Maryland Masonry NOCTI Practice Exam (Sample)

Study Guide

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Questions

1. What is the name of the thin material used in mortar joints to prevent water penetration in masonry?

A. Membrane

B. Flashing

C. Sealer

D. Sheathing

2. What was a requirement for apprentices in centuries past?

A. To work independently

B. To live with a journey worker

C. To begin training as adults

D. To master multiple trades simultaneously

3. What type of wall arises from carefully planned layouts that incorporates different elevations and wall types?

A. Retaining wall

B. Load-bearing wall

C. Layout wall

D. Partition wall

4. What is the primary function of a grade stake in construction?

A. To mark the location of utilities

B. To indicate future ground level

C. To provide a waterproof barrier

D. To measure the slope of the ground

5. In the context of masonry, what does CMU stand for?

A. Concrete Masonry Unit

B. Cement Mixing Unit

C. Construction Material Unit

D. Compact Masonry Unit

6. What term is used to describe deposits of water-soluble salts on masonry walls?

A. Saltpeter

B. Efflorescence

C. Crystallization

D. Granulation

7. What type of flashing is installed above rough openings in brick work?

A. Base flashing

B. Head flashing

C. Wall flashing

D. Counter flashing

8. Why should soft shoes not be worn on the job?

A. They don't match the uniform

B. They can cause slips

C. They offer no protection to the feet

D. They are uncomfortable for long hours

9. What do you call a complete set of steps including rails, from the threshold to the sidewalk?

A. Run

B. Rise

C. Stairwell

D. Landing

10. In what situation is grouting particularly important?

A. For aesthetic purposes

B. When pouring a foundation

C. When constructing hollow block walls

D. For enhancing durability of bricks

Answers

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

Explanations

1. What is the name of the thin material used in mortar joints to prevent water penetration in masonry?

A. Membrane

B. Flashing

C. Sealer

D. Sheathing

Flashing is specifically designed to prevent water penetration in masonry by directing moisture away from joints and vulnerable areas. In masonry construction, water can seep through mortar joints, leading to structural issues over time. Flashing is typically placed behind or above masonry veneer and is made from various materials, such as metal or plastic, ensuring a reliable barrier against water intrusion. This approach to moisture management is crucial because it helps safeguard the integrity of the structural elements of a building. While membranes, sealers, and sheathing can also play roles in moisture protection, they serve different functions within the construction process. Membranes are more often used as waterproof barriers on horizontal surfaces, sealers are applied to surfaces to reduce porosity and absorbency, and sheathing refers to materials that provide structural support and insulation to walls and roofs. Therefore, flashing is the most relevant choice for preventing water penetration specifically at mortar joints in masonry.

2. What was a requirement for apprentices in centuries past?

A. To work independently

B. To live with a journey worker

C. To begin training as adults

D. To master multiple trades simultaneously

In centuries past, it was a common requirement for apprentices to live with a journey worker. This practice allowed apprentices to immerse themselves in the trade, gaining hands-on experience while under the close supervision of an experienced craftsman. Living with the journey worker ensured that apprentices could learn not only the technical skills needed for the job but also the work ethic, traditions, and specific nuances of the trade that are difficult to teach in a classroom setting. This arrangement fostered a mentor-mentee relationship, where the journey worker provided guidance, feedback, and support, helping the apprentice to develop their skills effectively. The living arrangement also created an environment where apprentices could ask questions and learn in real-time while participating in daily tasks. Overall, this system contributed significantly to the quality of training that apprentices received, shaping them into capable tradespeople in their respective crafts.

3. What type of wall arises from carefully planned layouts that incorporates different elevations and wall types?

A. Retaining wall

B. Load-bearing wall

C. Layout wall

D. Partition wall

A layout wall is specifically designed to accommodate varying elevations and wall types, integrating different structural and aesthetic elements effectively. This type of wall arises from thorough planning and design considerations, allowing for creativity and functionality in construction. Unlike retaining walls, which primarily serve to hold back soil, or load-bearing walls that support structural loads, a layout wall focuses on the overall arrangement and appearance of a space. Partition walls, on the other hand, are typically demising walls that divide interior spaces but do not reflect the careful planning of varying elevations and wall types inherent in a layout wall. Therefore, the unique aspect of the layout wall being planned for different elevations distinguishes it clearly in the context of construction design.

4. What is the primary function of a grade stake in construction?

A. To mark the location of utilities

B. To indicate future ground level

C. To provide a waterproof barrier

D. To measure the slope of the ground

The primary function of a grade stake in construction is to indicate future ground level. Grade stakes are typically used during the excavation and grading phases of a construction project to provide a precise reference point for where the finished ground level will be. This ensures that the site is leveled accurately according to the design specifications. By establishing the intended grade, workers can accurately plan their excavation or fill operations to achieve the desired elevation, which is crucial for proper drainage and overall site performance. The other options, while related to construction practices, do not specifically align with the primary purpose of grade stakes. For instance, marking utilities is essential for safety and planning, but it is not the primary function of a grade stake. Similarly, providing a waterproof barrier and measuring slope are important tasks in construction, yet they are not directly associated with the role of grade stakes, which are more focused on marking elevation levels.

5. In the context of masonry, what does CMU stand for?

A. Concrete Masonry Unit

B. Cement Mixing Unit

C. Construction Material Unit

D. Compact Masonry Unit

CMU in the context of masonry stands for Concrete Masonry Unit. These units are made from cast concrete and can include a variety of materials such as aggregate, cement, and water, which makes them versatile for a range of construction projects. CMUs are typically known for their strength, durability, and fire resistance, making them a preferred choice in the building industry for walls and other structural applications. They come in various sizes and shapes, which allows for flexibility in design and construction techniques. The other options, such as Cement Mixing Unit, Construction Material Unit, and Compact Masonry Unit, do not accurately represent what CMU signifies within the field of masonry. Cement Mixing Unit suggests a focus on the process of mixing materials rather than the finished masonry unit, while Construction Material Unit is too vague and does not specify the concrete context. Compact Masonry Unit suggests a particular type of masonry that is not commonly referenced in the industry.

6. What term is used to describe deposits of water-soluble salts on masonry walls?

A. Saltpeter

B. Efflorescence

C. Crystallization

D. Granulation

The term "efflorescence" specifically refers to the formation of deposits of water-soluble salts on masonry surfaces, resulting from water evaporating from the surface and leaving behind these salts. This process typically occurs in porous materials, such as brick, stone, or concrete, when moisture is present. When water moves through the masonry, it can dissolve salts found within the material or from the surrounding soil. As the water evaporates, it causes the salts to crystallize on the surface, creating a white, powdery appearance. Therefore, efflorescence is a common issue in masonry construction and signifies moisture movement, which can indicate underlying problems regarding water intrusion or inadequate drainage. Understanding this process is crucial for anyone working with masonry, as it can affect both the aesthetic and structural integrity of the walls.

7. What type of flashing is installed above rough openings in brick work?

A. Base flashing

B. Head flashing

C. Wall flashing

D. Counter flashing

Head flashing is specifically designed to be installed above rough openings in brick work, such as windows and doors. This type of flashing serves an essential function by directing water away from the opening and preventing it from penetrating into the structure. When properly installed, head flashing ensures that any water that runs down the surface of the brick is diverted away, thereby minimizing the risk of moisture intrusion and subsequent damage to the building envelope. Base flashing, on the other hand, is generally used at the base of walls or chimneys to protect against water that may accumulate at the lower areas. Wall flashing involves lateral protection along the face of a wall, and counter flashing is typically integrated into brick or masonry walls at joints or intersections to safeguard against water damage. While these types of flashing serve important roles, they do not provide the specific top-side protection that head flashing offers for rough openings.

8. Why should soft shoes not be worn on the job?

A. They don't match the uniform

B. They can cause slips

C. They offer no protection to the feet

D. They are uncomfortable for long hours

Soft shoes should not be worn on the job primarily because they offer no protection to the feet. In a masonry or construction environment, workers are often exposed to various hazards such as falling objects, heavy equipment, sharp tools, and uneven surfaces. Foot protection is essential to reduce the risk of injuries, such as fractures or puncture wounds. Safety footwear is designed with reinforced materials that provide support and protection against these hazards, ensuring the wearer's safety while performing tasks. While issues related to slips, uniform appearance, and comfort are important considerations, they do not encompass the critical aspect of foot protection in a work environment. The lack of protective features in soft shoes significantly increases the risk of injury, making their non-use in such settings a crucial safety protocol.

9. What do you call a complete set of steps including rails, from the threshold to the sidewalk?

A. Run

B. Rise

C. Stairwell

D. Landing

The terminology for a complete set of steps that includes both the individual risers and the supporting elements, such as handrails, is referred to as a "rise." In the context of stair construction, the "rise" generally encompasses both the vertical component of the steps and the associated features that allow for safe navigation, including the handrails that provide support and safety for users. While "landing" refers to the flat platform at the top or bottom of a series of stairs where people can stand, and a "stairwell" is the vertical shaft that houses a staircase, neither accurately describes the entire set of steps leading up from a threshold to the sidewalk. Similarly, "run" pertains to the horizontal distance covered by the steps, which does not encompass the entire assembly including rails. Thus, when describing a complete set of steps that connects the threshold to the sidewalk, "rise" is the most appropriate term as it captures both the elevation and the associated safety elements required for effective stair design.

10. In what situation is grouting particularly important?

A. For aesthetic purposes

B. When pouring a foundation

C. When constructing hollow block walls

D. For enhancing durability of bricks

Grouting is particularly important when constructing hollow block walls because it serves several critical functions that enhance the structural integrity and performance of the wall. Hollow blocks are designed with spaces or voids that can be filled with grout, which not only adds strength but also helps to bond the blocks together, creating a unified structure. This bonding is essential for the stability of walls that may bear loads, as it reduces the risk of cracking or shifting. Moreover, the grout fills the voids in the blocks, which significantly contributes to their overall strength and load-bearing capacity. In addition to structural benefits, grouting also helps prevent the intrusion of water and provides added resistance against environmental factors, thus improving the durability of the wall. These functionalities make grouting a crucial step in the construction of hollow block walls, directly impacting the overall safety and longevity of the structure.