

VENTILATION

RCO Section R806 - ROOF VENTILATION

9/28/2006

To minimize condensation within attic and enclosed rafter spaces, free-flow ventilation of such space is required.

R806.1 Ventilation Required. When determined necessary by the building official due to climatic conditions, enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilating openings shall be provided with corrosion-resistant wire mesh, with the least dimension of 1/8 inch.

R806.2 Minimum Area. The total net free ventilating area shall not be less than 1 to 150 of the area of the space ventilated except that the total area is permitted to be reduced to 1 to 300, provided at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross ventilation area may be reduced to 1 to 300 when a vapor barrier is installed on the warm side of the ceiling.

R806.3 Vent Clearance. Where eave or cornice vents are installed, insulation shall not block the free air flow of air. A minimum of 1 inch space shall be provided between the insulation and the roof sheathing at the location of the vent.

Example of attic ventilation calculations

1 Calculate the flat area of the attic spaces. Attic sq. ft. = _____

2a Divide attic sq. ft. by 150 if only using ridge vents, hat vents or if only using soffit vents.
Attic sq. ft. divided by 150 = _____ (the required vent openings).

2b Calculate the *net-free clear* opening (Manuf. specs) of all vents = _____
This number must be **equal or exceed** the calculated sq. footage of **2a**.

3a Divide attic sq. ft. by 300 if supplying upper and lower vents, such as ridge and soffit vents.
Attic sq. ft. divided by 300 = _____ (the required vent openings).

3b Calculate the *net-free clear* opening (Manuf. specs) of all vents = _____
This number must be **equal or exceed** the calculated sq. footage of **3a**.

Crawlspace Ventilation

R408.1 The space between the bottom of the floor joists and the earth under any building shall be provided with ventilation openings through the foundation walls. The total required vent openings shall be 1 to 1500 of the crawl area only when a vapor barrier is provided over the ground surface. Vents must be placed 3 ft. from each corner except that vents may be omitted from one side only. *Floor joists must be insulated when using exterior vents.*

Exception: Ventilation openings may be omitted when continuously operated mechanical ventilation is provided at a rate of 1 cfm for each 50 sq. ft. of crawlspace. The ground must be covered with a vapor barrier and the crawlspace walls must be insulated.