



CLAIMS RISK NOTE

Subject: **ICE DAMMING**

Ice damming is a preventable situation and we encourage our clients to take the necessary steps to minimize the opportunity for ice dams to form.

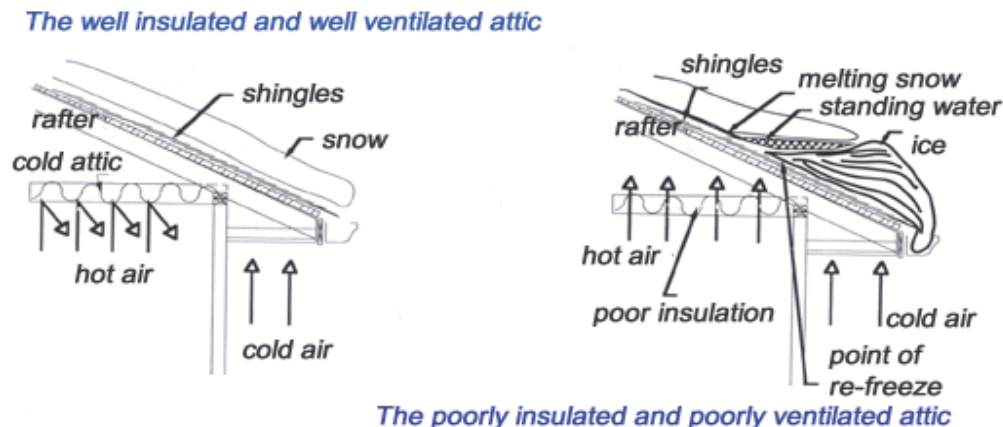
What is an Ice Dam?

In order for an ice dam to form there must be snow on the roof, and, at the same time, higher portions of the roof's exterior surface must be above 0°C while lower exterior surfaces remain below 0°C. For this to occur, outside temperatures must be below 0°C and the interior portions of the roof must be heated.

The snow on the roof surface that is at a temperature above 0°C will melt. As water flows down the roof it reaches the portion of the roof that is below 0°C. There the water freezes. This process of melt, flow, refreeze continues over time, and gradually grows into a mound of ice. Voila! - an ice dam.

The dam grows as it is fed by the melting snow above it, but it will limit itself to the portions of the roof that are below 0°C. The water above backs up behind the ice dam and remains a liquid. This water finds cracks and openings in the exterior roof covering and flows into the occupied space.

In the right hand diagram below, the creation of an ice dam is illustrated. In contrast, the left hand diagram shows how an ice dam is unable to form when the roof temperature does not fluctuate through the use of insulation and ventilation.



Warning Signs

- Icicles forming at the roof's edge
- Water stained ceiling and walls particularly around the perimeter of the building
- Signs of mold
- Paint deterioration on exterior siding and soffits



Dealing with a Dam

- The best way to limit damage is to open channels in the ice near the roof edge so water can freely run off
- Melt troughs through the dam with calcium chloride ice melter (do not use rock salt). A good trough maker is a long tube of cloth (such as a leg from an old pair of tights). Fill the tube with calcium chloride, tie the top off and lay it vertically across the dam. It will slowly melt its way down through the dam clearing a path for the underlying water to flow free. Ensure downspouts and gutters are clear
- In an emergency situation pour hot water in the direction which water normally flows off the roof to melt a pathway
- Remove the dam by breaking it free in small chunks. Tap lightly with a blunt mallet. This is slow, dangerous work so it can be best to hire someone experienced in roofing. Even when done safely this may cause damage to the roof
- **DO NOT** use an ax or sharp tool as you will cut through the shingles

Prevention (Doing your Dam-est)

- During the winter season regular inspections of the roof edge should be undertaken to identify ice dams as they start to form
- Remove heavy snow loads from roof as part of your regular maintenance whenever possible using a broom or plastic shovel
- Ensure gutters and downspouts are cleared before the start of the winter season
- Heat migration to the attic needs to be limited. This can be achieved by increasing ventilation, adding insulation, seal all points where warm air can leak from the occupied space to the attic area below the roof
- Vent space between insulation and roof sheathing so any heat that leaks through is carried away
- Cap roof hatches with weather-stripping

- Install flashing around chimneys to fill any gaps
- Caulk around electrical cables and vent pipes with fire stop sealant
- Make sure ducts vent outdoors through roof or walls, not through soffit

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