



Roof Saver® Ridge Vent

Exhaust Vent





Planning the Job

Today, we want to give you some valuable information about the benefits of a properly planned and installed attic ventilation system. Your attic needs the right amount of vents installed in a balanced format to allow fresh air to enter the attic and excess heat and moisture to escape.

Roof Saver ridge vent works as the exhaust vent in the system to allow the excess heat and moisture to flow out of the attic.

Let's review the steps to plan the ventilation system using an example to follow the process.



Product Description

Roof Saver[®] Ridge Vent

is a flexible material that is intended to be installed in conjunction with eave, cornice or soffit vents, for the purpose of providing natural ventilation of enclosed attic and rafter spaces.

Cooking, bathing and laundry release 2 to 4 gallons of water vapor inside the home each day for a family of 4.

Natural Ventilation of
Enclosed Attic Spaces





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1. Building Code requirement

The International Building Code requires attic ventilation to allow excess heat and moisture to escape from the attic. To plan the ventilation system, we need to know the square footage of the attic, and the length of the ridge and soffit available for ventilation.

2. Measure the attic area, ridge and soffit

An estimate of the attic area is the footprint of the structure. For each section of the building that has an attic, measure the length and width of the building and multiply these two numbers to find the area of that section. Add up the areas to find the total square footage of attic area.

3. Apply the right Net Free Area ventilation ratio

Use the 1:300 ratio for attics with a vapor retarder installed. This means that you need at least 1 square foot of Net Free Area for every 300 square feet of attic area. The vapor retarder may be a 6-mil thick sheet of plastic stapled to the underside of the attic floor joists before the drywall is installed on the ceiling beneath the attic.

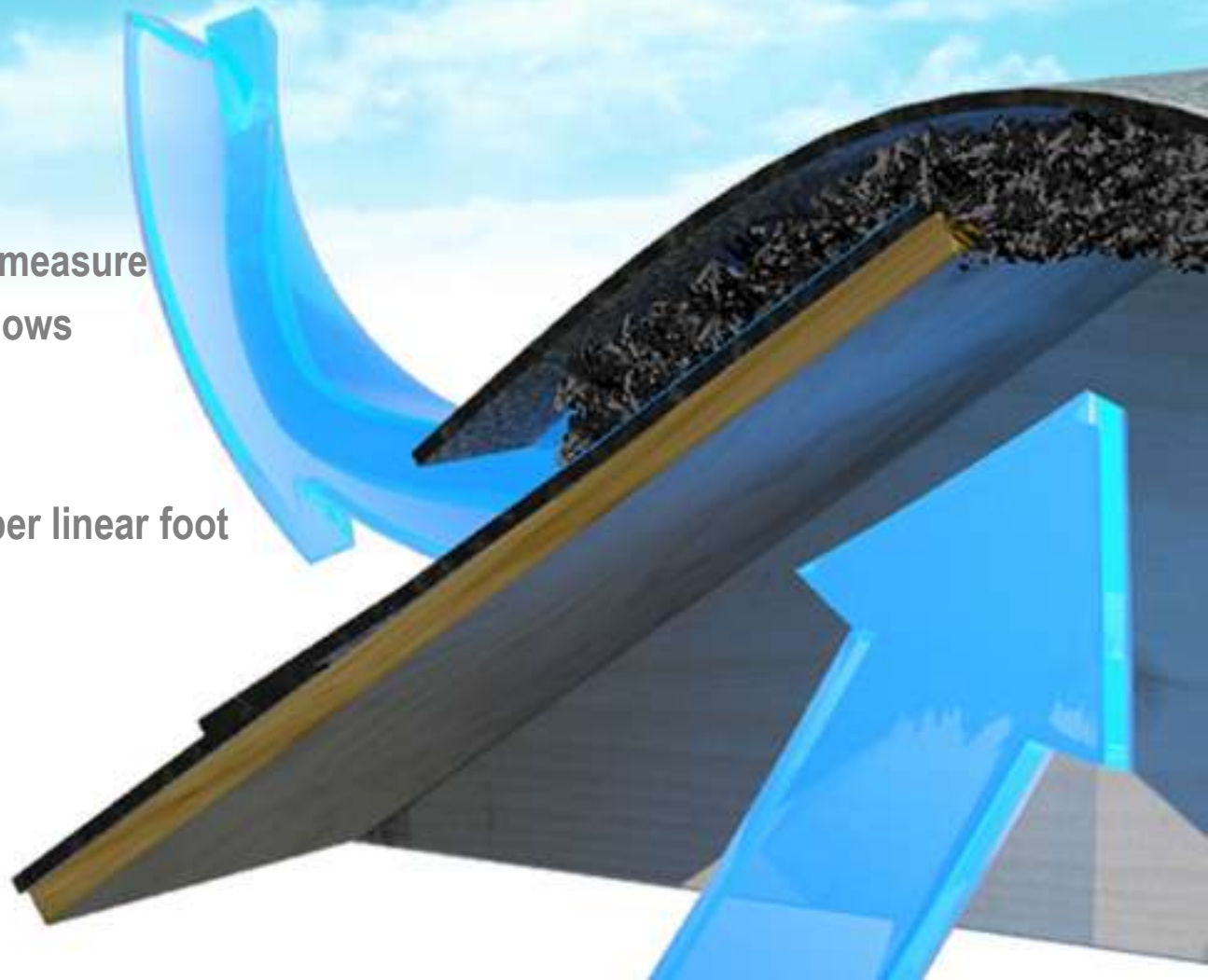
Use the 1:150 ratio for attics with no vapor retarder installed at the foot of the attic. This means that you need 1 square foot of Net Free Area per 150 square feet of attic area.



Net Free Area

What is Net Free Area?

- Net Free Area (NFA) is the measure of space in the vent that allows air to pass through
- Roof Saver Ridge Vent
NFA = 15.2 square inches per linear foot





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4. Calculate the minimum Net Free Area, NFA

- Now let's use the attic area and proper NFA ratio to determine the minimum amount of ventilation needed. We'll use an example of a 50 foot by 30 foot building that has a 1500 square foot attic with no vapor retarder installed. The ridge length is 50 feet.
- How much NFA needed? = $1500 \text{ SF attic} \times 1 \text{ SF NFA} / 150 \text{ SF attic} = 10 \text{ SF NFA}$.
- This tells us we need at least 10 SF of NFA for the ventilation system to meet the Building Code minimum.

5. Balance the system

- For the ventilation system to work properly it must be balanced. Half or less of the total Net Free Area is installed as exhaust vent along the ridge and half or more of the total is intake vent installed under the eaves.
- Referring back to the example above, we need 5 SF or less of the 10 SF of NFA along the ridge and 5 SF or more as intake along the soffit.



Balanced **Ventilation**

Balanced Ventilation System

- Requires soffit ventilation equal to or greater than the amount of ridge ventilation
- Every square inch of exhaust NFA must be balanced by providing the same or greater amount of NFA intake at the eaves.



**Air
Intake**

Equal or More NFA than at ridge

**Exhaust
NFA**

Exhaust NFA Balanced
with Air Intake at Eaves



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6. Determine the length of Roof Saver ridge vent required

Let's convert the 5 SF of exhaust NFA to length of Roof Saver to be installed. Refer to the 1:150 NFA Chart below. In the left hand column find the row for the 1500 square foot attic. The chart tells us we need 47.4 feet of Roof Saver to get 5 SF of exhaust NFA.

Attic Area SF	Minimum NFA, SF	Exhaust NFA, SF	Length of Roof Saver, ft	Intake NFA, SF
1000	6.67	3.33	31.6	3.33
1100	7.33	3.67	34.7	3.67
1200	8.00	4.00	37.9	4.00
1300	8.67	4.33	41.1	4.33
1400	9.33	4.67	44.2	4.67
1500	10.00	5.00	47.4	5.00

Let's refer back to our 50 foot by 30 foot building with a ridge length of 50 feet. We need to stop the slot we cut in the roof sheathing one foot from each end of the ridge. This leaves 48 feet of ridge available for exhaust ventilation. The NFA Chart shows a 47.4 foot slot gives us 5 SF of exhaust NFA. Now we know that our building has enough ridge length to get half of the total NFA using 47.4 linear feet of Roof Saver.



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7. Determine the amount of soffit ventilation required

- The soffit vent technical information shows the NFA provided for each section of soffit vent. For our purposes we'll use 7.5 square inches of NFA for an aluminum soffit vent. We found the NFA value in the manufacturer's technical information.
- Our building is 50 feet long and both sides will have soffit vents installed along the entire length to ensure air can enter the attic uniformly. This gives 100 linear feet of soffit to install intake vents. Note that intake will only be installed along the low end of the roof. The gable ends may have vented soffit as long as the vents stop at least 3 feet below the ridge vent measured vertically.

How much soffit NFA? = 100 feet of soffit x 7.5 square inches per linear foot x 1 SF/ 144 square inches = 5.21 SF NFA.



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8. Conclusions

The building has enough ridge and soffit length available to install at least 10 SF of total NFA with half or more of the total NFA at the soffit and half or less of the total NFA at the ridge.

Plan to cut the slot along 48 linear feet of ridge and install Roof Saver for the exhaust vent. For cosmetic purposes, install Roof Saver along the entire ridge to give the roof a uniform appearance.

Plan to install 100 linear feet of vented soffit.

The NFA Charts are on our website at www.roofsaver.com/tech-chart.html.

9. FAQs

Is it OK to install more than the minimum NFA?

Yes, as long as you balance the system with half or less of the total installed ventilation at the ridge and half or more at the soffits.

The attic is too hot in the summer. Should more exhaust ventilation be added?

Not necessarily. The current system may be installed with too little intake ventilation. First, work through the planning steps to determine how much intake and exhaust ventilation is installed. Then address the issue by determining the amount of additional intake or exhaust ventilation needed.



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9. FAQs continued

My house already has gable end vents installed. Can I install a ridge vent as an additional exhaust vent?

No, because these are both exhaust vents. You may leave the gable vent on the building but you'll need to seal the vent on the inside of the attic to eliminate the tendency of the gable and ridge vents to short circuit the vent system. Air flow is determined by the path of least resistance. Using two different types of exhaust vents on an attic section, whether they are pot vents, turbines or gable vents, is NOT allowed because this will result in air flowing in through one of the exhaust vents. You want the intake at the low end of the attic and exhaust at the high end to allow the entire attic to ventilate properly.

What can be done to eliminate ice dams on the roof?

Ensure that the intake vents are clear of obstructions inside the attic. Insulation and items stored in the attic near the soffits can block intake vents. Make sure you have enough insulation to keep heat from the home from warming the attic. Make sure there is a good seal around the attic access door to keep warm air from entering. Check the ridge vent to ensure air can flow out of the attic.

10. Installation video

Watch our Installation video to ensure you have all of the tools for the job and understand the steps for proper installation of Roof Saver ridge vent.