Structural Pest Control Section · Division of Plant Industry
Georgia Department of Agriculture

Compliance Fact Sheet
Under-floor space ventilation

This fact sheet is for structural pest control operators and technicians. It provides guidance on how to comply with **under-floor space ventilation** in the Rules of the *Georgia Structural Pest Control Act*. These rules were amended April 1, 2014.

What does the regulation require?

The rule requires the inspection and correction of under-floor ventilation according to the International Residential Building Code for One and Two Family Dwellings, the latest edition as adopted by the Georgia Department of Community Affairs.

What is under-floor space?

This is the crawl space between the bottom of the floor joists and the earth (except space occupied by a basement) in one and two family dwellings and townhomes.

When is an inspection required by rule?

Inspection of the under-floor space ventilation is required for the following three types of WDO services.

1. Official Georgia Wood Infestation Inspection Reports (WIIR) under item #9 as a condition conducive.
2. WDO Fungi Treatment Standard Rule 620-6-.04(4).
3. Wood Boring Beetle Treatment Standard Rule 620-6-.04(3)

What is required if ventilation doesn't meet the current code?

If issuing a WIIR, the condition should be noted under the *conditions conducive to infestation* section as "insufficient ventilation".

For WDO Fungi and Wood Boring Beetle Treatment Standards with infestations in crawl spaces and the ventilation does not meet the current code then the ventilation is required to be corrected to meet the current code.

What are the ventilation options that comply with the ventilation standards?

1. (R408.1) Ventilation openings must be a minimum of 1 square foot for each 150 square feet of under-floor space area, with one such ventilating opening placed within 3 feet of each corner of the building.
2. (R408.2) Ventilation openings can be reduced to 1 square foot for each 1500 square feet of under floor space with one such ventilating opening placed within 3 feet of each corner of the building and the ground surface is 90% covered with a Class 1 vapor retarder material.
3. (R408.2 Exception) Ventilation openings can be reduced to 1 square foot for each 1500 square feet of under floor space with required ventilating openings placed to provide cross ventilation of the space and the ground surface is 90% covered with a Class 1 vapor retarder material.
4. (R408.3) Unvented crawl spaces meeting R408.3 requirements.

Where must the ventilators be placed?

Openings must be in exterior foundation walls or exterior walls.

What is an approved vapor barrier?

The vapor barrier must be a Class I vapor retarder. A Class I vapor retarder has a permeance level of 0.1 perm or less and is considered impermeable. The perm rating is a measure of the diffusion of water vapor through a material. Any material that has a perm rating of 1 or less is considered to be an adequate vapor retarder for residential construction. The industry standard is a polyethylene material of 4-6 mil which complies with a Class I vapor retarder.

What is cross ventilation?

See *Reference B: Cross Ventilation.*

Unvented crawl space (R408.3)

Ventilation openings are not required if 1 and 2 are met.

1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder must overlap by 6 inches and be sealed or taped. The edges of the vapor retarder must extend 6 inches up the stem wall and be attached and sealed to the stem wall or insulation; and
2. One of the following is provided for the Under-floor space:
    a) Continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute for each 50 square feet of crawlspace area, including an air pathway to the common area and perimeter walls insulated in accordance with Section 402.2.9 of the Georgia State Minimum Standard Energy Code. See *Reference C: Option 2a*.
    b) Conditioned air supply sized to deliver at a rate equal to 1 cubic foot per minute for each 50 square feet of under-floor area including a return pathway to the common area and perimeter walls insulated in accordance with Section 402.2.9 of the Georgia State Minimum Standard Energy Code. *See Reference D: Option 2b*.
    c) Plenum in existing structure complying with Section M1601.5 if under-floor space is used as a plenum.

Is a dehumidifier acceptable for providing conditioned air supply for unvented crawlspaces under the option 2(b) requirement?

A variation on option 2(b) is to directly condition the unvented crawlspace with a dedicated dehumidifier supplying at least 2 cfm/100 square feet. The dehumidifier must be plumbed to automatically drain the captured condensate away either by gravity, to a sump pump, or to the air conditioner's condensate pump.

Are well vents permitted?

They are allowed if the grade is considered and vents do not allow water to drain into crawl space.

What is the minimum ground surface area to cover with a vapor barrier?

90%

Can an Official Waiver form be issued for inadequate ventilation?

No. The Official Waiver form is for subterranean termite treatment standards only.

Are covers required for the ventilation openings?

Yes. Ventilation openings must be covered for their height and width with materials listed under *Reference A: Ventilation Openings Options* and providing that the least dimension of the covering must not exceed ¼ inch.

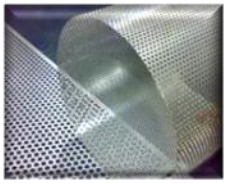
Online Resources

Laws & Regulations
Residential Building Code for ventilation
Georgia State Minimum Standard Energy Code
Georgia Structural Pest Control Commission
Also listed at www.agr.georgia.gov/structural

If further assistance is needed, contact the Structural Pest Control Office or an inspector at (404) 656-3641 or inspection@agr.georgia.gov

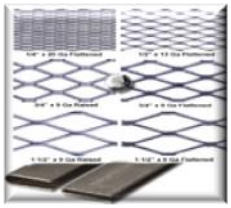
Reference A: Ventilation Openings Options (R408.2)

Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick



Hardware cloth of 0.035 inch (0.89 mm) wire or heavier

Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick



Corrosion-resistant wire mesh, with the least dimension being $^{1}/_{8}$ inch (3.2mm) thick

Cast-iron grill or grating

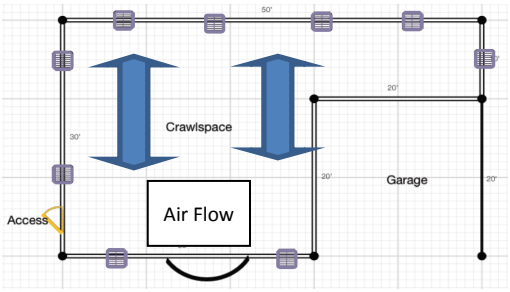
Pest Control Industry Standard Ventilators – **8X16 Inserts for Hollow Block**

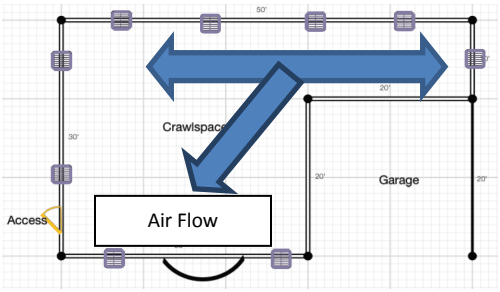
Extruded load-bearing brick vents

Front View **Back View**

Reference B: Cross Ventilation Definition & Examples

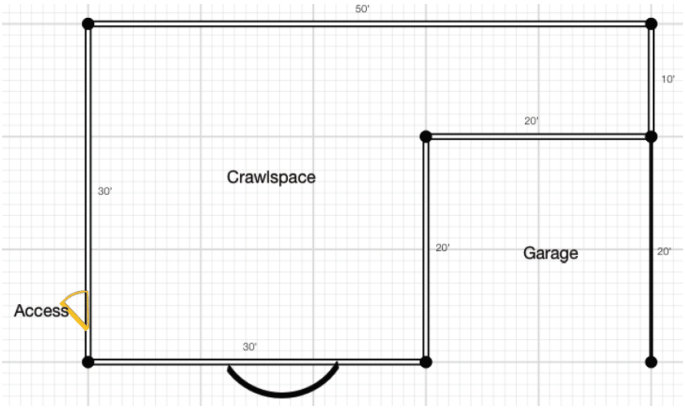
The circulation or flow of air through ventilation openings which are on opposite sides of crawl space.





Reference C: Ventilation Calculations

Ventilation openings must be a minimum of 1 square foot for each 150 square feet of under-floor space area.



Step 1 - Calculate the amount of crawl space area that will need to be ventilated. In this case it's 1100 square feet. (length x width = area)

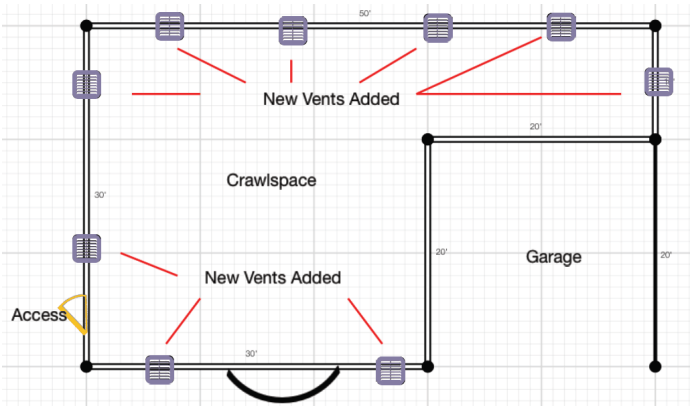
Step 2 - Take that amount and divide by 150 (1100/150=7.3) 7.3 is the number of separate areas that need to vented. 7.3 x144 = 1,051 square inches of ventilation is needed.

Step 3 - Determine the type of ventilation you will be installing. In this example, it will be a standard 8x16 temp vent which the total square inches of ventilation is 128 square inches (8x16=128).

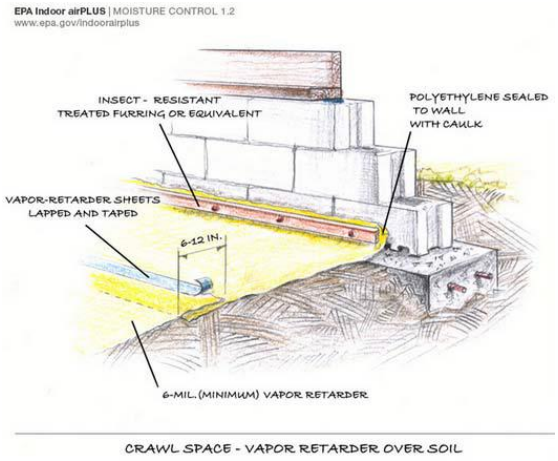
Step 4 - Determine how many vents you will need. 1051/128= 8.2 so we round up to 9.

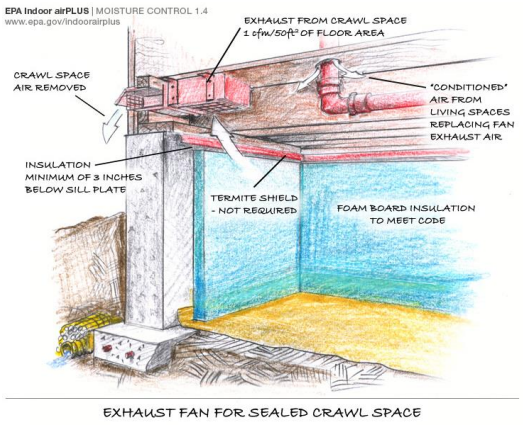
Step 5 - The minimum number of vents to install for this example is 9.

Proposed

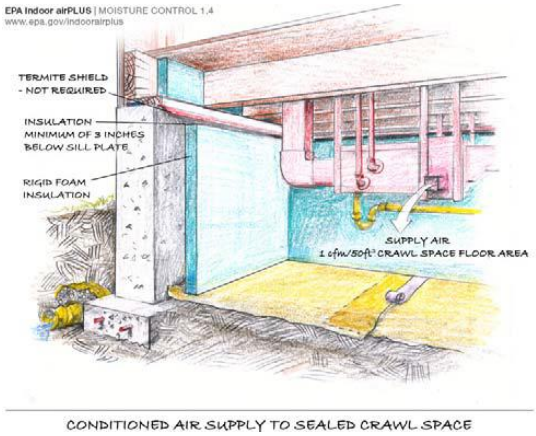


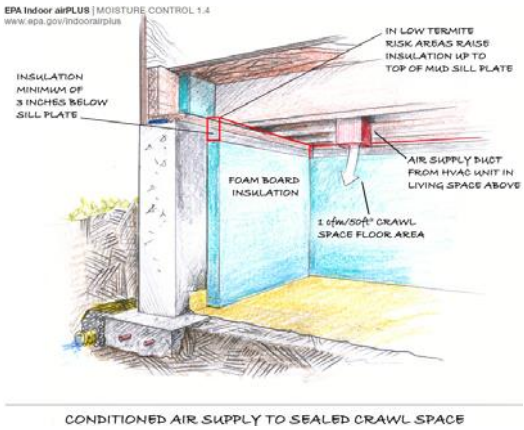
Reference C: Unvented crawl space option 2a





Reference D: Unvented crawlspace option 2b





The Georgia Structural Pest Control Commission and Georgia Department of Agriculture have issued this guidance document to help pest management professionals comply with the Rules of the Georgia Structural Pest Control Act. This document does not include all regulatory requirements. Refer to the complete Rules of the Georgia Structural Pest Control Act for all rules and regulations.

SPCS: 14-08
Issued 06-10-14
Revised 11-10-15