

# Tales from the Attic

## Managing Attic Moisture During Cold Weather

By **Paul Scelsi**, who has been Air Vent Inc.'s Attic Ventilation: Ask the Expert™ seminar leader since 1998. For more information about Air Vent, or its seminars, visit [www.airvent.com](http://www.airvent.com) or call 800/AIR-VENT.

**P**roper attic ventilation can help prevent costly problems resulting from moisture build-up inside the attic, including mold, mildew, wood rot, dampened insulation and reduced indoor air quality.

A properly designed attic ventilation system not only removes hot air from the attic in the summer months, but will exchange warm, moist air with cooler, drier air in the winter months. This results in more comfortable living quarters, more efficient energy usage and longer-lasting building materials.

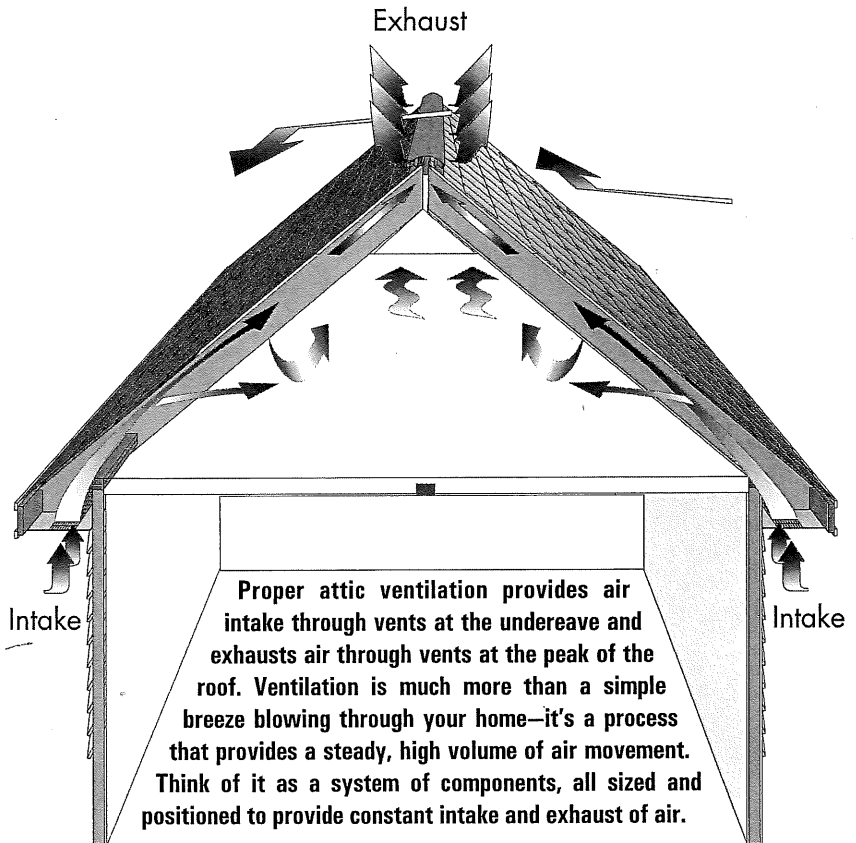
### Designing a Ventilation System

Attic winter moisture and summer heat build-up have different causes, but they share one solution: a high-efficiency ventilation system that allows a uniform flow of air to sweep the underside of the roof sheathing.

- Determine the square footage of the attic.
- Most building codes require one square foot of vent area for each 150 square feet of attic floor space.

### What Happens When the Temperatures Drop

- The average family of four generates two to four gallons of moisture from everyday activities such as cooking, cleaning, showering and breathing. Some of this moisture eventually rises to a cooler, dryer place: the attic.
- If not properly ventilated out of the attic, the moisture can condense as frost or water droplets inside the attic when it hits the cooler rafters, trusses and roof sheathing, where it can lead to problems with building materials and the indoor air quality.
- Moisture build-up can have long-term effects. Not all the condensing moisture drips into insulation. The structural elements of the house also absorb some, which can lead to wood rot and the deterioration of roofing materials. Other moisture is likely to soak into the attic floor and eventually into ceiling materials, causing water stains and paint damage in the rooms below.



If there is a vapor retarder or the attic ventilation is balanced between the ridge and intake vents, the minimum is reduced to one square foot for every 300 square feet of attic floor space. I recommend the 1/150 ratio due to tighter

construction of modern homes.

- Always balance the attic ventilation system with 50 percent of the required ventilation high on the roof for exhaust and 50 percent of the required ventilation low on the roof for intake. Balancing the system allows cool, dry air to enter at the soffit and push warm, moist air out the exhaust vents high on the roof.

By incorporating a high-efficiency attic ventilation system into the homes you build or service, you can help manage moisture during cold weather in addition to providing years of satisfaction, comfort, reduced maintenance and energy costs. It can help reduce callbacks, help build new business and customer loyalty and can lead to increased profits per job. **m**