



AIRVENT UNIVERSITY LESSON PLAN

October Lesson Plan

Comparing Attic Airflow Ratios 1/150 vs 1/300

The International Residential building Code (IRC Chapter R806) explains the amount of airflow that is supposed to pass through an attic as a “ratio.” That ratio is either 1/150 or 1/300.

@ the 1/150 ratio the airflow provided is one square foot of Net Free Area for every 150 square feet of attic floor space.

@ the 1/300 ratio the airflow provided is one square foot of Net Free Area for every 300 square feet of attic floor space.

The Code explains how that airflow should be distributed through the attic between intake and exhaust vents. In the AirVent *Attic Ventilation: Ask the Expert™* Seminars held annually across North America for industry pros each winter we explain the importance of balancing the airflow 50% intake and 50% exhaust whether using the 1/150 or the 1/300 airflow ratio. Balanced airflow at either ratio gives the attic ventilation the opportunity to help fight heat buildup, moisture buildup, and ice dams. But the 1/150 ratio delivers superior results.

How Much Ventilation is Needed?

1/150 VS. 1/300

@1/150

- **Summer heat load is cut 10%**
(A/C runs less)
- **Winter heating load is reduced 7%**
(heater runs less)
- **Cuts condensation potential by 33%**

— Oak Ridge National Laboratory

In its research paper *Energy and Moisture Performance of Attic Assemblies*, Oak Ridge National Laboratory cited three significant advantages of having more airflow (1/150 ratio) instead of less airflow (1/300 ratio) through the attic. See the graphic.

Because of these powerful advantages, AirVent's calculating tools for determining how many attic vents are needed for any project automatically default to the 1/150 airflow ratio. However, it is impossible to apply the 1/150 airflow ratio to every roofing project due to the variety of roof designs. The geometry of some roofs does not allow the application of the 1/150 airflow ratio. In such cases, using the 1/300 airflow ratio is acceptable.

Listen to our podcast episode: [Attic Airflow Ratio 1/150 vs 1/300: Is More Better?](#)

To test your knowledge about what you learned in the October 2024 Lesson Plan please take our short 5-question Pop Quiz.