

FastFacts

About Ice Dams

by Mariangela Pfister

Fall in Ohio can give building owners a wakeup call to prepare their buildings for the next few months.

As part of this preparation, it is important to give your house or commercial building a “check-up.”

Are your gutters and downspouts clear? Is your flashing sound and your roof tight? Are your storm windows in place? Have you checked the insulation in your attic? Did a red flag go up with this last question?

It is very important that your house is well insulated and also well ventilated. The two things sound contradictory, don't they? In fact, they go hand in hand.

A building that is well vented and able to breathe is a healthy building overall for its occupants as well as for the structure. Well-vented buildings allow air to pass through and circulate. This keeps the building dry, allows it to hold paint better, and lengthens the life of the roof, insulation, windows and wood.

Attics are the first place to check for adequate ventilation. Gable end vents that allow for cross circulation are good, as are small, unobtrusive soffit vents.

The key with soffit vents is to make certain they are kept free of insulation on the inside and are not painted over on the outside. Roof vents are also a good choice, if kept unobtrusive.

Another good place to circulate some air is in the basement. On a dry day, even if it's a cold one, crack two opposing windows to allow for cross ventilation in the basement.

Okay, now you've determined that your building can breathe. Your next step is to check and see whether your insulation is doing its job. A quick way to check the effectiveness of your insulation is to go outside the day or two after a decent snow.

Is there snow on your roof? If there is, your insulation is probably doing its job. Good insulation in the attic will keep the warm air in your building, where it belongs, and not allow it to go through the roof where it will melt the snow.

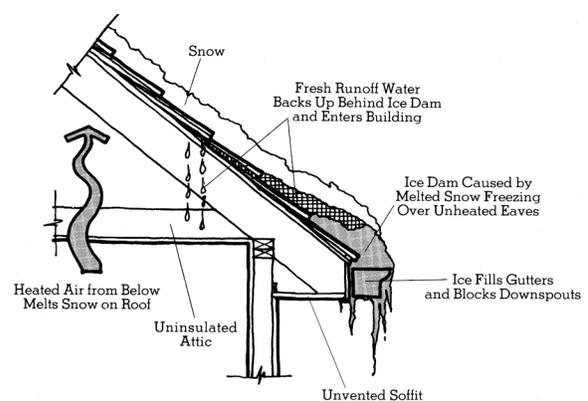
Some melting is bound to occur around your vents and chimney; otherwise, a well-insulated roof will keep the snow on the roof until the sun or warm temperatures melts it away.

Be sure that you use a vapor barrier with your insulation and that it is laid closest to the warm side. This will keep moisture that comes from everyday living (breathing, showering, cooking, doing laundry, watering plants, etc.) away from your rafters and roof, extending the life of both.

What are the dangers of inadequate ventilation and insulation? There are a few, including high energy costs, but for the sake of this article, we'll focus briefly on the dangers of ice and snow dams.

When there is no insulation or insufficient insulation in your attic, that snow I was talking about earlier will melt as the heat from your building rises through the roof.

When the water reaches your eaves, which are generally the coldest part of your roof, the water may freeze again. As a result, ice dams and icicles form along your roof line. This is a problem for a couple of reasons.



Ice Dams, Old Building Owner's Manual, Judith L. Kitchen, 1983



Dangerous icicles that have formed along unheated eaves



Snow dams that formed on a poorly insulated roof

First of all, this ice buildup can clog your gutters and downspouts, not allowing them to do their jobs in carrying water away from your structure.

Sometimes water is even forced back into your building, causing moisture damage. And secondly, the buildup of ice and snow can become extremely heavy. In fact, the weight can damage the eaves as well as cause stress on the rest of the roof structure and drainage system.

So, it's important to make sure that you have enough insulation for the size of your building. Also make certain that it's distributed evenly across the entire space and that your attic is sufficiently vented.

A general rule of thumb is that you'll need one square foot of ventilation for every 150 square feet of attic floor space. As previously discussed, there are many types of venting systems, just as there are many types of insulation materials, the most common of which include batt and blown fiberglass insulation and cellulose insulation.

Again, the key to using any insulation is to make certain you have a vapor barrier.

Enjoy your historic building, and stay warm this winter!

For more information about ice dams, contact the Ohio History Connection's State Historic Preservation Office.

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