



AIRVENT UNIVERSITY LESSON PLAN

August 2025 Lesson Plan

Can Attic Exhaust Vents be Used as Intake Vents? Yes, if...

A frequent question we field throughout the roofing industry is: *Can I use attic exhaust vents – such as box vents – low on the roof as attic intake vents?* It is OK to use attic exhaust vents such as box vents – also called can vents, pot vents, turtle vents, roof louvers – low on the roof acting as intake vents if the vent manufacturer tested the vent for that application. That's the key: Has the vent been tested for use low on the roof?

Rain Volume & Velocity Concerns. The concern with using exhaust box vents in general low on the roof has been water entry. In a rain event, the volume of water and the velocity of the water traveling on the roof before hitting the vent is different when the vent is high on the roof (exhaust) vs. low on the roof (intake). There's also the wind speed and direction to contend with. Installed as exhaust a few feet from the roof peak, every style of box vent (round, square, slant-back) safely handles the volume and velocity of rainwater. That is not the case when those vents are installed low on the roof. Vent shape and design come into play more significantly as the volume and velocity of rainwater increases. We explored this very topic with **Colby Cruz**, product design engineer at AirVent, in a recent podcast episode.



(Pictured here are Model SLP61 box vents installed low on the roof as intake vents.)

“The biggest concern is the accumulation of runoff water from the ridge of the roof. When an exhaust vent is installed close to the ridge there’s not enough time and not enough roof frankly above it for the water to accumulate and start to pool up,” says **Cruz**. “But once you allow space between the ridge and the placement of the top of the vent – such as using an exhaust vent low on the roof as an intake vent – water can pool up and start to gain momentum and volume. This is why vent geometry becomes far more critical when used as an intake vent.”

Slant-Back Design Does Well. In our testing, our attic exhaust box vents with a slant-back design handled the water on the roof – as opposed to the square design and the round design box vents.

“The slant-back profile creates a nice natural deflection surface for that water runoff,” says **Cruz**. “Imagine a high volume of water flowing down the roof. As soon as it hits that slant-back part of the vent’s dome it’s almost like a reverse drip edge – the water hits that angled portion of the vent and it’s directed away from the vent instead of directly into the vent like non-slant-back designed vents. As a result, you’re relieved of a lot of water volume potentially hitting the opening in the roof deck.”

Our in-house testing followed the Miami-Dade TAS-100(A) test standard to calculate a simulated rainfall rate which employs a standard rate of 8.8 inches per hour. We chose a more aggressive rate of 17.7 inches per hour exceeding the standard with winds up to 110 MPH. All in-house testing validates the use of these vents as attic intake vents from 3/12 to 12/12 roof pitches (**Models SLP61, RVG55, SLA, RVGL50, and RVAL50**).

“We’re not an official lab, of course, but this more aggressive testing gave us confidence that the slant-back design can be used low on the roof as intake. The total amount of water allowed to accumulate and infiltrate into the roof deck opening per Miami-Dade is 0.05%. We made sure to follow that standard even with the more aggressive rate of rainfall,” **Cruz** says. “I am fully confident in these vents in this application. My additional guidance to the industry would be to check your local building code requirements.”

To test your knowledge about what you learned in the August 2025 Lesson Plan please take our short 5-question Pop Quiz.

