NHIE Exterior Component Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. How should wood support posts be secured to the footing?

A. Using nails

B. Using a post base

C. By wrapping with wire

D. Embedding directly into soil

2. What are the dimensions of a modular brick?

A. 7 3/8 long, 3 5/8 deep, 2 1/4 tall

B. 6 1/2 long, 2 1/2 deep, 3 tall

C. 7 1/4 long, 2 7/8 deep, 3 1/2 tall

D. 8 long, 3 deep, 2 tall

3. How many side-mounted hinges do hinged exterior doors typically have?

A. One or two hinges

B. Two or three hinges

C. Three or four hinges

D. Four or five hinges

4. What type of wood should be used for exposed balconies?

A. Any type of wood

B. Only hardwood

C. Preservative treated or naturally durable wood

D. Regular dimensional lumber

5. What is a common width for double garage doors?

A. 12 ft

B. 14 ft

C. 16 ft

D. 18 ft

6. What is an important feature to include when installing a garage door opener for safety?

A. A manual switch just above the floor

B. A wall switch at least 60 inches above the floor

C. A doorbell installed near the opener

D. A motion sensor at the door

7. How are exterior doors typically installed?

- **A. In a concrete block frame**
- **B. In a framed rough opening with a header supported by studs**
- **C. In a completely hollow frame**
- **D. In a pre-manufactured assembly**

8. How does flashing differ from sealants, such as caulk and roofing cement?

- **A. Flashings are less durable**
- **B. Sealants require periodic replacement, while flashing should last longer**
- **C. Sealants are more effective**
- **D. Flashing is used only for roofs**

9. What construction material should the band board be at minimum thickness?

- **A. 1 inch**
- **B. 1.5 inches**
- **C. 2 inches**
- **D. 3 inches**

10. What happens if a deck is not attached to the house?

- **A. Bracing may not be needed**
- **B. Bracing is always required perpendicular to the support**
- **C. It is safer without bracing**
- **D. Bracing is optional**

Answers

1. B
2. A
3. C
4. C
5. C
6. B
7. B
8. B
9. C
10. B

Explanations

1. How should wood support posts be secured to the footing?

A. Using nails

B. Using a post base

C. By wrapping with wire

D. Embedding directly into soil

Using a post base to secure wood support posts to the footing is the best method because it provides a stable and durable connection that elevates the post above ground level, which helps prevent moisture-related issues such as rot and decay. A post base is designed to anchor the post securely while keeping it protected from direct contact with the soil, which can be detrimental to the longevity of the wood. Additionally, post bases can be fastened to the footing with bolts or screws, offering better structural integrity and resistance to lateral forces compared to other methods. This is especially important in high-wind areas or where additional stability is required for structures like decks, fences, or pergolas. Nailing, wrapping with wire, or embedding directly into soil may not provide the necessary support and protection, making them less effective options for securing wood support posts.

2. What are the dimensions of a modular brick?

A. 7 3/8 long, 3 5/8 deep, 2 1/4 tall

B. 6 1/2 long, 2 1/2 deep, 3 tall

C. 7 1/4 long, 2 7/8 deep, 3 1/2 tall

D. 8 long, 3 deep, 2 tall

The dimensions of a modular brick are standardized to facilitate ease of handling and construction in masonry work. The correct dimensions of a modular brick are typically 7 5/8 inches long, 3 5/8 inches deep, and 2 1/4 inches tall. This specific size has been adopted widely in construction to provide uniformity and compatibility with mortar joints, which often take up an additional 3/8-inch. This uniformity is crucial in building walls and structures, ensuring that bricks fit together properly, allowing for efficient laying and reducing the likelihood of issues such as uneven surfaces or gaps. The choice listed provides the essential measurements that are consistent with industry standards, making it the correct answer in this context. Other choices do not correspond to the standard dimensions recognized for modular bricks, which can lead to complications in construction, such as misalignment and increased material wastage. Thus, knowing the proper dimensions is key for any professional involved in masonry and building design.

3. How many side-mounted hinges do hinged exterior doors typically have?

A. One or two hinges

B. Two or three hinges

C. Three or four hinges

D. Four or five hinges

Hinged exterior doors typically have three or four side-mounted hinges. The reason for using this number of hinges is to provide adequate support, stability, and security for the door, particularly for heavier doors made of solid materials like wood or steel. Three hinges are commonly found on standard-sized doors, offering a balanced distribution of weight and helping to prevent sagging over time. For larger or heavier doors, four hinges can be used to distribute the weight more evenly, thereby enhancing durability and extending the door's lifespan. Having too few hinges might result in alignment issues or hinder the door's operation, while an excessive number of hinges is generally unnecessary and can complicate installation and maintenance. Therefore, three or four hinges strike the right balance for most hinged exterior doors, ensuring both functionality and a secure fit.

4. What type of wood should be used for exposed balconies?

A. Any type of wood

B. Only hardwood

C. Preservative treated or naturally durable wood

D. Regular dimensional lumber

Using preservative treated or naturally durable wood for exposed balconies is essential due to the material's ability to withstand weather elements and resist decay. Exposed balconies are continuously subjected to moisture from rain, snow, and humidity, which can lead to deterioration if unsuitable wood is used. Preservative-treated wood is treated with chemicals that protect against rot and insect infestation, making it suitable for outdoor applications where exposure to the elements is inevitable. Naturally durable woods, such as cedar or redwood, have inherent properties that enable them to resist moisture and insects without chemical treatment, ensuring longevity and reducing maintenance. Selecting any type of wood, hardwood exclusively, or regular dimensional lumber does not take into account these critical characteristics needed for durability and safety. Regular dimensional lumber lacks the necessary preservative treatment or natural durability required, which can lead to a significantly shorter lifespan and increase the risk of structural failure in the balcony.

5. What is a common width for double garage doors?

A. 12 ft

B. 14 ft

C. 16 ft

D. 18 ft

A common width for double garage doors is approximately 16 feet. This size is particularly popular because it provides ample space for two vehicles to fit comfortably side by side, allowing for easy entry and exit. The 16-foot width is a practical choice that accommodates a variety of vehicle sizes, including SUVs and larger vehicles, without risking damage to the cars or the door itself. In the context of garage designs, using standard dimensions helps ensure compatibility with various architectural styles and residential needs, making this width a widely accepted standard in both new constructions and renovations. Additionally, building codes and local guidelines often reference this size as a norm, which contributes to its prevalence in the market. Understanding this standard allows homeowners, builders, and designers to make informed decisions when considering garage configurations and vehicle accommodations. The other widths listed, while they might be available or suitable for specific applications, are less common for standard double garage doors.

6. What is an important feature to include when installing a garage door opener for safety?

A. A manual switch just above the floor

B. A wall switch at least 60 inches above the floor

C. A doorbell installed near the opener

D. A motion sensor at the door

Including a wall switch at least 60 inches above the floor is an essential safety feature when installing a garage door opener. This height ensures that the switch is out of reach of small children, reducing the risk of them accidentally activating the garage door opener. Additionally, placing the switch at this height allows for convenient access by adults while still maintaining a safety margin. The other options may have their own advantages, but they do not prioritize safety in the same way. A manual switch just above the floor could pose a safety hazard for children, while a doorbell installed near the opener does not provide control for operating the garage door and offers no protection against unintended access. A motion sensor at the door could enhance convenience or additional safety, but it is not a standard requirement for the safe operation of a garage door opener. Thus, having a wall switch positioned appropriately addresses both operational convenience and safety protocols effectively.

7. How are exterior doors typically installed?

A. In a concrete block frame

B. In a framed rough opening with a header supported by studs

C. In a completely hollow frame

D. In a pre-manufactured assembly

Exterior doors are typically installed in a framed rough opening with a header supported by studs. This method provides a solid structure that allows for the weight of the door and its hardware to be properly supported. The rough opening is framed to the specific dimensions required for the door being installed, with vertical studs on either side and a horizontal header at the top. This framing allows for adequate support and ensures that the door operates smoothly, maintaining proper alignment and durability over time. Using this method also facilitates the installation of insulation and weatherstripping, which are essential for energy efficiency and preventing air and moisture infiltration. A well-constructed rough opening plays a critical role in the overall performance and longevity of the exterior door, making it the standard method for installation in construction and renovation projects.

8. How does flashing differ from sealants, such as caulk and roofing cement?

A. Flashings are less durable

B. Sealants require periodic replacement, while flashing should last longer

C. Sealants are more effective

D. Flashing is used only for roofs

Flashing serves a crucial role in directing water away from critical areas of a structure, particularly where different materials meet, such as around chimneys, skylights, or wall-to-roof intersections. The purpose of flashing is to provide a more permanent solution to potential water intrusion than sealants. In contrast, sealants such as caulk and roofing cement are often used to fill gaps and seams. However, these materials may degrade over time due to exposure to weather elements, temperature changes, and UV radiation. This degradation can necessitate regular inspection and replacement to maintain their effectiveness. As a result, while sealants can be very effective in their application, they generally do not have the longevity that flashing provides. Flashing is designed to withstand the test of time and typical weather conditions, thereby being a more durable solution in the long run when installed correctly. Therefore, the distinction between flashing and sealants lies in their expected lifespan and the need for periodic maintenance. Flashing is integrated into the building's structure and is intended to last for many years, whereas sealants often require reapplication over time to ensure they continue to protect against water infiltration effectively.

9. What construction material should the band board be at minimum thickness?

A. 1 inch

B. 1.5 inches

C. 2 inches

D. 3 inches

The band board, also known as a rim joist or band joist, serves as a critical structural element in a building, particularly in providing lateral support to the floor and as a connection point for the floor joists. The minimum thickness of the band board is crucial for ensuring adequate strength and durability. When selecting the appropriate thickness for a band board, a minimum thickness of 2 inches is recommended. This thickness helps to prevent warping and ensures that the board can adequately support the loads transferred from the floor joists above while also withstanding exposure to the elements, particularly in exterior applications. Choosing a band board that is at least 2 inches thick provides the necessary structural integrity and resistance to potential issues, such as rot and decay, when used in environments exposed to moisture. This thickness also facilitates effective attachment and support for other components of the building envelope. The choice of a band board thinner than 2 inches may compromise its ability to properly perform its role in the structural system, leading to potential safety concerns or failure over time, particularly in applications that face typical forces and stresses experienced in residential and commercial structures.

10. What happens if a deck is not attached to the house?

A. Bracing may not be needed

B. Bracing is always required perpendicular to the support

C. It is safer without bracing

D. Bracing is optional

When a deck is not attached to the house, it typically requires proper bracing to ensure stability and safety. Bracing is essential because it helps to distribute loads and resist lateral forces, such as wind or seismic activity. When a deck stands independently, without being secured to the house structure, the potential for movement increases, which can lead to structural failure if not properly supported. The requirement for bracing to be installed perpendicular to the support is due to its effectiveness in counteracting these lateral loads. This orientation maximizes the bracing's ability to stabilize the deck, preventing swaying and ensuring that the structure remains secure under various conditions. In contrast to the other options, where bracing is presented as optional or unnecessary, the reality is that adequate bracing enhances safety and structural integrity when the deck does not have the added support of being anchored to the house. Thus, proper installation of braces is critical in these situations to maintain the deck's safety.