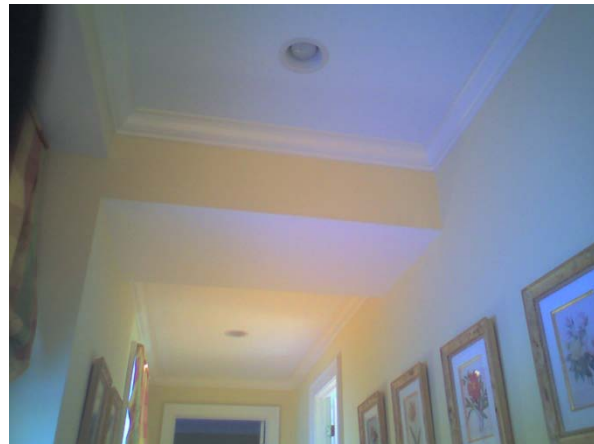
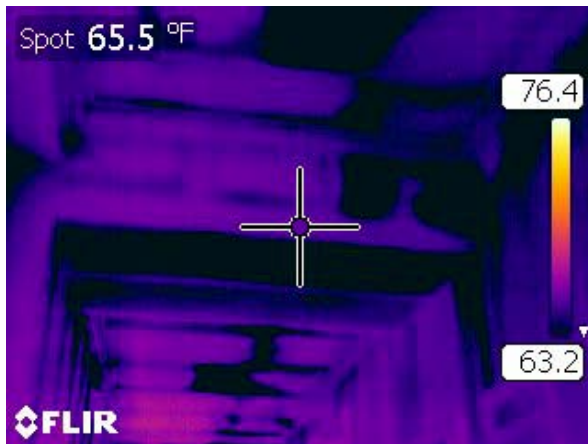
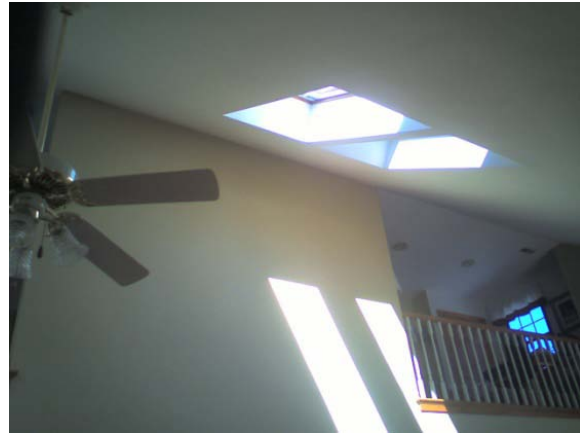


Ice dams are the result of snow melting on a roof, traveling to the roof edge, and freezing. The freezing ice forms a small dam along the roof edge that grows slowly. The ice will have a pool of water above it. Roofs are not waterproof, they are merely able to withstand temporary exposure to water. If the roof loses its ability to shed water, then it will leak. People try to break the ice with various gardening tools. This typically results in additional leaks, some of which require immediate, professional, expensive roofing contractor attention. ...Usually on Sunday nights. Please do not try to melt the ice with a torch. This results in hurried calls to neighbors for hoses that are not frozen, followed by urgent pleading with fire officials and insurance agents.

The only real way to address ice dams is by prevention. Since the cause of the ice dam is melting snow, try to stop the heat loss that is causing the melt. First, get an idea of where the heat is coming from by looking at the roof for spots where there is no snow. Then look in the attic directly below the dry spot on the roof for a disturbance in the insulation. If there are none, look to see if there is sufficient insulation throughout the attic. In our area it is common practice to install R-38 insulation in an attic. This is a 10 to 12 inch thick application. If you don't have that, the problem may be cured by adding insulation. A second avenue for heat loss is air leaking from the home into the attic. This can happen by leaking ductwork or different elevations in the ceiling inside resulting in open partition walls communicating with the attic, or from electric and plumbing perforation to the attic left unsealed. Hot air rises. Interior walls in homes are hollow. Most are not insulated. If the ceiling in one portion of a room is lower than the ceiling in another portion, it is very possible for the heated air in the partition to rise through the attic insulation relatively uncontrollably. Be prepared to spend some time rooting through the attic to find and seal all the perforations.

The air barrier flaws are not always easy to find, but with the help of a blower door and infra red, we can 'see' cold air leaking into interior partitions from a cold attic.





This partition is between the main staircase and the dining room in the center of a house. The rafters for the attic are supported by this wall, as are the rafters for the cathedral ceiling in the dining room. A common flaw is the sheetrock on the downhill side of the partition will end short of the top plate on the partition because the rafter forces the ceiling to be lower than the top plate in this situation. This air leak ducts hot air (enhanced in this situation by solar load from the skylight) directly into the portion of the rafter cavity that is most compromised for batt type insulation because the birds mouth cut and wall top plate interrupt or crush the batt insulation.

Air leaks like these are not obvious to the casual observer, but they wreak havoc on any attempt at airsealing an attic floor.

Ventilation is another thing. The attic should vent easily. This means you need a soffit that breathes and a ridge vent. Several homes in our area have had ignorant siding crews install vented soffit over solid wood soffit. Go in the attic on a bright day. If you don't see light coming in the soffit, you don't have adequate ventilation. This will result in reduced roof life, possibly rot from inside out through the roof deck, uncomfortably hot rooms adjacent to the attic in the summer, and ice dams. The solution is to clear the soffit and allow the passive ventilation of the attic.