

2 HOW TO VENTILATE

Effective ventilation is achieved by providing intake ventilation at the lower edge of your roof and exhaust ventilation at the upper portion of your roof. The flow of air from the lower portion of the roof to the upper portion through these vents is often called the “stack effect,” which is similar to how a chimney operates.

- **“Balanced Ventilation is Best”**
Research has shown that the most efficient way to ventilate an attic is with a system that provides continuous airflow along the entire underside of the roof sheathing. Achieving this desired airflow requires a balanced system of intake ventilation low at the roof’s edge or in the eaves and exhaust ventilation at the ridge or near the peak of the roof. Minimum building code requirements call for one square foot of net-free area for every 300 square feet of attic floor space. But, for today’s more airtight homes, building science experts and vent manufacturers recommend one square foot of net-free area for every 150 square feet of attic floor space.
- **Don’t Forget Intake**
Too many times homeowners focus on the exhaust vents high on the roof and forget about the importance of the intake vents. To work properly an exhaust vent must pull in cool, fresh air from the lowest point on the roof to flush out the hot/moist air along the entire underside of the deck.
- **Don’t Mix Exhaust Vents**
It’s not a good idea to combine or mix different types of exhaust vents on the same roof if they share attic space because it could short-circuit the system causing one of the exhaust vents to pull in weather elements and also leading to less than optimal venting of the entire attic/deck.

- If using vented soffit panels for intake ventilation (typically made by siding manufacturers) check the net-free area rating of the panels to ensure they allow proper intake airflow.
- Make sure bathroom, kitchen and dryer exhaust fans are properly vented to the exterior of the house and not into the attic cavity as this practice will add excess moisture inside the attic.

3 SEALED VERSUS VENTILATED

If you’re considering sealing your attic instead of ventilating your attic be sure to ask your contractor these important questions:

- Where will all the internal moisture go?
- How can I visually inspect for a roof leak if the underside of the deck is sealed with insulation?
- Will I have more of a threat with mold and mildew?
- How does this impact my shingle warranty?
- Will this cause more ice damming?

4 COMMON MISTAKES TO AVOID

Contractors and homeowners are urged to check the following:

- Make sure two different types of exhaust vents are not on the same roof of a common attic, so as to avoid possible short-circuiting of the system (see Section 2 above).
- Make sure the intake vents are not covered with insulation. To avoid this possibility be sure to insert attic insulation baffles keeping the insulation away from the intake vents.
- Check that the intake vents have not been painted shut. If they’ve been painted over that could restrict or reduce intake airflow.

5 ATTIC VENTILATION IS GREEN

...and it’s contractor tested and trusted. A balanced ventilation system allows fresh, dry air to flow into your attic structure through your intake vents. As this occurs, warm moist air is drawn through your exhaust vents to the outside. This is what is known as a passive ventilation system and is one of the most energy-efficient systems in the industry, as it requires no energy to run and can help reduce your cooling bills in the summer time.



1 WHY VENTILATE?

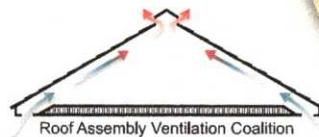
There are four main reasons to ventilate your home's attic space.

- **Reduce Heat Gain and Reduce Energy Bills in the Summer**
Radiant heat from the sun warms the roof and radiates into the attic. If not properly vented out, it could radiate into the living space affecting the comfort level inside the house and contributing to higher utility bills (because appliances such as fans/refrigerators/air conditioners may have to work harder to keep your home cooler).

- **Reduce Moisture and Condensation in the Winter**
In northern climates, heated air from the home escapes into the attic through openings in the walls or ceilings (such as recessed lights, electrical chases, the attic access door, etc.). Some of this moisture vapor rises to the colder/drier attic where it can potentially condense if not properly vented. If it condenses, it could dampen the attic insulation (which could weaken the R-value of the insulation), contributing to wood rot, mold, mildew and poor indoor air quality.

- **Fight Ice Dams**
Ice Dams are formed when in winter conditions, heated air from the home migrates into the unheated attic through the ceiling, under insulated areas and through bypasses, such as light fixtures or exhaust systems found in kitchens and bathrooms. This creates warm areas on the roof and unevenly melts the underside of the snow that has accumulated on the roof. The melted snow flows down the roof until it reaches a colder spot, such as the eaves, where it refreezes, forming a back up of ice commonly called an ice dam. The ice dam is a result of energy loss from inside the house, which could cost a homeowner hundreds of dollars or more. It could also lead to rotted roofs and rafters, ruined insulation, moisture inside the walls, mold and peeling paint. Proper attic ventilation can help prevent the conditions that contribute to ice dams.

- **Prolongs the Service Life of the Building Materials**
Finally, the shingles and decking of your roofing system may deteriorate prematurely due to heat and excessive moisture buildup. By reducing the surface temperature of the shingles and the existence of moisture on the underside of the decking by properly ventilating the attic space, a homeowner may be able to extend the life of both of these materials.



Roof Assembly Ventilation Coalition (RAVC)
750 National Press Building • 529 14th Street, NW
Washington, DC 20045
(202) 591-2438 • Fax (202) 223-9741
www.ravcoalition.org

TOP 5 Home Owner concerns

