

HOME ENERGY GUIDE

ICE DAMS

Attic air leaks = ice dams

Although many years ago thought of as a problem with roofing or attic ventilation, ice dams are **actually** caused by the presence of warm, moist air in the attic, combined with snow on the roof and the right weather conditions. Ice dams occur when heat gets 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 buildup can back up under the shingles, damaging them and allowing water to leak to the ceilings and walls below.

What NOT to do:

- Installing heating cables will shorten the life of your roof and cost you money to operate.
- Removing the ice with chippers, chemicals, or heat can damage shingles, gutters, and other building components.
- Adding roof vents—including powered vents—will not eliminate ice dams, and often make the problems worse.

- Although additional insulation—especially higher density foam on the top plate of exterior walls—can reduce heat transfer to the roof deck, insulation alone is insufficient.

Air leaks can damage insulation and more

Water vapor carried with the escaping warm air may condense, freeze, and build up in the insulation. When this water builds up, it can soak the insulation (wet insulation has little insulating value), cause plaster and paint to crack and peel, and lead to rot and other structural damage.

Ice dams

The primary cause of ice dams is attic air leaks.

Warm, moist air leaking through holes around plumbing vents, electrical wires, chimneys, etc. leads to reduced performance of the insulation (right).

Foam spray (below) or caulking can seal up the air leak, saving energy and preventing nearly all ice dams.

