

Install an Attic Ridge Vent to Reduce Air-Conditioning Costs



Install half of the required vent area in soffit vents. These are 4-by-16-inch vents.



Roll out the ridge vent, smooth it down and cut it to length.



To ask a question, write to **James Dulley**, Energy Report, 6906 Royalgreen Dr., Cincinnati, OH 45244, or go to www.dulley.com.
Copyright 2019, James Dulley

Q. My house has gable attic vents on each end. What is my best choice for attic venting, how much do I need and can I install it myself?

A. Adequate attic ventilation is important to reduce your utility bills and avoid damage to the roof and attic. Having a vent in each side of the gable was the typical attic ventilation configuration in older houses, but today it is considered woefully inadequate for an efficient house.

People often think of attic ventilation as being important only during summer to control air-conditioning costs. A typical dark-shingle roof can easily reach 170 F, and the air temperature inside the attic can reach 140 F without adequate ventilation.

Even with enough insulation on the attic floor, this extreme radiant heat transfers through the insulation to the ceiling below. The structural lumber in the attic also reaches 140 F by afternoon. With its thermal mass, it can stay hot well into the evening and continually transfer heat into your house.

During winter, the attic can get cold. No matter how well the vapor barriers were installed in the walls and ceiling, indoor air and water vapor get into the attic. If this moisture-laden air collects in the attic—even in relatively mild climates—it can condense on the lumber and drip onto the insulation. The R-value of insulation is much lower when damp.

In cold climates where the temperature often drops below freezing at night, it is even more important to ventilate the attic to keep the roof cold. If warm air from the ceiling below stagnates near the roof peak, it can melt snow on the roof. This water runs down the roof to a cooler area and refreezes, causing an ice dam. Over time, this dam causes water to back up under the shingles and leak into the attic and destroy the lumber. Its weight can damage the gutters.

The ideal ventilation flow comes in low over the insulation to keep it dry and cool. Some of it should flow up under the roof sheathing to keep it cooler, then exhaust out near the peak of the roof. This air flow out of the roof peak keeps it

cooler during summer and much colder during winter to minimize condensation and ice dam formation.

There are various attic venting options, all of which are better than gable vents. A combination of a ridge vent and soffit vents is most effective and not difficult to install yourself. Once you install proper new attic ventilation, block off the gable vents because they will interfere with the desired air flow. I stapled extra attic foil over my gable vents to block them.

The ridge vent is at the roof peak where hot attic air is least dense so it naturally flows up and out. Breezes over the top of the ridge vent cover create a low pressure area to draw even more air through the attic. The cool air is drawn in the soffit vents.

Before you run out and buy vents, calculate how much ventilation you need. This is measured by the net free vent area of the particular product you select. The net free vent area is marked on the packaging. It is always less than the actual area of the vent because of screening and other obstructions to the air flow inside the vent.

Measure the area of the attic floor. A typical rule of thumb is 1 square foot of net free vent area of each 150 square feet of attic floor area is needed. This amount of vent area should be divided evenly between the ridge vent and the inlet soffit vents.

If you run the ridge vent all the way across the roof because it looks better, even if it is more ventilation than you need, match it with the proper amount of inlet soffit vents. Depending upon how much inlet soffit vent area you need and the depth of your soffits, you may find it easiest to install continuous lengths of under-eave soffit vent. This is less time consuming than sawing many small rectangular holes and installing individual soffit vents.

To install the ridge vent, cut a slot along the roof ridge with a circular saw. A typical 1-foot-wide ridge vent provides 18 square inches of net free vent area per lineal foot. ■