



ICE DAMS

17 things homeowners must know

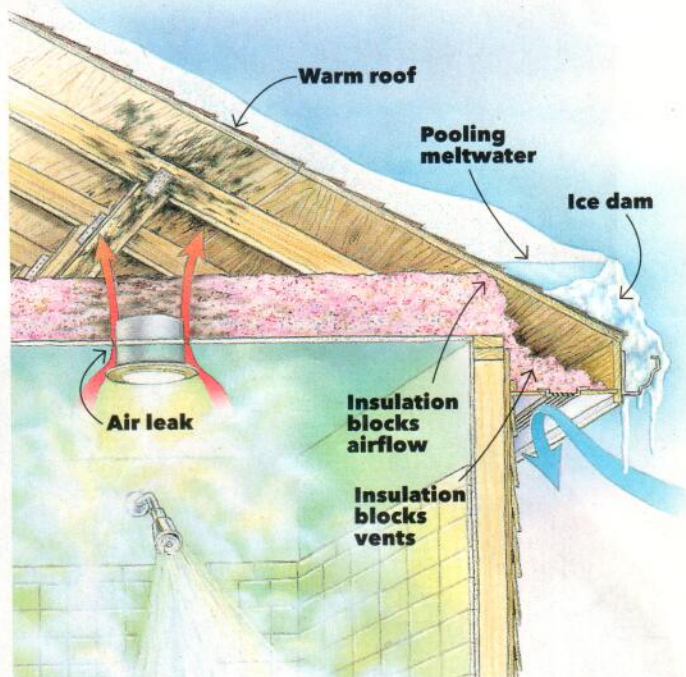
BY JASON INGOLFSLAND

Ice dams can be dramatic, sending streams of water into your home. But more often, the harm is so subtle you barely notice it. A little water trickles in, degrading insulation and supporting wood rot. But all you see is a small brown stain on the ceiling or drips from your soffits. Later, you may notice peeling paint or rusty nail heads. Don't ignore these signs; worse things are happening inside walls and ceilings. With help from our expert, find out how ice dams form, how to prevent them and what to do if you get them.

PHOTO: STEVE KUHIL

THE TROUBLE STARTS WITH A WARM ROOF

Ice dams form on houses with poor insulation, inadequate ventilation or air leaks into the attic, all of which warm the roof. A warm roof melts the snow. As the meltwater trickles down to the colder areas of the roof, it freezes, forming an ice dam. More meltwater becomes trapped behind the ice dam, and having nowhere else to go, it runs underneath the shingles and into the house.



A LOW-PITCH ROOF AND A SMALL EAVE ADD TO THE RISK

The amount of time you have to stave off ice dam damage depends on your roof pitch and the size of your eave. Most ice dams form on a roof pitch of 9/12 or below. If your home has a steeper roof and a larger eave, a thick ice dam must form before water can leak into your home, giving you more time to react. With a low pitch and a smaller eave, you may only have hours to respond before water breaches your home. In this case, do what you can to prevent or safely remove the ice dam—or be ready to call an ice dam professional.

HOT HOMES PROMOTE ICE DAMS

A warmer house often means a warmer roof and worse ice dams. If your home is prone to ice dams, lower the thermostat setting during peak ice dam season.

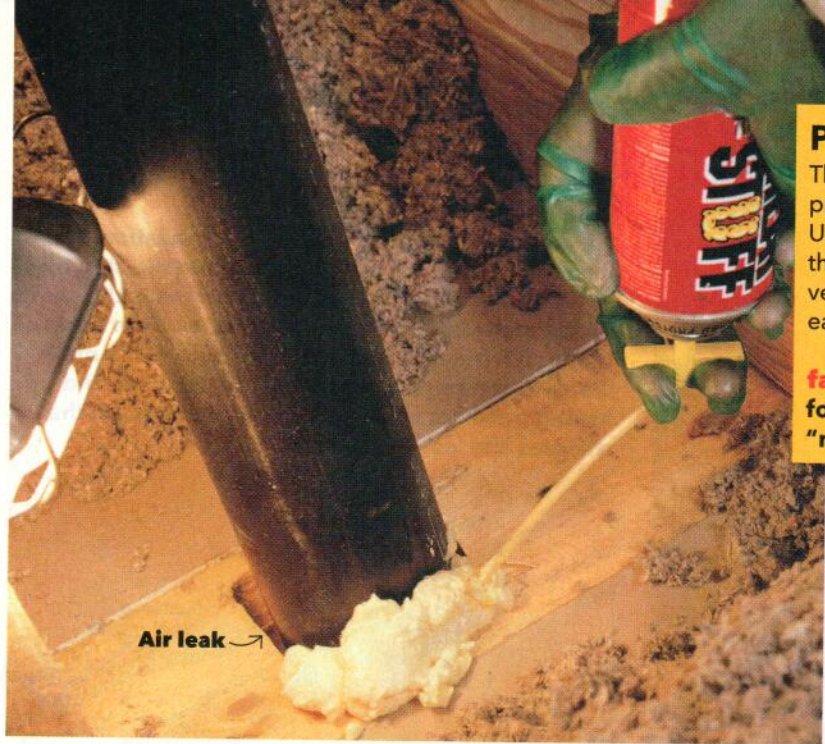
WATER TRAVELS SIDWAYS

Once water from an ice dam leaks through the shingles, it often travels horizontally. Keep in mind that a water spot on your ceiling doesn't mean the roof leak is directly above. That leak may be several feet away.



MEET THE EXPERT

Steve Kuhl and his crew at The Ice Dam Company and Radiant Solutions Company have been preventing and removing ice dams since 1993. For a handy calculator to determine how much heat cable you need, visit radiantsolutionscompany.com.



PREVENTION IS BEST

The smartest solution for ice dams is to prevent warm areas on your roof. Usually, that means sealing air leaks into the attic and adding insulation or roof ventilation. These solutions aren't always easy, but they eliminate the root cause.

For more on prevention, go to familyhandyman.com and search for "air leaks," "insulation" and "roof ventilation."

WET INSULATION IS WORTHLESS

When fiberglass or cellulose insulation becomes wet, it loses much of its R-value, allowing more heat to flow into the attic and making ice dams worse. Even after the insulation dries, the R-value may not be restored, creating a vicious cycle of more ice dams.

INSURANCE MAY NOT COVER THE DAMAGE

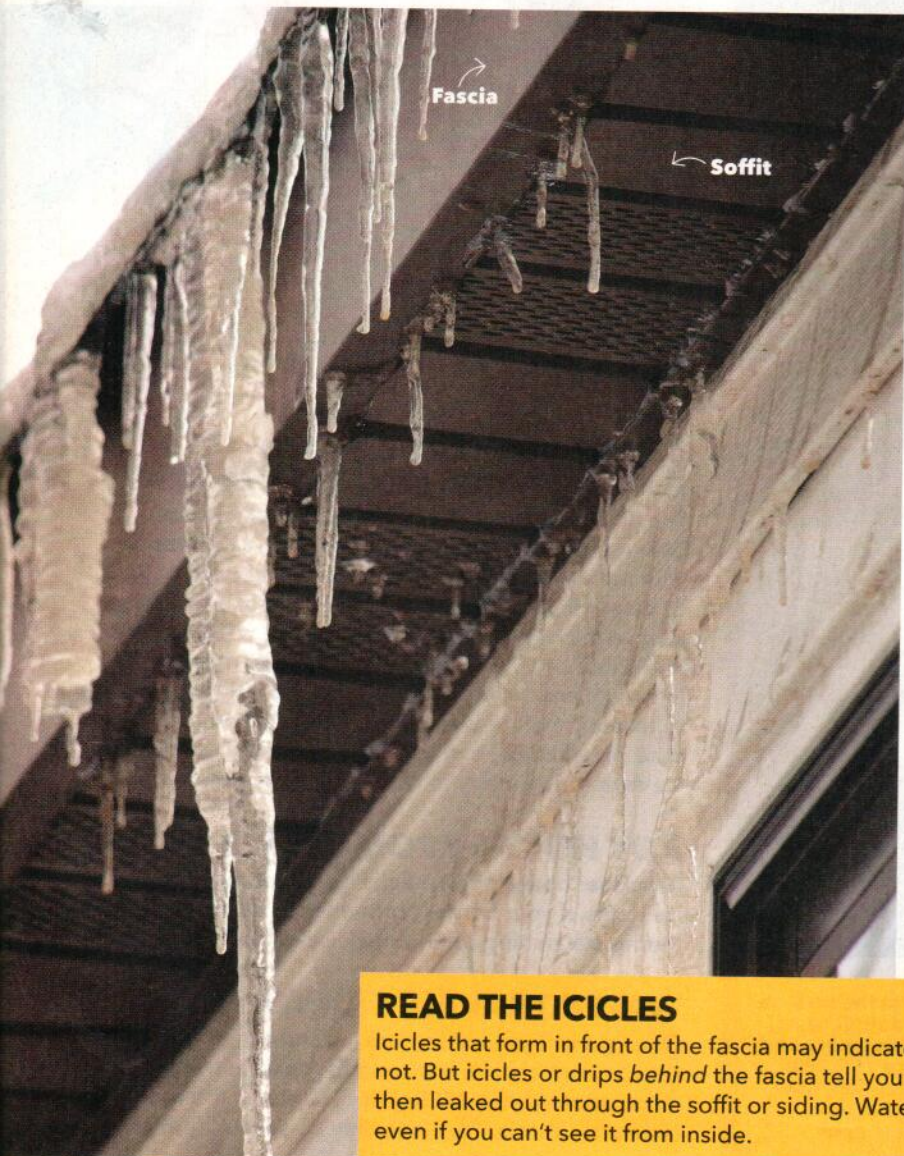
Insurance won't always cover ice dam damage. Some insurance companies will pay for repairs the first time, but after that, they may consider ice dams a known problem that you didn't correct—and deny your claim.

GUTTERS ARE IRRELEVANT

A common myth is that gutters cause ice dams; they don't. Ice dams can extend over gutters (and damage gutters), but the real problem is warm areas on the roof.

CHOPPING IS A RISKY SOLUTION

Think twice before hacking away at an ice dam with a hatchet or a chisel. Climbing a ladder and getting on your roof in icy conditions are truly dangerous; every year there are serious injuries and even deaths. Also keep in mind that cold asphalt shingles are brittle; chopping might damage them.



READ THE ICICLES

Icicles that form in front of the fascia may indicate a looming ice dam problem—or not. But icicles or drips *behind* the fascia tell you that water has entered the house, then leaked out through the soffit or siding. Water inside the house is always bad even if you can't see it from inside.

BOTTOM LEFT: STEVE KUHLMAN

SWITCH TO LEDs

Recessed lights containing hot incandescent bulbs can create warm spots on your roof. This can happen in homes with attics and is even more common where there is no attic, as with the cathedral ceiling shown here. LED bulbs produce much less heat and sometimes solve that problem.



MINIMIZE WATER DAMAGE

If water from an ice dam is coming through your ceiling, you can still minimize the damage. One way to do that is to control the water's path by punching a hole in the ceiling with a drill and letting water drain into a bucket.



DO SALT SOCKS WORK?

To make salt socks, you fill socks with ice melter and toss them on the roof—on or just slightly above ice dams. The ice melter will cut channels through ice dams, allowing trapped water to escape. While nobody thinks they're the ultimate solution for ice dams, we've heard lots of real-world reports that they work as an emergency measure. Here are a few things to keep in mind:

- The "socks" should be a sheer material so that the salt can contact the ice. Nylon stockings are the most common choice. Mesh paint strainers (sold at home centers) are another good option.
- For them to be effective, you need lots of salt socks, spaced every foot or two along the ice dam.
- They don't work immediately. It may take hours or all day before trapped water drains away.
- Ice melter is corrosive to metals and may harm plants, but those risks are mild compared with water damage inside your home.

GUIDE WATER THAT INTRUDES

Ice dams often cover a large area and cause a long chain of leaks along an exterior wall. Here's one way to minimize the damage: Use masking tape and painter's plastic to channel water into a bucket.

BOTTOM RIGHT: STEVE KUHLE

Climbing on an icy roof is treacherous. And although steamers are available for rent or purchase, they're expensive and difficult to use. We recommend hiring a contractor for this work.



BE CAREFUL WHOM YOU HIRE

You can hire a contractor to melt away your ice dams with a steam machine. Costs vary; some charge \$500 per hour or more during busy periods. You can easily spend more than \$1,000. If you do hire, make sure they use steam rather than a pressure washer. High-temperature pressure washers have a trigger and a colored tip on the wand and might blast the granules off asphalt shingles; steamers don't.



PLAN AHEAD WITH HEAT CABLE

If preventing warm spots on your roof just isn't practical for you, heat cable can help. While it doesn't solve the underlying problem, it will provide pathways for water when ice dams occur, keeping water out of your home. If it's the middle of winter, laying heat cable on an ice dam won't work. So, plan ahead and install it in a serpentine pattern on your roof and leave it.

Most heat cable uses 6 watts of energy per foot. The average cost of electricity is 13.19 kWh. If you installed 150 ft. of heat cable and had it on for 24 hours a day, you'd spend roughly \$10 a day to operate it.

PHOTOS: STEVE KUHLE