C-36 Plumbing Contractor Practice Exam (Sample)

Study Guide

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Questions

1. Which type of clamp is most suitable for securing PVC piping?

A. Plastic snap clamps

B. Rubber lined clamps

C. Rigid stationary pipe clamps

D. Metal U-clamps

2. Which statement is MOST false about steel and wrought iron pipe?

A. They come in various shapes and sizes.

B. They are typically available in two weights.

C. They are always galvanized for corrosion resistance.

D. They are used in various plumbing applications.

3. Which tool is best for applying cement to the joint of a PVC pipe?

A. Foam brush

B. Pure bristle brush

C. Paint roller

D. Applicator gun

4. How would you describe a "wet joint" in plumbing?

A. A joint with excess moisture due to leakage

B. A joint that has been filled with water

C. A joint that is treated before sealing

D. A joint with moisture present at the time of soldering

5. What type of boiler supplies heat at pressures not exceeding 160 PSI?

A. High pressure steam boiler

B. Low pressure hot water heating boiler

C. Medium pressure hot water boiler

D. Residential heating boiler

6. What is the minimum size of a fixture water supply pipe for a flush-valve urinal?

A. 1/2"

B. 3/4"

C. 1"

D. 1 1/4"

7. Why is it required to ream the end of a pipe cut with a pipe cutter?

A. To prepare for soldering

B. To make it easier to thread

C. To remove the lip which might interfere with the water flow

D. To create a smoother edge for assembly

8. What is a primary purpose of installing cleanouts in plumbing systems?

A. Prevent leaks

B. Facilitate inspections

C. Prevent reverse circulation

D. Enhance water flow

9. What tooling is essential for stabilizing pipes during cutting or fitting?

A. Hammer

B. Cutter saw

C. Pipe vise

D. Ruler

10. How often must a plumber check for lead content in soldered joints used in potable water systems?

A. Every year

B. Every 5 years

C. Once during installation

D. When requested

Answers

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

Explanations

1. Which type of clamp is most suitable for securing PVC piping?

A. Plastic snap clamps

B. Rubber lined clamps

C. Rigid stationary pipe clamps

D. Metal U-clamps

The most suitable type of clamp for securing PVC piping is a rigid stationary pipe clamp. These clamps provide a secure and stable hold for PVC pipes, which are lightweight yet require proper support to prevent sagging or movement that could lead to leaks or joint failures. Rigid stationary pipe clamps are designed to maintain the position of the pipe firmly in place without causing any damage to the surface of the PVC. Other types of clamps, while they may have their uses in different applications, do not offer the same compatibility and secure hold for PVC piping. For instance, plastic snap clamps are more suited for lightweight applications and may not provide the secure hold necessary for larger PVC pipes. Rubber lined clamps are typically used for metal pipes to protect them from corrosion; they might not be ideal for plastic, as they can lead to overstressing the material due to friction. Metal U-clamps, on the other hand, can potentially crush or damage PVC due to the rigid metal against the more delicate plastic. Therefore, rigid stationary pipe clamps stand out as the optimal choice for effectively securing PVC piping.

2. Which statement is MOST false about steel and wrought iron pipe?

A. They come in various shapes and sizes.

B. They are typically available in two weights.

C. They are always galvanized for corrosion resistance.

D. They are used in various plumbing applications.

The statement that they are always galvanized for corrosion resistance is the most inaccurate. While many steel pipes are galvanized to provide enhanced corrosion resistance, especially when used in outdoor or potentially damp environments, not all steel or wrought iron pipes are galvanized. There are applications and types of pipes where galvanization is not applied, depending on the specific use case or the internal environment of the application. For example, black iron pipes, which are commonly used for gas lines, are not galvanized but instead rely on other methods for protection from corrosion or are coated after installation. The other statements have more validity; steel and wrought iron pipes indeed come in various shapes and sizes to accommodate diverse plumbing needs. They are also typically available in multiple weights, allowing for different structural applications. Additionally, these types of pipes are widely used in various plumbing applications, featuring prominently in both residential and commercial plumbing systems. Thus, stating that they are always galvanized does not hold true in all instances, making it the most false of the presented statements.

3. Which tool is best for applying cement to the joint of a PVC pipe?

A. Foam brush

B. Pure bristle brush

C. Paint roller

D. Applicator gun

The best tool for applying cement to the joint of a PVC pipe is a pure bristle brush. This tool is specifically designed to handle adhesives and solvents effectively. The bristles allow for even distribution of the cement across the surface, ensuring that it penetrates all areas needing adhesion. Additionally, the flexibility of the bristles helps reach into the joint's grooves, providing a thorough application that is essential for a solid bond. Using a foam brush, although it may seem like a good choice for distributing liquids, can lead to uneven application and may not hold up well when working with the thicker chemical properties of PVC cement. A paint roller, on the other hand, is not suitable for this task because it is designed for larger surface areas and would not provide the precision required for the small joints in PVC piping. An applicator gun is typically used for caulking or dispensing viscous materials but is not suited for the same precision required for applying cement to join PVC pipes.

4. How would you describe a "wet joint" in plumbing?

A. A joint with excess moisture due to leakage

B. A joint that has been filled with water

C. A joint that is treated before sealing

D. A joint with moisture present at the time of soldering

A "wet joint" in plumbing refers to a joint that has moisture present at the time of soldering. This condition can negatively affect the soldering process because water can prevent the solder from adhering properly to the pipe and fittings. Proper soldering requires a clean, dry surface to ensure a strong, leak-proof bond. When moisture is present during the soldering, it can lead to poor-quality joints and potential leaks once the system is pressurized. Understanding this concept underscores the importance of preparation and technique in soldering tasks. Ensuring that surfaces are dry and free from moisture is crucial for achieving the integrity and durability expected in plumbing systems.

5. What type of boiler supplies heat at pressures not exceeding 160 PSI?

A. High pressure steam boiler

B. Low pressure hot water heating boiler

C. Medium pressure hot water boiler

D. Residential heating boiler

The type of boiler that supplies heat at pressures not exceeding 160 PSI is indeed a low pressure hot water heating boiler. This classification is specifically defined by its operating pressure limits, which are crucial for ensuring safe and efficient heating in residential or commercial settings. Low pressure hot water heating boilers operate at relatively modest pressures, typically below 160 PSI, and are designed to provide heating through hot water distribution. This makes them ideal for applications where lower heating temperatures are adequate, such as in heating buildings or providing process heat. Understanding this classification is important for plumbing contractors as it influences the selection of equipment based on the requirements of a given project, ensuring both compliance with safety standards and operational efficiency. High pressure steam boilers operate at significantly higher pressures, while medium pressure hot water boilers and residential heating boilers may have specific applications but do not align with the specified pressure limits of 160 PSI.

6. What is the minimum size of a fixture water supply pipe for a flush-valve urinal?

A. 1/2"

B. 3/4"

C. 1"

D. 1 1/4"

The minimum size of a fixture water supply pipe for a flush-valve urinal is 3/4 inch. This requirement is established to ensure that the urinal receives an adequate flow of water to operate effectively. Flush-valve urinals typically require a higher water volume for flushing compared to other types of fixtures, such as gravity-flush urinals. Using a 3/4 inch pipe allows for sufficient water pressure and flow rate necessary for the valve to function properly, thus preventing issues such as inadequate flushing, clogs, or malfunction of the flush system. A pipe sized smaller than this could potentially lead to reduced performance of the urinal, while larger sizes may lead to increased costs and unnecessary complexity in the plumbing system. In plumbing codes and regulations, these specifications help to standardize installations to promote efficiency and reliability in plumbing design and failure prevention.

7. Why is it required to ream the end of a pipe cut with a pipe cutter?

A. To prepare for soldering

B. To make it easier to thread

C. To remove the lip which might interfere with the water flow

D. To create a smoother edge for assembly

Reaming the end of a pipe cut with a pipe cutter is essential to ensure smooth fluid flow within the pipe. When a pipe is cut using a cutter, the cutting process can leave a small lip or burr on the inside edge of the pipe. This lip can obstruct the flow of water, potentially causing turbulence or reducing the cross-sectional area through which the fluid travels. By reaming the end, you remove this lip, allowing for a more unobstructed passage for the water, which enhances efficiency in the plumbing system. This process is crucial when dealing with water supply lines or any other fluid-carrying pipes where maintaining optimal flow is key to the system's overall performance. Reaming not only improves flow dynamics but also helps prevent potential issues like corrosion or sediment buildup that can occur at points of obstruction.

8. What is a primary purpose of installing cleanouts in plumbing systems?

A. Prevent leaks

B. Facilitate inspections

C. Prevent reverse circulation

D. Enhance water flow

The primary purpose of installing cleanouts in plumbing systems is to facilitate inspections, maintenance, and cleaning of the drainage systems. Cleanouts provide access points for plumbers to remove blockages or clogs that may occur in pipes, ensuring that the plumbing system functions effectively over time. While preventing leaks, ensuring proper water flow, and managing reverse circulation are important aspects of plumbing, they are not the primary functions of cleanouts. Instead, cleanouts are specifically designed to allow easy access to the plumbing system, making it easier to perform necessary maintenance without having to dismantle significant portions of the piping. Their strategic placement within the plumbing layout is essential to keeping the system clear and operational.

9. What tooling is essential for stabilizing pipes during cutting or fitting?

A. Hammer

B. Cutter saw

C. Pipe vise

D. Ruler

Stabilizing pipes during cutting or fitting is crucial to ensure precise cuts and safe handling. The correct choice highlights the importance of a pipe vise, which is specifically designed to securely hold cylindrical objects like pipes. A pipe vise provides a stable grip, allowing the plumber to work efficiently without the risk of the pipe slipping or shifting during the cutting or fitting process. This stability is vital for achieving clean cuts and proper fittings, which can significantly impact the quality and reliability of plumbing installations. In contrast, while other tools like a cutter saw and hammer have their functions in plumbing, they do not provide the necessary stabilization for pipes. A cutter saw is primarily for cutting, and a hammer is more suited for driving fasteners or making adjustments rather than stabilizing. A ruler is useful for measuring, but it does not assist with holding or stabilizing materials. Therefore, the pipe vise stands out as the essential tool for this specific task in plumbing work.

10. How often must a plumber check for lead content in soldered joints used in potable water systems?

A. Every year

B. Every 5 years

C. Once during installation

D. When requested

The requirement to check for lead content in soldered joints used in potable water systems is primarily focused on ensuring safe drinking water and compliance with health regulations. Once a plumber checks the lead content during installation, it establishes whether the materials and practices used meet the acceptable standards at that time. This critical check is based on the recognition that lead content in soldered joints can pose significant health risks, and the standards for lead in plumbing materials have evolved over time. Regular testing beyond the initial installation is generally not mandated unless the water source or system conditions change significantly or there are specific concerns raised regarding lead contamination. While other options suggest a recurring schedule or conditions for checking, they are not typically required by regulations as long as compliant materials are used properly upon installation. Regular checks in the absence of changes are not a standard part of plumbing codes, which is why the initial check during installation is sufficient to verify compliance with lead content standards.