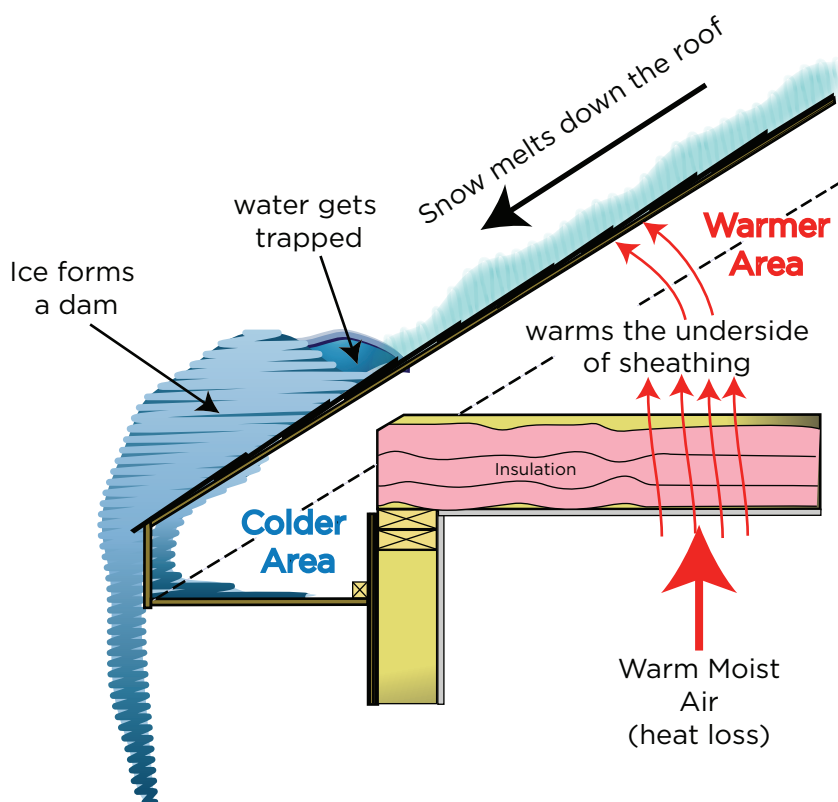


Ice Damming

Ice dams are large build-ups of ice found at the bottom edge of the roof. A small amount of ice may not cause an immediate problem, but if the ice continues to build up, it will block the water flow down the roof, causing water to back up under the shingles and leak into the soffit area, or into your house.

Here's How it Happens

- Ice dams form when there is a blanket of snow on the roof.
- Heat from the attic melts snow above.
- Water then runs down the roof between the shingles and the blanket of snow.
- When the water reaches the roof overhang (bottom edge of the roof), it encounters an area of the roof that is not getting any heat from the attic so the water freezes.
- As this condition progresses, the ice at the bottom edge of the roof becomes thicker until it blocks water flow.
- Water backs up and starts to leak into the soffit area and eventually into the home.



The root cause of ice damming is heat from the attic. When you control the heat, you control the ice dam. Here are three ways you can control the heat in the attic:

- Air seal the attic from the house: recent research indicates that air sealing is paramount. Air leakage from the house heats up the attic. Not only will this attic heat contribute to ice damming but air leakage will cause condensation on roof decking and framing, leading to rot. Bathroom vents, recessed light fixtures and plumbing stacks are all potential air leakage spots.
- Insulate the attic: if the attic insulation is insufficient, upgrade it to reduce the conductive heat transfer into the attic.
- Ventilate the attic: proper ventilation and air flow through the attic will help control the attic temperature. Make sure insulation is not blocking vents. Also make sure vents are evenly

distributed, with some high on the roof, such as roof-top vents and some lower, such as soffit vents. Do not try to improve attic ventilation by adding more roof top vents without adding corresponding lower vents such as soffit vents. Unbalanced venting can actually create negative pressure in the attic, drawing more air leakage from the house into the attic.

Un-Insulated Attics

You would think that un-insulated attics would generate the worst ice dams. In fact, un-insulated attics tend not to create an ice damming problem because so much heat is lost through the attic that the snow melts as it lands on the roof. A snow blanket has no opportunity to form. Any insulation upgrades to an un-insulated attic must be accompanied by air sealing and ventilating the attic.

Heating Cables

In some cases, the roof configuration may not be conducive to preventing ice dams, leaving only one option: heating cables, often called heat trace. The heating cables prevent ice from building up in the first place, or, at the very least, the cables will melt channels in the ice to allow water to flow off the edge of the roof. The heating cables use a significant amount of electricity and should be considered only if there is no other solution.

If your home has heating cables, you have to turn them on before you have a huge ice dam. Most heating cables do not have enough power to melt and ice dam once it is formed.

