

A roof needs to BREATHE!

Roof vents at the base (eaves or in the soffits) and near the top (ridge) of the roof are mandatory for circulation. Naturally the cool air will be drawn through the bottom and the warm air leaves through the top, therefore electrical or mechanical fans are not needed in most cases.

If the temperature is significantly different in your attic than it is outside considerable damage occurs that just get more and more expensive over time. The damage can even affect the structure of your home.



Signs of a poorly ventilated roof:

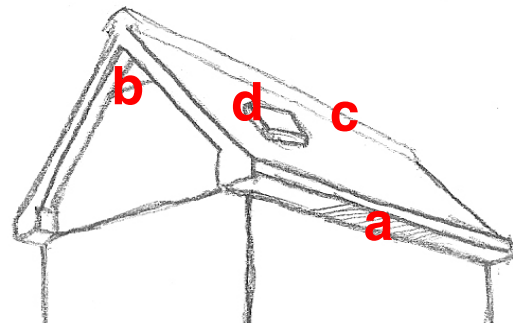
- Shingles deteriorate 25% faster from high heat underneath
- Condensation in attic
- Wood rot in attic
- Mold and/ or mildew in attic
- Rusting metal in attic
- Heating/cooling bills are high
- Ice dams form during the winter season – one of the costliest types of roof disasters

Everything you need to know about ventilation...

A properly ventilated attic will keep your roof deck and insulation dry, dissipate heat build-up in the attic space, minimize the potential for ice dams, and extend the life of your shingles.

Having proper levels of ventilation will also help ease your heating and cooling costs and make your home a healthier place. Chances are your roof is in dire need of more ventilation, especially if you see any curled shingles anywhere. Air enters intakes (usually through the perforated soffit) and exits through the exhaust vents.

There are many different types of vents; make sure you know what type presents the most value or which is most suitable for your purpose. If your roofer can't tell you what types are available, how much you need, and what the best options are, find a new roofer!



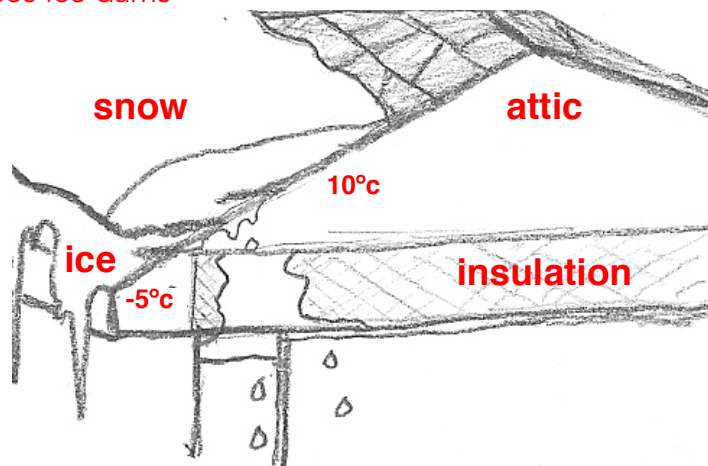
- a. Soffit vents – usually an intake
- b. Gable end vents – placed at the top of the gable area on both ends of the house
- c. Ridge vents – placed along the entire ridge of the roof to allow hot air to escape
- d. Roof vents – available in a standard or powered version

The general rule of thumb is that the minimum ventilation required is one square foot of Net Free Air (NFA) for every 300 square feet of insulated attic space. The split of intake and exhaust is generally accepted at a 50% intake and 50% exhaust ratio.

Venting doesn't need to be electrical or mechanical to work perfectly well; you should have enough and the proper type for your application. You may be able to add years to your roof by just adding one vent! Shingle warranties are based on proper venting.

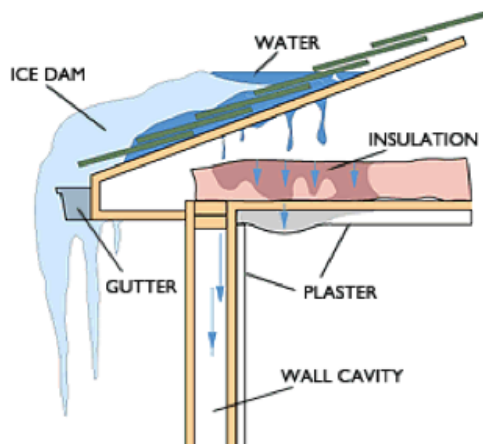
A poorly ventilated roof causes ice dams

Ice dams occur when snow near the top of warm roofs melts. It then cools and freezes down the overhang. As winter continues, snowfall continues the melt and freeze process, forming an ice dam that can seep under the shingles through the decking and into the house. Even in freezing temperatures, this causes serious roof leaks. The best



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prevention to ice dams is a well-ventilated roof so that the temperature in the eaves area is comparable to the one at the top portion of the roof. Protection for the eave area must be applied in the form of an impermeable ice and water membrane (installed on top of the decking, under the roofing material during the roofing process). Electric cables along the eaves can be used in the prevention of ice dams where they usually form.



However, this is *not* the ultimate solution as new ice dams can form above the cables and wreak the same havoc. An emergency / temporary solution is to fill a sock or nylon with calcium chloride and lay it vertically across the ice dam. Others have improvised ways to chop at the ice, spread salt or a constant stream of hot water. All these are methods that just add wear and do not solve the problem.

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