Texas Journeyman Plumbing Practice Test (Sample)

Study Guide

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Questions

1. What is the maximum number of successive double studs that may be bored?

A. One

B. Two

C. Three

D. Four

2. Liquefied petroleum gas (LPG) is primarily composed of which substances?

A. Only butanes

B. A mixture of propane, butylenes, and hydrogen

C. Propane, propylene, butanes, or butylenes

D. Only methane

3. How far must a hole be from the bottom of a beam when boring?

A. At least 1 inch

B. At least 2 inches

C. At least 3 inches

D. At least 4 inches

4. What is the function of a yoke vent in plumbing?

A. To supply additional water

B. To connect drainage systems

C. To prevent pressure changes in stacks

D. To filter air in ventilation systems

5. What is the maximum allowable width for notching in a solid sawn beam?

A. One-fourth of the beam depth

B. One-third of the beam depth

C. One-half of the beam depth

D. Two-thirds of the beam depth

6. What must be provided to ensure access to standpipes and drains?

A. Sealed covers

B. Ready access

C. Restrictive gates

D. High walls

7. In non-load bearing interior walls, what is the maximum diameter allowed for bored holes?

A. 50% of stud depth

B. 60% of stud depth

C. 40% of stud depth

D. 30% of stud depth

8. What is the function of a quick-closing valve?

A. To separate normal waste from hazardous materials

B. To automatically close when manually released

C. To regulate storm water drainage

D. To maintain sanitary fixtures in public restrooms

9. What is prohibited in the center third of solid sawn beams?

A. Boring and notching

B. Only notching

C. Only boring

D. All modifications

10. What is the purpose of an extension on a stack vent?

A. To increase the capacity of waste drainage

B. To provide venting above the highest horizontal drain

C. To connect multiple drains

D. To manage overflow from rainwater

Answers

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

Explanations

1. What is the maximum number of successive double studs that may be bored?

A. One

B. Two

C. Three

D. Four

The maximum number of successive double studs that may be bored is two. This guideline is essential for maintaining the structural integrity of the wall framing while allowing for the necessary passage of plumbing and electrical lines. Boring too many studs in succession can weaken the framing, leading to potential failure under load or affecting the overall stability of the wall. By limiting the number of bored double studs to two, it ensures that there is enough material left to retain structural support, which is particularly important in load-bearing walls. This rule helps to balance the need for functional routing of systems inside walls with the necessity of preserving the strength and durability of the structure. Thus, selecting two as the maximum is a practical approach to both plumbing requirements and structural safety.

2. Liquefied petroleum gas (LPG) is primarily composed of which substances?

A. Only butanes

B. A mixture of propane, butylenes, and hydrogen

C. Propane, propylene, butanes, or butylenes

D. Only methane

Liquefied petroleum gas (LPG) is primarily composed of propane and butanes, which are hydrocarbons typically derived from natural gas processing and petroleum refining. The correct option highlights that LPG includes propane and butanes or their variants, such as propylene and butylenes. This mixture allows LPG to be effectively used for various applications, including heating, cooking, and as a fuel for engines. Additionally, the inclusion of propylene and butylenes in the composition simply indicates that these substances are part of the broader category of LPG. This versatility in composition is vital for its performance as a fuel source. To clarify, while methane is a significant component of natural gas, it is not part of LPG. Its representation in other options fails to capture the true composition of LPG, which does not consist solely of butanes or hydrogen. This understanding of LPG's components is crucial for plumbing professionals, as it informs not only the safe handling and use of the gas but also the design of relevant gas systems.

3. How far must a hole be from the bottom of a beam when boring?

A. At least 1 inch

B. At least 2 inches

C. At least 3 inches

D. At least 4 inches

When boring a hole in a beam, it is crucial to maintain a specific distance from the bottom of the beam to ensure its structural integrity is not compromised. Boring too close to the edge can weaken the beam, increasing the risk of failure, particularly under load. The appropriate distance specified is at least 2 inches from the bottom of the beam. This guideline helps to provide a sufficient amount of material below the hole to retain strength and support the beam's load-bearing capacity. By adhering to this standard, the plumber or contractor ensures that the installation of pipes or other materials does not endanger the overall strength of the structural element, thereby promoting safety and long-term durability. While tighter tolerances may occasionally be used in specific applications, 2 inches is the standard reference for general practices in plumbing and construction, as it adequately balances the need for functionality (like running plumbing lines) with the need for maintaining structural integrity.

4. What is the function of a yoke vent in plumbing?

A. To supply additional water

B. To connect drainage systems

C. To prevent pressure changes in stacks

D. To filter air in ventilation systems

The function of a yoke vent in plumbing is to prevent pressure changes in stacks. Yoke vents are typically installed in vertical drainage systems, helping to equalize air pressure in the drainage stack and the venting system. This balancing of pressure is crucial because it allows for smooth drainage and prevents the occurrence of siphoning, which can lead to drainage system malfunctions. By maintaining consistent pressure, yoke vents ensure that water flows freely through the system without undue strain that could cause blockages or backups. The other options do not accurately describe the specific role of a yoke vent. Supplying additional water, connecting drainage systems, and filtering air in ventilation systems are functions associated with other plumbing components and systems. Hence, the role of a yoke vent is distinct and essential for maintaining the efficiency and functionality of waste drainage systems.

5. What is the maximum allowable width for notching in a solid sawn beam?

A. One-fourth of the beam depth

B. One-third of the beam depth

C. One-half of the beam depth

D. Two-thirds of the beam depth

The maximum allowable width for notching in a solid sawn beam is one-third of the beam depth. This guideline is established to ensure the structural integrity and load-bearing capacity of the beam. Notching, while sometimes necessary for passing plumbing, electrical, or HVAC systems through beams, can weaken the beam if done excessively or improperly. Allowing a notch that is too wide can lead to a significant reduction in the beam's strength and stability. By restricting the notch width to one-third of the beam depth, this guideline helps maintain a sufficient cross-sectional area of the beam to resist bending and shear forces effectively. In contrast, notches that exceed this dimension could potentially compromise the performance of the beam under load, leading to structural issues such as bending or even failure. This is why the other options, which allow for notches greater than one-third of the beam depth, would not comply with the best practices in structural design and safety standards.

6. What must be provided to ensure access to standpipes and drains?

A. Sealed covers

B. Ready access

C. Restrictive gates

D. High walls

Ready access is essential for standpipes and drains to facilitate efficient operation and maintenance. Standpipes, which are crucial for fire protection, and drains, vital for drainage systems, need to be easily accessible in case of emergencies or routine inspections. This ensures that firefighters can quickly connect hoses or that maintenance personnel can clear blockages or perform repairs without obstacles. If access is obstructed by sealed covers, restrictive gates, or high walls, it could significantly delay emergency responses or repair work, potentially leading to severe consequences such as water damage or inadequate fire suppression. Therefore, providing ready access is a standard practice in plumbing design to meet safety and operational standards.

7. In non-load bearing interior walls, what is the maximum diameter allowed for bored holes?

A. 50% of stud depth

B. 60% of stud depth

C. 40% of stud depth

D. 30% of stud depth

In non-load bearing interior walls, there is a guideline regarding the maximum diameter allowed for bored holes in studs. The correct answer, which states that the maximum diameter for bored holes is 60% of the stud depth, ensures structural integrity while allowing for necessary plumbing and electrical installations. Studs in non-load bearing walls are designed primarily to support the wall covering and transfer the load of those coverings, not to carry the structural loads as in load-bearing walls. Allowing up to 60% of the stud depth for holes provides sufficient material around the holes to maintain the strength of the stud while accommodating pathways for plumbing and electrical wiring. This limit is established to prevent weakening of the studs which could lead to bowing or splitting, thus maintaining the overall stability and functionality of the wall. Adhering to this guideline helps prevent potential damage and ensures that the wall continues to perform as intended without compromising safety.

8. What is the function of a quick-closing valve?

A. To separate normal waste from hazardous materials

B. To automatically close when manually released

C. To regulate storm water drainage

D. To maintain sanitary fixtures in public restrooms

A quick-closing valve is specifically designed to automatically shut off the flow of fluid when a certain condition is met, such as being manually actuated or reaching a pre-defined pressure. This feature is crucial in preventing unwanted overflow, leaks, or other issues where immediate closure of the valve is necessary to ensure safety and operational efficiency. In terms of plumbing applications, quick-closing valves are often used in systems where rapid response is crucial, such as in fire suppression systems or in situations where chemicals are stored and quick isolation is needed to protect personnel and the environment. By rapidly stopping the flow, these valves help to minimize potential hazards and control fluid dynamics effectively. The other options describe different functionalities unrelated to the rapid closure aspect of a quick-closing valve. Separating waste types, regulating drainage, and maintaining fixtures address distinct needs within plumbing systems, which do not pertain to the primary function of a quick-closing valve.

9. What is prohibited in the center third of solid sawn beams?

A. Boring and notching

B. Only notching

C. Only boring

D. All modifications

In solid sawn beams, the center third is a critical area because this section experiences the highest levels of stress and bending when the beam is loaded. Boring and notching can significantly weaken the structural integrity of the beam, making it less able to support loads safely. Boring holes through the beam in this area can create points of weakness where the material is removed, potentially leading to failure under load. Similarly, notching, which involves cutting away a section of the beam, compromises the beam's ability to resist bending and shear forces. The prohibition of modifications, such as boring and notching, in the center third is grounded in engineering principles that prioritize safety and structural reliability. This restriction helps prevent potential structural failures that could arise from altering the beam's original design strength in its most vulnerable area. While other options may seem plausible to mitigate concerns, the overriding concern is preserving the beam's structural integrity, which is why both boring and notching are prohibited.

10. What is the purpose of an extension on a stack vent?

A. To increase the capacity of waste drainage

B. To provide venting above the highest horizontal drain

C. To connect multiple drains

D. To manage overflow from rainwater

The purpose of an extension on a stack vent is to provide venting above the highest horizontal drain. This is crucial for proper venting in plumbing systems, as the vent allows air to enter the drainage system, which helps maintain neutral air pressure within the pipes. By extending the stack vent above the highest horizontal drain, it ensures that any gases produced in the drainage system can escape safely and that the flow of wastewater is unhindered. When a vent is adequately positioned and extends above the highest point of drainage, it helps prevent potential siphoning of water from traps in plumbing fixtures. This venting process plays a significant role in preventing sewer gases from entering the building and maintaining efficient drainage. The other aspects mentioned in the choices, such as increasing the capacity of waste drainage or connecting multiple drains, relate to different functionalities of a plumbing system but do not specifically describe the primary role of a stack vent extension. The management of overflow from rainwater also does not pertain to the function of a stack vent, as its purpose is strictly for venting and air pressure management within the waste drainage system.