where it

should be fitted with a molded flap cover, facing the wall of the home when located.

There are some myths about how to stop ice damming. The first is that using a self-adhesive roof membrane will prevent water from entering the home. While it will help, this membrane is mostly designed to reduce condensation under the shingles. Heat cables have been around for years and are effective in some applications. However, they, too, have limitations, such as in the case of a major storm of over 4-6 inches of snow. They will function, but, in a lot of cases, they will create small tunnels around the actual cable. Heat cables are simply not designed to handle heavy snow. Ice dams will form around and over the cables reducing their effectiveness. The other consideration is the cost of operation, since electricity costs have become a complicating factor.

There is one fix that I have used during my former construction experience. It's called a flat cap flashing. The edge of the roof is stripped of shingles up past the wall of the home; at least 18" and two feet is better. This area is then covered in self-adhesive membrane up under the last row of shingles and sealed water tight. Over this membrane, install a flat roll metal flashing, starting at the eave edge and then fitted under the shingles to the sealer applied for the membrane. We don't see this done a lot in our area, but in the snow belt of New York State it's a common feature, especially on older homes where the attic is very difficult to ventilate.

If you get caught this winter with ice damming, there is a temporary solution that might alleviate the issue and possibly help reduce the damage inside the home. Start with locating a pair of ladies panty hose and cut them off in lengths a little longer than would cover the ice dam. Fill the sections of panty hose with calcium chloride ice melter and tie each of them off. Lay the panty hose at intervals, vertically, on the roof. If you have eavestrough, make sure you lay them so that they cross over the eavestrough, overhanging about 1 to 2 inches past the trough. If a ladder is necessary to reach the roof, do not climb on a snow covered roof. Instead, tie the knotted end of the filled panty hose to the prongs of a long handled garden rake and carefully locate it in position. The calcium chloride should slowly melt the snow and ice, creating temporary paths for the water to flow off the roof. The single most important step is to make sure the panty hose reaches the pool or pools of water behind the buildup of ice.

This is projected to be one cold, record snow level, winter. Stock up on ice melter, plan ahead for locations where your snow can be piled and stock up on hot chocolate; it's going to be a long one!

Cam Allen L.I.W. NHI ACI can be reached at alltechconsultinggroup@gmail.com for questions or comments.