



**Questions & Answers
on Ventilation
in
Preparation to take the
Georgia Certification
WDO Category Exam**



- You will probably have a few questions about adequate ventilation on the WDO category exam
- Remember, there is no longer a requirement for adequate ventilation for subterranean termite jobs performed
- However, the GA Rules require both a vapor barrier that covers 70% or greater of the soil area of a crawl space with a Class 1 vapor barrier (4 mm to 6 mm) and ventilation that meets the standards of the Residential International Building Codes for 1 & 2 family homes for both control or prevention of Wood Destroying Beetles or Wood Decay Fungi that are found in a crawl space. Under the Residential International Building Codes, the vapor barrier must be at least 4 mm in thickness. In addition, for control or prevention of Wood Destroying Beetles, the wood needs to be treated with a pesticide that is labeled for control of Wood Destroying Beetles. The Rules do not require that the wood be treated for Wood Decay fungi.
- The following 10 questions might help you prepare for questions about ventilation on the GA certification exam for the WDO category.

- Remember that Inadequate ventilation is still one of the 3 conducive conditions that you must list if found during a inspection of a property for a Georgia Wood Infestation Inspection Report (clearance letter)...and inadequate ventilation is described as not meeting the standards for ventilation in the Residential International Building Code for 1 & 2 family homes.
- So let's see if you can answer some questions about ventilation that might be on the exam

Question #1

Question #1 – How many standard vents (8" x 16") would be needed to meet the Residential International Building Code for a residential crawl space structure that is 65' long by 30' wide without a vapor barrier?

- a. 2**
- b. 10**
- c. 15**
- d. 20**

Answer to Question #1

Question #1 – How many standard vents (8" x 16") would be needed to meet the Residential International Building Code for a residential crawl space structure that is 65' long by 30' wide without a vapor barrier?

- a. 2
- b. 10
- c. 15
- d. 20

1st, you need to understand that this question is asking for how many standard vents are needed, not how many square feet of ventilation are needed...but in order to answer that question, you must 1st determine how many square feet of ventilation are needed. So, let's start the process...

2nd, you need to determine the square footage of soil in the crawl

$$\text{Length X Width} = \text{Area (square footage)} \quad 65' \times 30' = 1,950 \text{ square feet}$$

3rd, you need to understand that with a vapor barrier covering less than 90% of the soil of the crawl space, the RIBC requirement for square feet of ventilation needed is: 1 sq. ft. of ventilation /150 sq. ft. of soil. Since no vapor barrier is less than 90% coverage, you need to divide the square footage of soil in the crawl space by 150.

$$\begin{array}{r} 13 \text{ sq. ft. of ventilation needed} \\ 150 \overline{) 1,950} \end{array}$$

4th, you need to multiply the 13 sq. ft. of ventilation needed x 144, because there are 144 square inches in a sq. ft.

$$13 \text{ sq. ft. of ventilation needed} \times 144 \text{ sq. in./sq. ft.} = 1,872 \text{ sq. inches of ventilation needed}$$

5th, you need to divide that # of sq. inches needed by the square inches in a standard vent. A standard vent is 8" x 16" or 128 square inches...so divide 1,872 by 128 and that is the number of standard vents needed

$$\begin{array}{r} 14.625 \text{ standard vents needed} \\ 128 \overline{) 1,872} \end{array}$$

6th, since you can't have part of a standard vent, you must round up the answer 14.625 to 15 standard vents.

$$14.625 \text{ standard vents} = 15 \text{ standard vents}$$

...and remember, if the vapor barrier covers < 90% of the soil of the crawl, there must be a standard vent within 3' of each corner. So, if there were 4 corners to the crawl home, a vent would have to be within 3' of each of the 4 corners of the house and the other 11 vents could be placed randomly.

Question #2

Question #2 – If that structure in Question #1 had 15 standard vents with a vent within 3’ of each corner of the structure, no vapor barrier and the wood was treated with a product that is labeled for control of Powder Post Beetles, would that meet the treatment standard in the Rules of the Structural Pest Control Commission for control of Powder Post Beetles?

- a. YES
- b. NO

Answer to Question #2

Question 2 – If that structure had 15 standard vents with a vent within 3’ of each corner of the structure, no vapor barrier and the wood was treated with a product that is labeled for control of Powder Post Beetles, would that meet the treatment standards in the Rules of the Structural Pest Control Commission for control of Powder Post Beetles?

- a. YES
- b. NO**

Why NO? Well...remember that in order for it meet the treatment standard for Powder Post Beetles in the Rules of the Structural Pest Control Commission, at least 70% of the soil in the crawl space would need to be covered by a Class 1 vapor barrier (4 mm), ventilation would have to meet the requirements of the Residential International Building Code and the wood of the crawl would have to be treated with a product that is labeled for the control of Powder Post Beetles. It met the standard for the Residential International Building Code, the wood of the crawl was treated with a product that was labeled for control of PPBs, but the crawl space had no vapor barrier. If a vapor barrier covered at least 70% of the soil of the crawl, then it would have met the standards.

Question #3

Question #3 – How many standard vents (8" x 16") would be needed to meet the Residential International Building Code for a 4,200 square foot residential crawl space structure with a 4 mm vapor barrier that covers 70% of the soil of the crawl space?

- a. 8**
- b. 14**
- c. 18**
- d. 30**

Answer to Question #3

Question #3 – How many standard vents (8” x 16”) would be needed to meet the Residential International Building Code for a 4,200 square foot residential crawl space structure with a 4 mm vapor barrier that covers 70% of the soil of the crawl space?

- a. 2
- b. 12
- c. 22
- d. 32**

1st, you need to understand that this question is asking for how many standard vents are needed, not how many square feet of ventilation are needed...but in order to answer that question, you must 1st determine how many square feet of ventilation are needed. So, let's start the process...

2nd, you need to know the square footage of soil in the crawl

It is listed as 4,200 square feet

3rd, you need to understand that with a vapor barrier covering less than 90% of the soil of the crawl space, the RIBC requirement for square feet of ventilation needed is: 1 sq. ft. of ventilation /150 sq. ft. of soil. Since 70% coverage is less than 90% coverage, you need to divide the square footage of soil in the crawl space by 150.

$$\frac{28 \text{ sq. ft. of ventilation needed}}{150 \overline{)4,200}}$$

4th, you need to multiply the 28 sq. ft. of ventilation needed x 144, because there are 144 square inches in a sq. ft.

28 sq. ft. of ventilation needed x 144 sq. in./sq. ft. = 4,032 sq. inches of ventilation needed

5th, you need to divide that # of sq. inches needed by the square inches in a standard vent. A standard vent is 8” x 16” or 128 square inches...so divide 4,032 by 128 and that is the number of standard vents needed

$$\frac{31.5 \text{ standard vents needed}}{128 \overline{)4,032}}$$

6th, since you can't have part of a standard vent, you must round up the answer 31.5 to 32 standard vents.

31.5 standard vents = 32 standard vents

...and remember, if the vapor barrier covers < 90% of the soil of the crawl, there must be a standard vent within 3' of each corner. So, if there were 4 corners to the crawl home, a vent would have to be within 3' of each of the 4 corners of the house and the other 28 vents could be placed randomly.

Question #4

Question #4 – If that structure in Question #3 had 32 standard vents with a vent within 3’ of each corner of the structure, 70% cover of the soil with a Class 1 vapor barrier and the wood was treated with a product that is labeled for control of Powder Post Beetles, would that meet the treatment standard for control of Powder Post Beetles in the Rules of the Structural Pest Control Commission?

- a. YES
- b. NO

Answer to Question #4

Question #4 – If that structure in Question #3 had 32 standard vents with a vent within 3’ of each corner of the structure, 70% coverage of the soil with a Class 1 vapor barrier and the wood was treated with a product that is labeled for control of Powder Post Beetles, would that meet the treatment standard for control of Powder Post Beetles in the Rules of the Structural Pest Control Commission?

- a. YES**
- b. NO**

Why YES? Because that structure had at least 70% of the soil in the crawl space covered by a Class 1 (4mm) vapor barrier in compliance with the Rules, the wood was treated with a product that is labeled for control of Powder Post Beetles and it met the standard for proper ventilation of a crawl space under the Residential International Building Codes. It met all 3 requirements of the Rules of the Structural Pest Control Commission for control of Powder Post Beetles.

Question #5

Question #5 – How many standard vents (8" x 16") would be needed to meet the Residential International Building Code for a residential crawl space structure that is 80' x 25' with a 4 mm vapor barrier that covers 95% of the soil of the crawl space?

- a. 2**
- b. 8**
- c. 12**
- d. 22**

Answer to Question #5

Question #5 – How many standard vents (8" x 16") would be needed to meet the Residential International Building Code for a residential crawl space structure that is 80' x 25' with a 4 mm vapor barrier that covers 95% of the soil of the crawl space?

- a. 2
- b. 8
- c. 12
- d. 22

1st, you need to understand that this question is asking for how many standard vents are needed, not how many square feet of ventilation are needed...but in order to answer that question, you must 1st determine how many square feet of ventilation are needed. So, let's start the process...

2nd, you need to know the square footage of soil in the crawl

$$\text{Length X Width} = \text{Area (square footage)} \quad 80' \times 25' = 2,000 \text{ square feet}$$

3rd, you need to understand that with a vapor barrier covering 90% or more of the soil of the crawl space, the RIBC requirement for square feet of ventilation needed is: 1 sq. ft. of ventilation /1,500 sq. ft. of soil. Since 95% coverage is more than 90% coverage, you need to divide the square footage of soil in the crawl space by 1,500.

1.33 sq. ft. of ventilation needed

$$1,500 \overline{) 2,000}$$

4th, you need to multiply the 1.33 sq. ft. of ventilation needed x 144, because there are 144 square inches in a sq. ft.

$$1.33 \text{ sq. ft. of ventilation needed} \times 144 \text{ sq. in./sq. ft.} = 191.52 \text{ sq. inches of ventilation needed}$$

5th, you need to divide that # of sq. inches needed by the square inches in a standard vent. A standard vent is 8" x 16" or 128 square inches...so divide 191.52 by 128 and that is the number of standard vents needed

1.496 standard vents needed

$$128 \overline{) 191.52}$$

6th, since you can't have part of a standard vent, you must round up the answer 1.496 to 2 standard vents.

$$1.496 \text{ standard vents} = 2 \text{ standard vents}$$

...and remember, if the vapor barrier covers 90% or > of the soil of the crawl, either there must be a standard vent within 3' of each corner or there must be cross ventilation. If the vents were placed to have cross ventilation, then only 2 standard vents would be needed.

Question #6

Question #6 – If that structure in Question #5 had 2 standard vents with cross ventilation and had 90% coverage of the soil in the crawl space with a Class 1 (4 mm) vapor barrier, would it meet the standard for the control of Brown rot fungi (a wood decay fungi) in the Rules of the Structural Pest Control Commission?

- a. YES
- b. NO

Answer to Question #6

Question #6 – If that structure in Question #5 had 2 standard vents with cross ventilation and had 90% coverage of the soil in the crawl space with a Class 1 (4 mm) vapor barrier, would it meet the standard for the control of Brown rot fungi (a wood decay fungi) in the Rules of the Structural Pest Control Commission?

- a. YES**
- b. NO**

Yes, the standards for control of Wood Decay Fungi are at least 70% of the soil of the crawl space covered with a Class 1 vapor barrier and ventilation that meets the Residential International Building Code. 90% or > coverage of the soil of the crawl space with a Class 1 vapor barrier and at least 2 vents with cross ventilation meets the requirements of the Residential International Building Code. Treatment of the wood for control of wood decay fungi is not required.

Question # 7

- **How many standard vents would be needed to meet the Residential International Building Code for a 1,500 square foot residential crawl space structure that has a 4 mm vapor barrier that overlaps by 6” and is taped, provides 100% coverage of the soil of the crawl space, and extends up the exterior foundation walls by at least 6” and is taped and secured to the exterior foundation walls and has mechanical exhaust ventilation that meets the Residential International Building Code?**
 - a. 0
 - b. 2
 - c. 4
 - d. 24

Answer to Question # 7

- How many standard vents would be needed to meet the Residential International Building Code for a 1,500 square foot residential crawl space structure that has a 4 mm vapor barrier that overlaps by 6” and is taped, provides 100% coverage of the soil of the crawl space, and extends up the exterior foundation walls by at least 6” and is taped and secured to the exterior foundation walls and has mechanical exhaust ventilation that meets the Residential International Building Code?
 - a. 0
 - b. 2
 - c. 4
 - d. 24

This is one of the 3 options available to meet the Residential International Building Code without any typical vents.

Question #8

Question #8 – You are performing an inspection for the purpose of issuing an Official Georgia Wood Infestation Inspection Report (clearance letter). The crawl space home is 90' X 50' and has no vapor barrier present. How many standard vents would it need to meet the Residential International Building Code to be considered as having Adequate Ventilation and not required to be reported as Inadequate Ventilation (one of the 3 conducive conditions required to be listed on the Report)?

- a. 14**
- b. 24**
- c. 34**
- d. 44**

Answer to Question #8

Question #8 – You are performing an inspection for the purpose of issuing an Official Georgia Wood Infestation Inspection Report (clearance letter). The crawl space home is 90' X 50' and has no vapor barrier present. How many standard vents would it need to meet the Residential International Building Code to be considered as having Adequate Ventilation and not required to be reported as Inadequate Ventilation (one of the 3 conditions conducive to wood destroying organism infestation required to be listed on the Report)?

- a. 14
- b. 24
- c. 34**
- d. 44

- If it is 90' X 50', it has 4,500 square feet.
- Since it has less than 90% coverage, divide 4,500 sq. ft. by 150 sq. ft.
30 sq. ft. of ventilation needed
$$150 \overline{)4,500}$$
- 30 sq. ft. X 144 sq. in./sq. ft. = 4,320 sq. in.
- Because there are 128 sq. in. in a standard vent (8" x 16"), divide 4,320 by 128
33.75 standard vents
$$128 \overline{)4,320}$$
- Round 33.75 up to 34 standard vents
- It would have to have at least 34 standard vents with no vapor barrier to have Adequate ventilation. If it had less than 34, you would need to report it having Inadequate ventilation in the "Conditions Conducive" section of the Report.

Question #9

Question #9 – Which of the following are the 3 conditions which are conducive to wood destroying organism infestation and must be reported on an Official Georgia Wood Infestation Inspection Report when you find it on a home that you are inspecting for the sale of the property?

- 1. Wood within 6” of the soil**
- 2. Wood touching the soil**
- 3. Cellulose debris in the crawl space**
- 4. Inadequate ventilation**

- a. 1, 2 & 3**
- b. 1, 3 & 4**
- c. 2, 3 & 4**
- d. 1, 2 & 4**

Answer to Question #9

Question #9 – Which of the following are the 3 conditions which are conducive to wood destroying organism infestation and must be reported on an Official Georgia Wood Infestation Inspection Report when you find it on a home that you are inspecting for the sale of the property?

- 1. Wood within 6” of the soil**
- 2. Wood touching the soil**
- 3. Cellulose debris in the crawl space**
- 4. Inadequate ventilation**

- a. 1, 2 & 3**
- b. 1, 3 & 4**
- c. 2, 3 & 4**
- d. 1, 2 & 4**