

Solving ice dams

Although sometimes thought of as a problem with roofing or attic ventilation, ice dams are actually caused by the presence of warm air in the attic, combined with snow on the roof and the right weather conditions. Ice dams occur when heat leaks into the attic and melts the underside of the snow on the roof. The melted snow then flows down the roof surface until it reaches a cold spot (such as the eaves or soffit) where it forms a frozen dam, behind which more snowmelt and ice pile up. The ice build-up can back up under the shingles, damaging them and allowing water to leak to the ceilings and walls below.

The source of ice dams: attic air leaks

Warm air leaking from the house into the attic is the primary cause of ice dams. Anywhere there is a penetration into the attic space (around wires, plumbing vents, light fixtures, chimneys, knee walls) there is the potential for air leaks. Even homes that are only a few years old may not be properly sealed. To avoid these types of problems and eliminate most ice dams, attic air leaks *must* be sealed with caulking or expanding spray foam.

Solutions

- Sealing attic air leaks saves energy and is **key to preventing ice dams**.
- An energy audit with an **infrared scan** can pinpoint trouble spots.
- If damage has occurred and ice must be removed, hiring **professionals that use steamers** is strongly recommended.

What NOT to do:

- Installing heating cables **will shorten the life of your roof** and cost you money to operate.
- Removing ice with shovels, chippers, chemicals, or heat can **damage** shingles, gutters, and other building components—and can be very dangerous.
- Adding roof vents—including powered vents—**will not eliminate** ice dams, and often makes the problems worse.
- Additional insulation—especially on the top plate of exterior walls—can reduce heat transfer to the roof deck, but **insulation alone is insufficient**. Typical attic insulation will not stop air leaks or prevent ice dams.

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