

SPECIFICATION DATA SHEET - Roof Ventilation

PRODUCT NAME:

Roof ventilation for Bravo, Bingo, T18, Eco-Tile

MANUFACTURER:

London Eco-Metal Manufacturing Inc.
 531 Shaw Road
 Dorchester, ON N0L 1G4
 1-855-838-9393

PRODUCT DESCRIPTION:

Basic Uses: Recommendation by London Eco-Metal manufacturing Inc on roof ventilation

Why we need arctic ventilation ? New home are more airtight more efficient build material in the new on the renovating homes (Insulation, window and doors, house wrap) Home don't breathe as easily been ventilation helps preventing damage

In the summer. Homes become uncomfortable, cooling cost increases, roofing product deteriorates prematurely

In the winter. Moisture buildup inside the Arctic, Mold and mildew develops, Indoor air quality the deteriorates, Wood can rot, Insulation can't lose it R-value

Keeping your attic cooler in the summer can increase the life of the roof as well as saving money on your air conditioning bill. To effectively cool the attic, outside air needs to circulate through it. One solution is to use the natural circulation caused by hot air rising to bring fresh air into the attic through soffit vents under the eaves, then expel the hot air through ridge or gable vents near the peak of the roof.

The general rule of thumb on the amount of total attic vent space needed is to have at least one square foot of vent space for every **150 to 300** square feet of attic area ventilation (when 150 is max ventilation and min is 300). Ideally, half the vents should be located in the soffit at the bottom of the roof and half in gable or ridge vents near the top to allow for natural circulation of air through the attic.

To find out how many ridge, soffit or gables vents you need to install:

Calculate the total vent area needed:

Example: a 60' x 25' attic would have a total area of 1,500 sq. ft., divided by 150 equals 10 sq. ft. of total max. vent space needed.

Calculate the ridge vent area needed:

Example: 10 sq. ft. vent area ÷ 2 = 5 sq. ft. Ridge Vent area.

Calculate the area of each vent:

When known, use the "net free-vent area" (NFVA) supplied by the manufacturer of the venting you will be using, which takes into account the actual open area of the vent rather than the total vent size. For square or rectangular vents, multiply the length times width of the vent space in inches, then divide by 144 to convert into sq. ft. [(l x w in inches) ÷ 144 = area of vent in sq. ft.]

Example: a 6" x 12" vent would equal 72 sq. in., divided by 144 equals an area of 0.5 sq. ft. per vent. 6" diameter vent would have a radius of 3", multiplied times itself would equal 9", times pi (3.14) would give 28.26 sq. in., divided by 144 equals an area of 0.196 sq. ft. per vent.

Determine the number of ridge area needed

Example soffit, 5 sq. ft. soffit vent area divided by 0.5 sq. ft. vent area equals 10 soffit vents needed

Example ridge, 5 sq. ft. ridge vent divide by area cut from ridge (recommended as per standard work instruction) cut 2.5" x 2 sides for total 5" x 240" length of ridge equals 1200 sq. in. divided by 144 equals an area 8.3 sq

Recommendation for soffit ventilation

There are several different types of soffit vents available including continuous, circular, and perforated vents made from steel siding. First mark off the space where you want the soffit vents to go, spacing them so they fit between joists or rafters. Cut the hole slightly smaller than the vent itself with a circular saw or a saber saw. Don't forget to wear eye protection. Check to be sure that

the hole vents into the attic and isn't blocked by insulation or other obstructions. Screw or nail the vent into place. The fresh air the soffit vents draw in should be expelled near the peak of the attic through vents in the gables, ridge vents in the roof, wind turbines, or power vent fans.

Power vents recommendation

To determine attic size

Example (20' wide by 50' long attic): 20' x 50' = 1,000 sq. ft. attic space

Vent Fan Size

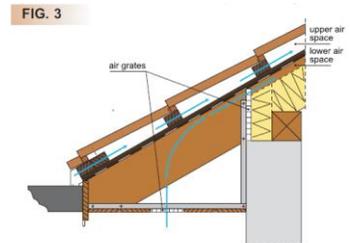
Next, multiply the square feet of attic space by 0.7 to get the minimum number of cubic feet of air per minute that the fan should be rated to move.

Example: 1,000 sq. ft. attic x 0.7 = 700 CFM minimum fan rating. Add an additional 20% (CFM x 1.20) if you have a steep roof, and 15% (CFM x 1.15) for a dark roof.

Attic vent fans are commonly rated from 800 to 1,600 CFM, making one fans suitable for attics of up to around 2,200 square feet.

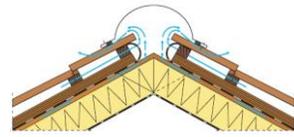
Vent Fan Location

Locate roof mounted fans on the back of the roof below the ridge (but not so high as to be visible from the front of the house) in the middle of the main part of the attic. Install gable mounted fans on the gable vent at end of the house faces away from the prevailing winds.



Intake Air Vents (Fig 3)

It's also important to have plenty of soffit or gable vents for the fan to draw air into the attic. To find out if you have enough vent space, divide the cubic feet of air per minute that the fan is rated for by 300 to come up with the minimum number of square



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feet of intake vent space needed for that size fan.

Example: $700 \text{ CFM} \div 300 = 2.33 \text{ sq. ft. intake vent area for min ventilation}$
Example: $700 \text{ CFM} \div 150 = 4.67 \text{ sq. ft. for max ventilation}$

Ridge Vents (note)

It's not a good idea to use a power vent fan if your house has a ridge vent, since the fan will tend to draw in air from the ridge. This works against the natural function of the ridge vent to expel hot air out of the attic as it rises. Also, it's possible the fan could create enough draft to draw rain in through the ridge vent.

London Eco-Metal Manufacture Recommends

Solar attic fans are not only the least expensive (in terms of total cost of ownership, which is purchase price + operating costs), they are also the most environmentally friendly way to ventilate an attic. Unlike conventional electric attic fans, solar attic fans don't use any electricity from the power grid at all.

Pressure at the attic

Building suggest balancing the intake and exhaust ventilation. More ventilation at the eaves than at the ridge will slightly pressurize the attic. A depressurized attic can suck conditioned air out of the living space, and losing that conditioned air wastes money. For best results, provide between 50% and 75% of the ventilation space at the eaves; a 60/40 split is a good sweet spot. The code specifies 1 sq. ft. of net free-vent area (NFVA) for every 300 sq. ft. of attic space. (Keep in mind that different vent products have different NFVA ratings.)

INSTALLATION

Installation manuals or hands-on training via seminars are available through London Eco-Metal Manufacturing Inc. Seminars as per calendar available on www.londonecometal.com

AVAILABILITY & COST

Cost: Contact London Eco-Metal Manufacturing Inc. for current pricing.

WARRANTY

Metal roofing carry a fifty (50) year limited warranty Canada and Continental U.S.

TECHNICAL SERVICES

Technical information and literature are available at www.londonecometal.com London Eco-Metal Manufacturing Inc. will assist with design ideas and shop drawings.

Additional product information is available from the manufacturer upon request

TF 1-855-838-9393