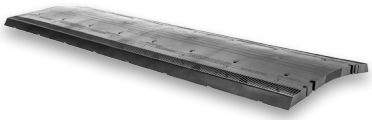
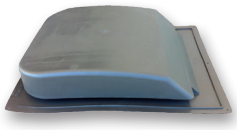
ROSS®
Manufacturing, LLC

Innovation in Ventilation™

PRINCIPLES OF ATTIC VENTILATION



Ross® 2-IN-1 Ridge Vent®



Ross® 65 Slant Back Vent®

Ross® 150 Roof Vent®

Ross® 45 Intake Vent®

WHY VENTILATE THE ATTIC?

1. REMOVES HEAT FROM THE ATTIC.
   a. Proper ventilation uses intake and exhaust vents to help reduce energy costs by removing the hot air from the attic.
   b. By removing the hot air from the attic, the home is able to stay cooler and the air conditioner runs less frequently.
   c. All shingle manufacturers' warranties state that their warranties are voided if proper ventilation is not used.
2. REMOVES MOISTURE FROM THE ATTIC.
   a. Proper ventilation removes the moisture from the attic. The attic insulation R-Value indicates the insulation's resistance to air flow – specifically heat. The greater the R-Value the better the insulation. Moisture will reduce the R-Value of insulation.
   b. Moisture can lead to mold and mildew in the attic.
   c. Moisture can also cause damage to the roof deck.

HOW DO YOU CALCULATE PROPER ATTIC VENTILATION?

1. ACCORDING TO THE 2018 IRC CODE ON ATTIC VENTILATION, THE MINIMUM NET FREE VENTILATING AREA (NFVA) SHALL BE 1/150 OF THE AREA OF THE VENTED SPACE.
   a. For every 150 square feet (sq. ft.) of attic space, 1 square foot of ventilation is recommended.
   b. Every square foot of ventilation is divided by 2 for the Intake (soffit ventilation) and the Exhaust (roof ventilation).
   c. Convert to square inches by multiplying by 144.
2. EXCEPTION: THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/300 OF THE VENTED SPACE PROVIDED ***BOTH*** OF THE FOLLOWING CONDITIONS ARE MET:
   a. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ***ceiling***.
   b. Not less that 40 percent and not more than 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically. The balance of the required ventilation provided shall be located in the bottom one-third of the attic space. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914mm) below the ridge or highest point of the space shall be permitted.
3. EXAMPLE OF A BALANCED VENTILATION SYSTEM.
   a. Attic square footage / divided by 150 = sq. ft. NFVA (net free venting area) needed for a balanced system.
   b. Divide NFVA by 2 = NFVA (net free venting area) Intake and NFVA Exhaust.
   c. To convert to square inches multiply by 144.

Calculation Example:

2,000 square feet of attic space

2,000÷150 = 13.333 ft² OR 2,000÷300 = 6.666 ft²

Net Free Ventilating Area (NFVA TOTAL)

13.333÷2 = 6.6665 ft² NFVA Intake & Exhaust
OR 6.666÷2 = 3.333 ft² NFVA Intake & Exhaust

6.6665x144 = 960 in² NFVA Intake & Exhaust
3.333x144 = 480 in² NFVA Intake & Exhaust

no. of vents for:	150 code	300 code
Ross® 2-IN-1 Vent®		
84 sq. in. NFVA	= 12 vents	6 vents
Ross® 65 Slant Back Vent®		
65 sq. in. NFVA	= 15 vents	8 vents
Ross® 150 Roof Vent®		
150 sq. in. NFVA	= 7 vents	4 vents
Ross® 45 Intake Roof Vent®		
45 sq. in. NFVA	= 21 vents	11 vents

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