

# **What Should You Know About Ventilation?**

The first thing you should know is that a lot of people that install ventilation materials don't know the first thing about ventilation. I know this because we correct ventilation issues on dozens of houses every year that have had people address ventilation with the installation of ridge vents, making the ventilation properties of the house worse than when they started. So why does this happen? It happens because companies are being pushed to install products that they are not trained to install, based on limiting their liability. The end result can be very costly. Here are a few very simple things to write down and quiz the person you may be talking to about ventilation. 1) You need 1 square foot of ventilation for every 150 square feet of ceiling space that does not have a vapor barrier or 300 square feet of ceiling space that does have a vapor barrier. That is the standard formula known throughout the construction industry. It's pretty easy, and easy to remember, and yet you will stump most of the people you ask. 2) An approved vapor barrier has a perm rating of 1 or less. There are vapor barrier paints (primers by Sherwin Williams) that have a perm rating of 1 or less, so your ceilings can meet the vapor barrier code with just a coat of paint. Now the dirty little secrete you will only hear on this web site; multiple coats of any paint will provide a perm rating of less than 1, so having said that, most ceilings will require 1 square foot of ventilation for every 300 square feet of ceiling space. The paint manufacturers do not specify that information because they would have to test every color, which makes no sense. Ok, so now you are an expert, and at the very least, you know more than the guy you thought you were about to hire to do some work on your house.

The choice of ventilation and how it is distributed is critical for success. You should not mix ridge vents with gable vents. A gable vent will short circuit a ridge vent and vice versa. Think about that the next time you see a house with a ridge vent and gable vents. Ridge vents were designed for cathedral ceiling construction, but they can be used with flat ceilings as well. Gable vents are old construction techniques and when sized right, will provide adequate ventilation, but can be an issue with blowing rain and will require modifications to make sure that water leakage is not a problem while compromising the ventilation of the building.

There are several ways to monitor the ventilation of your attic space. Look at the underside of the roof sheathing. As long as there is no mildew, you are in good shape and no ventilation improvements may be required. The first place to look for mildew is around your roof nails, because they attract condensation through temperature transfers from outside. If there is no sign there, you should be in good shape, but keep an eye on that if you are new to your home. Pay attention to bathrooms or laundries that dump their ventilation into the attic, this is a common problem of producing moisture to a location that can not dissipate, regardless of the numbers. Get bathroom and laundry fans to direct their exhaust outside.

In general terms, your attic space should be the same temperature and humidity as the outside of the house during the winter months. Ventilation is most important from Fall through to Spring. People make the mistake of blocking ventilation in their attics, thinking that they are

saving energy, when they are doing the opposite. Your insulation performs the best when it is dry, with no percentage of moisture added to it. Just by adding 10% humidity to your insulation you are reducing its R value by 50%. The moisture becomes a conduit for energy loss.

If your goal is to make the attic space cooler in the summer, you will never make that happen with a passive system such as soffit and ridge vents or gable vents. They are designed to keep the space dry when and if it gets wet. You will need a temperature controlled attic fan, either electric or solar to reduce the attic temperature in the summer. This product will make your attic space equal to ambient air temperature once the sun goes down, preventing a hot attic from radiating down into the living space all night long.

Balanced ventilation is also critical as well as choosing the right product for the job; otherwise you can end up getting moisture or small snow particulates into your attic space, which is real problem if you do not have access to that space. Give us a call and we will make sure that your house has the right ventilation to keep the mildew and mold from growing and to make sure that you are getting the efficiency of the insulation in your attic.