# Illinois Plumbing Code Practice (Sample)

## Study Guide


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# Questions

**1. What is the maximum daily water flow rate typically estimated for a residential plumbing system?**

**A. Around 100 gallons per day**

**B. Around 200 gallons per day**

**C. Around 300 gallons per day**

**D. Around 400 gallons per day**

**2. What is the minimum size required for any gravity building drain?**

**A. 2 inches**

**B. 3 inches**

**C. 4 inches**

**D. 5 inches**

**3. According to the Illinois Plumbing Code, what is the shelf life for plumbing permits?**

**A. Typically 3 months from the date of issue**

**B. Typically 6 months from the date of issue**

**C. Typically 9 months from the date of issue**

**D. Typically 12 months from the date of issue**

**4. What percentage of lead must solders or flux containing more than bear a warning label stating it is not approved for private or potable water use?**

**A. 0.1%**

**B. 0.2%**

**C. 0.3%**

**D. 0.4%**

**5. At what maximum pressure should a pressure relief valve open in relation to the rating of a water heater?**

**A. 100 psi**

**B. 125 psi**

**C. 150 psi**

**D. 175 psi**

**6. What is the minimum diameter required for any portion of the drainage system installed underground or below a basement or cellar?**

**A. 1 inch**

**B. 1.5 inches**

**C. 2 inches**

**D. 2.5 inches**

**7. What is the minimum grade required per foot for horizontal drainage piping of 3 inches or less in diameter?**

**A. 1/4 inch**

**B. 1/2 inch**

**C. 3/4 inch**

**D. 1 inch**

**8. What is the minimum drain size required for all laundry/washer boxes?**

**A. 1 inch**

**B. 1.5 inches**

**C. 2 inches**

**D. 2.5 inches**

**9. What is the maximum length for a vent pipe according to the Illinois Plumbing Code?**

**A. 50 feet without a cleanout**

**B. 100 feet without a cleanout**

**C. 75 feet with a cleanout**

**D. 25 feet without a cleanout**

**10. How wide should the waste outlets for bathtubs be for plumbing code compliance?**

**A. 1 inch**

**B. 1 1/4 inches**

**C. 1 1/2 inches**

**D. 2 inches**

# Answers

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

# Explanations

## 1. What is the maximum daily water flow rate typically estimated for a residential plumbing system?

**A. Around 100 gallons per day**

**B. Around 200 gallons per day**

**C. Around 300 gallons per day**

**D. Around 400 gallons per day**

**The maximum daily water flow rate typically estimated for a residential plumbing system is around 300 gallons per day. This figure reflects average household water usage, encompassing various activities such as bathing, cooking, cleaning, and irrigation. Particularly in Illinois, the plumbing code takes into account not only typical consumption but also provides guidelines for sizing pipes and designing systems that can accommodate peak usage times without compromising performance. This estimation is critical for ensuring that a plumbing system can handle the demands of a household effectively, while also facilitating adequate supply and pressure throughout the system. Being aware of this average helps plumbers and designers create systems that are both efficient and compliant with state regulations. In contrast, lower estimates like 100 or 200 gallons per day would not accurately reflect average usage for a family and could lead to undersized piping or inadequate tank sizes for water heaters and other appliances. An estimate of 400 gallons per day might cater to extremely high water usage scenarios or larger households, which could also necessitate different considerations for system design and can lead to unnecessary costs if applied broadly across all residential systems.**

## 2. What is the minimum size required for any gravity building drain?

**A. 2 inches**

**B. 3 inches**

**C. 4 inches**

**D. 5 inches**

**The minimum size required for any gravity building drain is 4 inches. This requirement is established to ensure that the drain can effectively handle the volume of wastewater generated by an entire building. A 4-inch diameter allows for the proper flow rates, reduces the risk of clogs, and accommodates the necessary hydraulic requirements mandated by plumbing codes. This size is especially important in larger buildings or those with multiple fixtures, where adequate drainage capacity is crucial for maintaining sanitary conditions and preventing backups or overflows. The other sizes are inadequate for the intended purpose of handling the total waste from a building, which is why they do not meet the code requirements.**

## 3. According to the Illinois Plumbing Code, what is the shelf life for plumbing permits?

**A. Typically 3 months from the date of issue**

**B. Typically 6 months from the date of issue**

**C. Typically 9 months from the date of issue**

**D. Typically 12 months from the date of issue**

**The Illinois Plumbing Code specifies that plumbing permits generally have a shelf life of 6 months from the date of issue. This means that once a permit is granted, the work authorized under that permit must typically be completed within this timeframe. If the work is not completed within 6 months, the permit may expire, and the permit holder may need to apply for a new permit to continue with the plumbing work. This 6-month period ensures that projects are started and managed in a timely manner, reflecting the ongoing commitment to safety and compliance with current plumbing standards.**

## 4. What percentage of lead must solders or flux containing more than bear a warning label stating it is not approved for private or potable water use?

**A. 0.1%**

**B. 0.2%**

**C. 0.3%**

**D. 0.4%**

**The correct answer is that solders or flux containing more than 0.2% lead must bear a warning label indicating it is not approved for private or potable water use. This threshold is crucial for protecting public health, as lead is a toxic substance that can lead to serious health issues, particularly in drinking water systems. The regulation necessitating this labeling is in place to ensure that anyone handling or using such materials is fully aware of the potential hazards associated with lead exposure, especially in applications involving water that might be consumed. In the context of the Illinois Plumbing Code, this regulation underscores the importance of using safe materials in plumbing to prevent contamination of drinking water supplies, paving the way for safer public health outcomes. Thus, solder or flux formulations that exceed the specified lead content are required to explicitly warn users about their unsuitability for potable water systems.**

## 5. At what maximum pressure should a pressure relief valve open in relation to the rating of a water heater?

**A. 100 psi**

**B. 125 psi**

**C. 150 psi**

**D. 175 psi**

**The correct choice is based on the standard requirements for pressure relief valves in water heaters. A pressure relief valve is a safety device designed to open and relieve pressure when it exceeds a certain threshold, thus preventing dangerous over-pressurization of the water heater. Typically, a pressure relief valve should open at a pressure not exceeding 150 psi. This rating aligns with common industry standards and sewer regulations, ensuring that water heaters can safely handle the pressure while providing adequate protection against potential hazards. Valves set to open at lower pressures, such as 100 or 125 psi, may lead to unnecessary activation and could create other issues like system inefficiency. Similarly, 175 psi exceeds the operational limits set for most residential water heaters, which could lead to dangerous conditions as it surpasses the manufacturer's safety guidelines. Thus, a setting of 150 psi is ideal for balancing safety and functionality in plumbing systems.**

## 6. What is the minimum diameter required for any portion of the drainage system installed underground or below a basement or cellar?

**A. 1 inch**

**B. 1.5 inches**

**C. 2 inches**

**D. 2.5 inches**

**In plumbing systems, the minimum diameter for drainage pipes is a critical factor for ensuring effective waste flow and preventing blockages. According to the Illinois Plumbing Code, the minimum diameter required for any portion of the drainage system installed underground or below a basement or cellar is indeed 2 inches. This size allows for adequate removal of waste and drainage, while minimizing the risk of clogging due to the size and potential volume of material that needs to be conveyed through the system. Larger diameters also help accommodate the additional pressure and potential for debris that can accumulate in underground installations. Smaller diameters, such as 1 inch or 1.5 inches, are often insufficient for the needs of a drainage system in these environments, potentially leading to backflow or slower drainage rates. Therefore, establishing a minimum of 2 inches is a practical and necessary standard to ensure the effectiveness and reliability of the plumbing system.**

## 7. What is the minimum grade required per foot for horizontal drainage piping of 3 inches or less in diameter?

**A. 1/4 inch**

**B. 1/2 inch**

**C. 3/4 inch**

**D. 1 inch**

**The minimum grade required for horizontal drainage piping of 3 inches or less in diameter is indeed 1/4 inch per foot. This standard is established to ensure proper drainage flow and prevent clogging in smaller diameter pipes. A slope of 1/4 inch per foot allows wastewater to flow efficiently towards the drainage outlet, thereby minimizing the risk of stagnation and potential backflow. While larger grades may seem beneficial for faster drainage, they can actually cause issues by creating excessive velocity, leading to material erosion or inefficiency in carrying solids. A 1/4 inch slope strikes a balance, promoting adequate drainage while reducing the likelihood of problems associated with higher slopes. The other options present steeper slopes, which are not necessary and could create complications in the plumbing system.**

## 8. What is the minimum drain size required for all laundry/washer boxes?

**A. 1 inch**

**B. 1.5 inches**

**C. 2 inches**

**D. 2.5 inches**

**The minimum drain size required for all laundry/washer boxes is 2 inches. This is based on the plumbing code's requirements to ensure proper drainage capacity for the high flow rates associated with washing machines. A larger drain size is critical because washing machines can discharge a significant volume of water quickly, especially during the spin cycle. Using a 2-inch drain minimizes the risk of clogs and backs-ups, allowing for better movement of water and waste away from the laundry area. Smaller drain sizes, such as 1 inch or 1.5 inches, would not be sufficient to handle the volume effectively, while a 2.5-inch drain is larger than necessary for standard washing machine discharges, making 2 inches the ideal minimum size.**

## 9. What is the maximum length for a vent pipe according to the Illinois Plumbing Code?

**A. 50 feet without a cleanout**

**B. 100 feet without a cleanout**

**C. 75 feet with a cleanout**

**D. 25 feet without a cleanout**

**The maximum length for a vent pipe according to the Illinois Plumbing Code is 50 feet without a cleanout. This specification is essential as it helps maintain proper ventilation and drainage within a plumbing system. A vent pipe serves the critical role of allowing air to enter the plumbing system, which helps equalize pressure and ensures that wastewater can flow freely. If a vent pipe exceeds this length, the potential for blockages and pressure imbalances increases, which could lead to drainage issues or backpressure. The requirement for a cleanout is intended to provide access for maintenance and troubleshooting, ensuring the system can be kept clear and functioning properly. Thus, when a vent pipe is designed to exceed 50 feet, it should include a cleanout to assist in maintaining its effectiveness. This careful consideration of vent pipe length and accompanying provisions is instrumental for compliance with safety and operational efficiency standards in plumbing installations.**

## 10. How wide should the waste outlets for bathtubs be for plumbing code compliance?

**A. 1 inch**

**B. 1 1/4 inches**

**C. 1 1/2 inches**

**D. 2 inches**

**For plumbing code compliance, the waste outlets for bathtubs should typically be 1 1/2 inches wide. This size is specified in the Illinois Plumbing Code to ensure proper drainage and to prevent clogging or backup issues in the plumbing system. Option A (1 inch) is too narrow for efficient drainage in a bathtub, while option B (1 1/4 inches) is also not wide enough as per the standard requirements. Option D (2 inches) is too wide for a typical bathtub waste outlet and would not be in line with the standard specifications.**