

# ICICLES AND ICE DAMS

Icicles hanging from your gutters sure do look pretty, but they can be dangerous to your church and its many guests. That's because beyond the obvious danger of falling icicles, the same conditions that allow icicles to form — snow-covered roofs and freezing weather — also lead to ice dams: thick ridges of solid ice that build up along the eaves. Dams can tear off gutters, loosen shingles, rot the wood in your roof and attic, and cause water to back up and leak into your building. When that happens, the results aren't pretty: peeling paint, warped floors, stained and sagging ceilings, and ruined windows. Not to mention soggy insulation in the attic, which becomes a magnet for mold and mildew.

Ice dams and icicles can't be solved with new gutters, a new roof, ice guard, or heat cables. Those methods can improve ice dam and icicle buildup, but it can't eliminate them, because they only address the symptoms.

Ice dams are ridges of ice that form on the edge of a roof and are a result of poor insulation. They are created when:

- Heat escapes into the attic
- Meets the roof and melts the snow
- This melted snow runs into the gutter which is not heated and then freezes
- Forms an ice dam and icicles
- The water coming down the roof builds up until it is over the actual building again and does not refreeze because it is warmed by the building's heat in the attic
- As the water gets deep enough behind the ice dam, it is pushed up under the shingles and into the building; and
- This is when you get water IN your building

The solution? Make sure that warm air doesn't leak from your living space into your attic.

- Seal any gaps or cracks in your attic
- Add enough insulation to your attic floor to stop significant heat leakage from the living space
- Make sure your attic is properly vented to allow air circulation

A ridge vent paired with continuous soffit vents circulates cold air under the entire roof. Both ridge and soffit vents should have the same size openings and provide at least 1 square foot of opening for every 300 square feet of attic floor. Additionally, make sure that the ducts connected to the kitchen, bathroom, and dryer vents all lead outdoors through either the roof or walls, but never through the soffit. Many times, you will see the ducts terminating in the attic which only adds to the problem!

And while it may be tempting to knock down those icicles, proper removal of icicles from a gutter should be done from the roof. There are risks involved with working on your roof, especially in icy conditions. Contact a roofing expert:

- Meet with 2-3 vendors
- Have them submit a detailed explanation of the work
- Make sure they are insured with at least \$1M in liability coverage
- Sign a contract that contains indemnity language and lists the church as an additional insured thus protecting your church from any negligence or injury the contractor sustains while doing the work