



Architects

# Accessible Restroom Design

Course Number: AIAPDH260

2 LU|HSW

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# RESTROOM ACCESSIBILITY FINAL EXAM

1. **Which of the designs below require an ambulatory accessible toilet compartment in addition to a wheelchair accessible toilet compartment?**
  - a. A men's restroom that has three urinals and two water closets
  - b. A women's restroom that has two water closets
  - c. A men's restroom that has three urinals and three water closets
  - d. A women's restroom that has two lavatories and four water closets
2. **Which statement is true?**
  - a. Americans with Disabilities Act (ADA) was signed into law more than 30 years ago.
  - b. Americans with Disabilities Act (ADA) was signed into law more than 20 years ago.
  - c. Americans with Disabilities Act (ADA) was signed into law more than 10 years ago.
  - d. Americans with Disabilities Act is not a law. It is a recommendation.
3. **If accessing a door from the front, how much clearance beyond the latch side of the door is needed on the push side if it has a latch but not a closer?**
  - a. 0 inches
  - b. 18 inches
  - c. 22 inches
  - d. 24 inches
4. **What is the maximum height a shelf can be mounted in a restroom?**
  - a. 30 inches
  - b. 36 inches
  - c. 40 inches
  - d. 48 inches
5. **Which of the following is a requirement for water closets in a new building?**
  - a. The water closet must be placed so that its centerline is 18 inches from the side wall or partition
  - b. Per *ADA*, a vertical grab bar is required in addition to the two horizontal grab bars
  - c. An ambulatory accessible water closet is required if a restroom has six or more water closets (toilets) or a combination of six or more urinals and water closets
  - d. An ambulatory accessible water closet is required if the water closets in the women's and men's restrooms combined total six or more
6. **If a newly constructed men's restroom has one urinal and one water closet, which of the following statements is true?**
  - a. Both the urinal and the water closet must be accessible.
  - b. Neither the urinal nor the water closet need to be accessible.
  - c. The urinal needs to be accessible, but the water closet does not.
  - d. The urinal does not need to be accessible, but the water closet does need to be accessible.
7. **What is ISA referencing in this course?**
  - a. International Society for Accessibility
  - b. Intercultural Systems of Accessibility
  - c. International Symbol of Accessibility
  - d. Internal Systems of Automation

8. **What is the seat height for an accessible toilet?**
- 16 inches to 18 inches
  - 17 inches to 19 inches
  - 18 inches to 20 inches
  - 19 inches to 21 inches
9. **Doors can swing into the required clear floor space for a fixture in a single user restroom if a \_\_\_\_\_ is located beyond the arc of the door.**
- 60 inch turning circle
  - 60 inch T-shaped turning space
  - 48 inch x 60 inch clear floor space
  - 30 inch x 48 inch clear floor space
10. **What is the required depth of an ambulatory toilet compartment?**
- 56 inches
  - 59 inches
  - 60 inches
  - 66 inches
11. **What of the following is not a requirement of a sign, if provided, for a non-accessible restroom?**
- International Symbol of Accessibility
  - A directional sign to the nearest accessible restroom
  - Braille
  - Visual characters
12. **What is the maximum height for a threshold at a roll-in shower?**
- 1/4 inch
  - 1/2 inch
  - 3/4 inch
  - 1 inch
13. **Which of the following is an acceptable height for the top of a shower seat to be located in an accessible shower?**
- 16 inches above the shower floor
  - 16 inches above the bathing room floor
  - 18 inches above the shower floor
  - 18 inches above the bathing room floor
14. **What is the clear floor space required on the pull side of an accessible door into a restroom with both a latch and a closer for frontal approach?**
- 12 inches
  - 16 inches
  - 18 inches
  - 24 inches
15. **What is the maximum allowable slope for an accessible shower floor?**
- 1:12
  - 1:20
  - 1:28
  - 1:48
16. **What is the clear floor space required on the push side of a door into a restroom with only a closer?**
- 0 inches
  - 12 inches
  - 18 inches
  - 24 inches
17. **Which of the following toilet rooms must be accessible?**
- A newly constructed toilet room in an office building
  - A toilet room currently being renovated in a public high school
  - A restroom in a shopping mall that was constructed in 1998.
  - All of the above

- 18. If a classroom is being renovated in a middle school, which of the following statements is true.**
- a. It is not necessary to renovate the non-accessible student restrooms adjacent to the classroom because the project scope only includes the classroom.
  - b. It is only necessary to renovate the non-accessible restrooms if the classroom being renovated is being done so for a student who is in a wheelchair.
  - c. The non-accessible restrooms only need to be renovated with the classroom renovation if they were constructed after January 26, 1992.
  - d. The non-accessible restrooms must be renovated because they support the classroom that is being renovated.
- 19. If a custodial closet is being renovated in a public office building, which of the following is true regarding the restrooms adjacent to the custodial closet?**
- a. They must be renovated with the custodial closet if they are not accessible.
  - b. They do not have to be renovated with the custodial closet if they are not accessible.
  - c. Only the entrance into the restrooms needs to be made accessible.
  - d. The restrooms do not need to be renovated because their cost exceeds 20% of the cost of the custodial closet renovation.
- 20. For new construction, which accessibility standards must be followed (unless modified by an administrative authority with the local governing authority)?**
- a. *2010 ADA Standards for Accessible Design*
  - b. *2012 ADA Standards for Accessible Design*
  - c. *1991 ADA Standards for Accessible Design*
  - d. Either the *1991 ADA Standards for Accessible Design* or the *2010 ADA Standards for Accessible Design* (designer/owner's choice)

# ACCESSIBLE RESTROOMS

## COURSE DESCRIPTION

Designing and constructing accessible restrooms can be challenging. This course will consolidate and summarize the restroom requirements from the *2010 ADA Standards for Accessible Design*.

## LEARNING OBJECTIVES

**Learning objectives include the following.**

1. Understand when a restroom is required to be accessible.
2. Recognize the elements within a restroom that must be accessible.
3. Know how to design and install those elements so that they are accessible.
4. Learn tips along the way for designing accessible restrooms.

## ACCESSIBLE RESTROOMS

Even though the Americans with Disabilities Act (ADA) was signed into law over thirty years ago (in 1990), design professionals, owners, and contractors still struggle to fully comply with the *ADA Standards for Accessible Design*. A revised version of the standards was adopted in 2010 and went into effect on March 15, 2012. Over ten years later, there remains a lack of knowledge among design professionals of these standards. They are lengthy. It takes time and experience to be able to digest and fully understand them. New college graduates enter the design profession every year who have almost no knowledge of the regulations because, oftentimes, those teaching the students have no experience implementing them, and the ADA is not included in the curriculum. Even if a designer prepares a set of fully compliant construction documents, contractors are relied upon to coordinate and provide the necessary care to construct the built environment in compliance.

There is one room that almost every building has, yet it can be one of the more challenging accessible spaces to design, the restroom. This course will outline the requirements for restroom accessibility, go over some of the most common mistakes made in designing, constructing, and furnishing accessible restrooms, and provide tips on how to avoid these mistakes. This course is based on the *2010 ADA Standards for Accessible Design*, or *ADA Standards* for short. The *italic* numbers in parenthesis are the referenced *ADA Standards* section numbers. Dimensions are for adult accessibility. Reference the *ADA Standards* for children's dimensions. All images are taken from the *2010 ADA Standards for Accessible Design*. A free downloadable version may be found at [www.ada.gov](http://www.ada.gov). Keep in mind that the Administrative Authority for local jurisdictions can modify the provisions and interpretations, so always check with the local governing authority for their specific requirements.

When is a restroom required to be accessible?

1. Was it built or renovated after January 26, 1992?
2. Is it being constructed by, on behalf of, or for the use of a public entity?

If you answered 'yes' to both questions, it is required to be accessible. If the restroom was constructed before that date, it does not mean that you can discriminate against those with disabilities. Barriers must be removed when readily achievable. Refer to the *Americans with Disabilities Act Regulations* for more information.

If you are renovating or altering an area of a building that could affect the usability of or access to an area that contains a primary function (a major activity for which the facility is intended), then the restrooms serving that area must be accessible or be made accessible. There is an exception if the cost and scope of those specific alterations (path of travel including restrooms, telephones, and drinking fountains) are disproportionate to the cost of the overall alteration (exceeds 20% of the cost of the alteration to the primary function). (202.4) There are provisions for historic buildings yet only when the renovations would compromise the historic significance of the building. (202.5)

General exceptions for providing restroom accessibility include if the restroom is in a construction trailer (203.2), a common use area of a detention or correctional facility that is only used by detainees and security personnel (203.7), or the common use area of a residential facility that does not serve dwelling units required to provide specific mobility features (203.8). If it is technically infeasible to comply in alterations, a unisex toilet room can be provided if located in the same area as the existing inaccessible restrooms. Only 5 percent of portable units in a single location are required to comply. 50 percent of single user toilet rooms within a cluster of multiple single user toilet rooms need to comply. (213.2)

*TIP: Even if not required, consider including a universal toilet room in your design. They can accommodate any occupant. Parents appreciate them when they need to bring their young children to the restroom in public. Care givers of adults who require assistance can do so discreetly. If you go a step further and provide an adult changing station, the person requiring assistance no longer needs to be placed on the floor to receive assistance.*

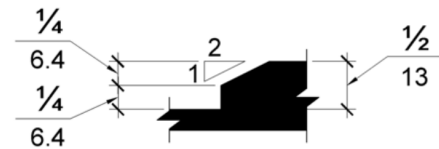
Which elements pertaining to a restroom must comply for the restroom to be fully accessible? There is no point in having an accessible restroom if there is not an accessible route to get you there (206.2.4) and an accessible entrance (206.4). Once you are there, at least one of each of the following must comply, if provided: toilet compartment, water closet, urinal, lavatory, mirror, bathtub OR shower, coat hooks and shelves. Additional common building elements that must comply (if provided): fire alarm system (215), signs (216), and 5 percent of each type of locker (225.2.1).

## ACCESSIBLE ELEMENTS

### The Entrance

Signs are generally provided to identify the men's, women's, or universal restrooms in a public building. If they are provided, they must comply with the requirements outlined in Section 703 of the *ADA Standards*. The specific requirements are too extensive to cover in this course; however, there are general requirements for restroom signage. If there are existing restrooms in a building that are not accessible, directional signs with the International Symbol of Accessibility (ISA) indicating the location of the nearest restrooms that are accessible must be provided. If every restroom in the facility is not accessible, the ones that are accessible must have a sign with the ISA on it. (216.8) Signs must be installed on the latch side of the door and at a height so that the bottom of the lowest row of letters on the sign is no lower than 48 inches above the finish floor and the bottom of the highest letter is no higher than 60 inches above the finish floor. An 18 inch by 18 inch clear floor space is needed in front of the sign. (703.4) Braille is required below the text. (216.2, 703.3)

Depending on the use of the facility, there is oftentimes a change in floor materials at the entrance into the restroom. If there is a difference in material height of more than 1/2 inch, the change in height must be beveled; the overall height cannot exceed 1/2 inch. (303) For an alteration, the threshold in a doorway is allowed to be as high as 3/4 inch if it has beveled edges on each side with a 1:2 maximum slope. (404.2.5)



**Figure 303.3**  
**Beveled Change in Level**

If the entrance into the restroom has a door, it must provide a clear width of 32 inches when the door is open 90 degrees unless the door is included in an alteration. Then, a projection of 5/8 inch on the latch side of the door is allowed. (404.2.3)

*TIP: Offset hinges may be used to assist with obtaining the required clearance for doors in renovation projects where the doors are less than 36 inches wide.*

The door must also have the required minimum maneuvering clearances shown on Table 404.2.4.1. Drawings detailing these clearances may be found on Figure 404.2.4.1 (not shown below) of the *ADA STANDARDS*. If the door is recessed more than 8 inches, the maneuvering clearances for forward approach are required. (404.2.4.3)

Installing push button electric door operators is oftentimes a welcome addition, especially at exterior doors that have a greater opening force. However, they are NOT a requirement of *ADA STANDARDS*. They may not act as a substitute for providing the required clearances. (404.3.2) This is unlike the 1990 *ADA standards* that had a provision for this.

A door has its own required maneuvering clearances, but elements within a restroom have required clearances, as well. A door cannot swing into the required clear floor space for any fixture, but they may swing into the required turning space. There are a couple of exceptions to that rule, but both exceptions are for single occupant restrooms. Doors may also not swing into the required width of an accessible route. (603.2.3) (The required width may be based on your local jurisdiction's adopted life safety codes, such as the International Building Code.)

Table 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors and Gates

Type of Use		Minimum Maneuvering Clearance	
Approach Direction	Door or Gate Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch side unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm) <sup>1</sup>
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm) <sup>2</sup>	22 inches (560 mm) <sup>3</sup>
From latch side	Pull	48 inches (1220 mm) <sup>4</sup>	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm) <sup>4</sup>	24 inches (610 mm)

1. Add 12 inches (305 mm) if closer and latch are provided.
2. Add 6 inches (150 mm) if closer and latch are provided.
3. Beyond hinge side.
4. Add 6 inches (150 mm) if closer is provided.

*TIP: No clearance is required beyond the latch side of the door for forward approach if the door does not have BOTH a latch AND a closer.*

There are a few additional requirements for accessible doors. The hardware cannot require tight grasping, pinching, or twisting of the wrist (309.4). Most lever handles meet this requirement; knobs do not. The hardware must be mounted between 34 and 48 inches above the finish floor (404.2.7). If the door is provided with a closer, it needs to be programmed so at least 5 seconds are provided for the door to reach 12 degrees from the latch from the open position. (404.2.8) More than 5 pounds of force cannot be required to open interior restroom doors (404.2.9).

If the restroom is designed without a door like those at most airports, there are specific minimum maneuvering clearances that must be maintained. A clear path of at least 36 inches is required. (403.5.1) At the doorway, that distance can be reduced to 32 inches. If the route into the restroom requires a 180 degree turn around an element that is less than 48 inches wide, the clear width must be increased to 42 inches. The 42-inch clearance is not required if the width at the turn is at least 60 inches. (403.5.2) See Figure 403.5.2.

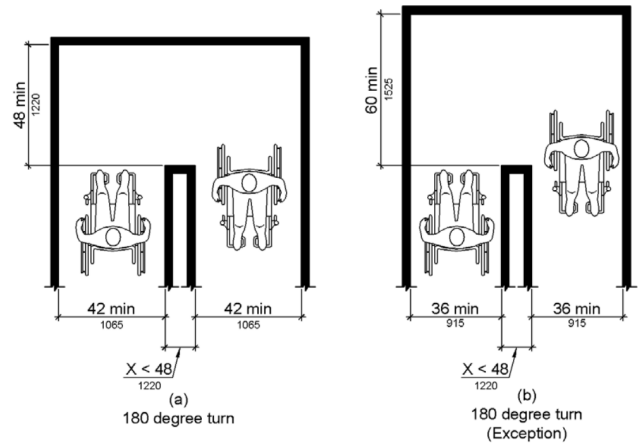


Figure 403.5.2  
Clear Width at Turn

Once you get inside the restroom, a circular turning space is required that is at least 60 inches in diameter, or a T-shaped space per Figure 304.3.2 is required.

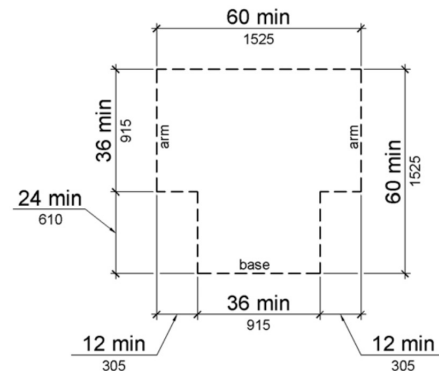


Figure 304.3.2  
T-Shaped Turning Space

### Mirrors

If mirrors are provided above the sink, lavatory, or countertop in a restroom, the accessible one needs to be mounted so that the bottom edge of the reflecting surface (NOT the frame) is no more than 40 inches above the finish floor. (603.3)

*TIP: Installing a full-length mirror in lieu of mirrors over sinks accommodates more people, can reduce the amount of time someone spends at the sink, and it can address site-line issues created by mirrors reflecting toilet stalls or urinals when the sinks are on the wall opposite the stalls and urinals.*

## Coat Hooks and Shelves

Coat hooks must be located between 15 and 48 inches above the finish floor for an unobstructed forward or side reach. If they are located over an obstruction that is between 20 and 25 inches deep, such as a countertop or shelf, they should be mounted no higher than 44 inches above the finish floor for a forward reach. See Figure 308.2.2(b). For an obstructed side reach between 10 and 24 inches, they should be mounted no higher than 46 inches. See Figure 308.3.2(b) (308) Shelves must be located between 40 and 48 inches above the finish floor. If located in a circulation path, they cannot stick out beyond the wall more than 4 inches unless their leading edge is 27 inches or lower. (603.4 and 604.8.3)

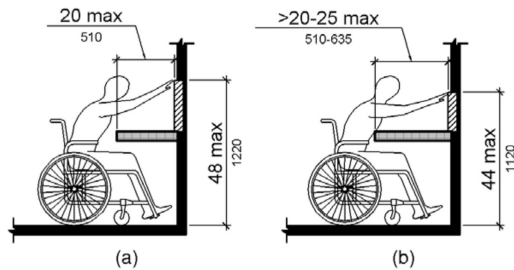


Figure 308.2.2  
Obstructed High Forward Reach

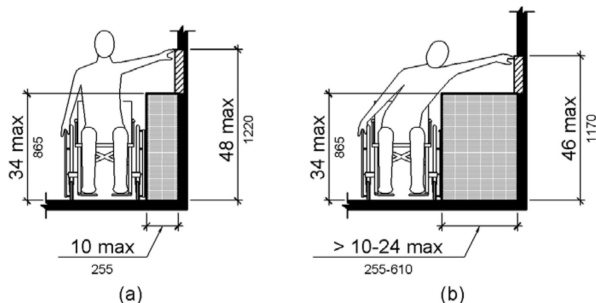


Figure 308.3.2  
Obstructed High Side Reach

*TIP: Provide recessed shelves or shelves less than 4 inches deep if they need to be located along a circulation path.*

Please note that other toilet accessories, such as paper towel dispensers and soap dispensers, cannot protrude from the wall more than 4 inches, as well, if they are in a circulation path unless cane detection lower than 27 inches is also provided. Many manufacturers now sell accessories that are less than 4 inches deep to prevent them from becoming protruding objects.

*TIP: Dimensions provided are for adults. See Advisory 308.1 for child-specific reach ranges.*

## REVIEW QUESTIONS:

1. What height do accessible mirrors need to be mounted if they are located above a sink, lavatory, or countertop in a restroom?
  - a. The middle of the mirror should be at 60 inches above the finished floor (AFF)
  - b. The bottom of the reflecting surface should be 40 inches or less AFF
  - c. The bottom of the frame should be 40 inches or less AFF
  - d. Mirrors are not required to be accessible
2. Which restroom described below must be fully accessible?
  - a. A restroom in a private residence
  - b. A pair of restrooms in a public building constructed in 1990 that has never been renovated
  - c. A restroom in a construction trailer
  - d. A public restroom in a new school
3. What is the required clear width for an accessible door?
  - a. 30"
  - b. 32"
  - c. 34"
  - d. 36"

**4. Regarding accessible doors, which statement is true?**

- a. Push button electric door operators may substitute providing the maneuvering clearances at doors
- b. If a door is recessed only 9”, the maneuvering clearances for parallel approach are acceptable
- c. Push button electric door operators are a requirement for restroom doors in public schools
- d. Doors cannot swing into the clear floor space for any fixture in a multi-user public restroom

**5. How much clearance beyond the latch side of the door is needed on the push side if it has both a latch and a closer?**

- a. 0 inches
- b. 12 inches
- c. 18 inches
- d. 24 inches

**6. Which of the following is true of permanent restroom accessible signs?**

- a. They should be mounted on the latch side of the door
- b. They should be mounted so the centerline is at 60 inches above the finish floor
- c. They do not need to contain Braille
- d. A 24 inch by 24 inch clear floor space is required in front of it

### **Baby Changing Stations**

Baby changing stations are considered work surfaces, so at least 5%, but no less than one, must be accessible. (*Advisory 902.1*) The top needs to be 28 and 34 inches above the finish floor when down. (*902.3*) Knee and toe clearances (detailed in the lavatory section below) are required. The operating mechanism (handle) also needs to be in an allowable reach range as described in the section above. They cannot be a protruding object when they are stowed (per the U.S. Access Board’s *Guide to the ADA Standards*). The stations can only be

located in an accessible toilet stall if they do not obstruct the minimum space required for the water closet. (*Advisory 604.8.1.1*) The clear floor space for the baby changing station can overlap the clear floor space for another fixture. However, the baby changing station cannot overlap the clear floor space required for another fixture.

*TIP: Some jurisdictions consider baby changing stations as protruding objects when they protrude more than 4 inches into a path of travel if they are in the open/down position because some users will leave them down. This would be a hazard for those with visual impairments. Check with your local jurisdiction for their specific requirements.*

### **Water Closets**

For a wheelchair accessible restroom or stall (compartment), the water closet needs to be placed so that its centerline is between 16 and 18 inches from the side wall or partition. For an ambulatory accessible water closet, that dimension is between 17 and 19 inches. (*604.2*) If there are six or more toilets (or combination of toilets and urinals) in a restroom, an ambulatory accessible compartment is required in addition to the wheelchair accessible compartment. (*213.3*)

*TIP: The thickness of the finish materials needs to be considered when planning accessible restrooms.*

A 60 inch wide by 56 inch deep clearance is required around the water closet. This is inside a single-user restroom or within a wheelchair accessible stall. The depth needs to be increased to 59 inches inside a wheelchair accessible stall if the water closet is floor mounted instead of wall mounted. (*604.8*) The only items that can be installed inside this clearance other than the water closet are grab bars, dispensers, sanitary napkin disposal units, coat hooks, and shelves. (*604.3.2*) The clear floor space for the water closet can overlap the clear floor space for other fixtures and the turning space. It cannot overlap other fixtures, though. (*603.2.2*) There is an exception for residential dwelling units.

The seat for a water closet must be installed between 17 and 19 inches above the finish floor unless it is inside a restroom accessed through a single office or within a residential dwelling unit. (604.4)

Grab bars are required to be provided on the rear wall above the water closet and the side wall closest to the water closet unless one of the three exceptions apply (single-user restroom accessed through a private office, residential dwelling unit, or detention/correction facilities). The rear wall grab bar needs to be a minimum of 36 inches long. From the centerline of the toilet, it must measure no less than 12 inches in one direction (towards the side wall) and 24 inches in the other direction. The grab bar located on the side wall must be a minimum of 42 inches long. It cannot be located more than 12 inches nor extend more than 54 inches from the rear wall. (604.5) The tops of both grab bars need to be installed between 33 and 36 inches above the finish floor. (609.4)

*TIP: Specify and install longer grab bars than those required, so they do not have to be installed to the exact minimum and exact maximum dimensions listed in the standards to comply.*

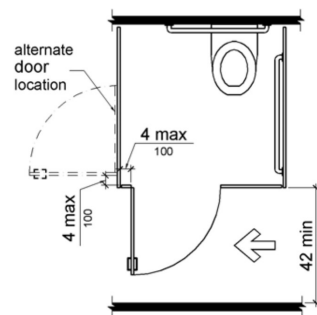
Circular grab bars can measure between 1-1/4 inches and 2 inches in diameter. Non-circular grab bars can be up to 2 inches across with a perimeter dimension between 4 and 4.8 inches. The distance between the wall and grab bar must be 1-1/2 inches. If a toilet accessory, such as a paper towel dispenser, is mounted below the grab bar, there needs to be 1-1/2 inches of clearance between the accessory and the grab bar. For items mounted above the grab bar, 12 inches of clearance are required. (609)

The grab bars need to withstand 250 pounds of force. To achieve this, plan ahead by putting blocking in the walls where grab bars are designed, so the grab bars can be adequately anchored to the wall. (609.8)

One of the most common errors at accessible water closets is the location of the flush controls. They must be located on the open side of the stall (except those at ambulatory water closets). (604.6)

The centerline of the toilet paper dispensers must measure between 7 and 9 inches in front of the water closet. The exiting paper should be located between 15 and 48 inches above the finish floor, and it cannot be placed behind the grab bars. Even though it may assist with expense and waste, the dispensers cannot have delivery controls that disallow continuous flow of paper. (604.7)

Toilet stall doors have the same requirements as standard swinging doors (Table 404.2.4.1), except only 42 inches of clearance is required in front of a toilet stall door if the approach is from the latch side, and they must be self-closing. The door opening needs to be at least 32 inches wide and be located in the front partition, side wall, or partitions farthest from the water closet. It also cannot swing into the required stall area. The door opening is required to be less than 4 inches from the adjacent partition that is perpendicular to the partition in which the door is located. See Figure 604.8.1.2. (604.8.1.2)



**Figure 604.8.1.2**  
**Wheelchair Accessible Toilet Compartment Doors**

Ambulatory accessible stalls need to measure between 35 and 37 inches wide and be no less than 60 inches deep. This is 4 inches deeper than a wheelchair accessible stall with wall-mounted water closets. Side-wall grab bars must be installed on both sides of the stall. They have the same dimensional requirements as the side-wall bars for the wheelchair accessible stalls. Also like the wheelchair accessible stalls, the doors cannot swing into the required area and must be self-closing. 42 inches of clearance is required in front of an ambulatory stall if approaching from the latch side. (604.8.2)

A common overlooked error at both wheelchair and ambulatory accessible stall doors is that door pulls must be installed on both sides of the door near the latch between a height of 34 and 48 inches above the finish floor. (604.8.1.2)

*TIP: Information provided is for adult restrooms. See 604.9 for the water closet standards specific for children's use.*

## REVIEW QUESTIONS:

7. **What does the depth of a wheelchair accessible stall (toilet compartment) need to be if it has a wall mounted water closet?**
  - a. 56 inches
  - b. 59 inches
  - c. 60 inches
  - d. 66 inches
8. **Which of the following statements is true?**
  - a. The rear wall grab bar located at an accessible water closet should be no less than 42 inches long
  - b. The side wall grab bar located at an accessible water closet should be no less than 42 inches long
  - c. Grab bars are not required at ambulatory accessible toilet compartments
  - d. The side wall grab bar located at an accessible water closet should be no less than 36 inches long
9. **When is an ambulatory accessible toilet compartment/stall required?**
  - a. If the number of stalls in the men's and women's restrooms combined is 6 or more.
  - b. If the number of stalls in a restroom is 6 or more or the total number of urinals and water closets in a restroom is 6 or more
  - c. If the stalls are located in a hospital
  - d. If a wheelchair accessible stall is not feasible
10. **Which of the following is not allowed to overlap the required clearance around a water closet?**
  - a. Shelves
  - b. Seat cover dispensers
  - c. Clear floor space for other fixtures
  - d. Door
11. **In an accessible toilet compartment, how long does a side grab bar need to be?**
  - a. 36 inches
  - b. 42 inches
  - c. 48 inches
  - d. 54 inches
12. **In a toilet compartment, how long does the rear wall grab bar need to be?**
  - a. 36 inches
  - b. 42 inches
  - c. 48 inches
  - d. 54 inches
13. **What is the required clear width of an accessible toilet compartment door?**
  - a. 30 inches
  - b. 32 inches
  - c. 34 inches
  - d. 36 inches
14. **What is the maximum distance a toilet compartment door can be from the adjacent wall or partition?**
  - a. 2 inches
  - b. 3 inches
  - c. 4 inches
  - d. 6 inches

15. What is the required clear floor space for a urinal that is within a 25 inch deep alcove?

- a. 30 inches x 48 inches
- b. 36 inches x 48 inches
- c. 36 inches x 60 inches
- d. 60 inches x 60 inches

16. Which of the following is NOT accessible?

- a. A lavatory is installed so that the centerline of it is 19 inches off of the adjacent wall
- b. A water closet in a wheelchair accessible stall is installed so that the centerline of it is 19 inches off of the adjacent wall
- c. A lavatory is installed so that the centerline of it is 17 inches off of the adjacent wall
- d. A water closet is installed so that the centerline of it is 17 inches off of the adjacent wall

17. What is the required depth of a toilet compartment with a floor mount water closet?

- a. 56 inches
- b. 59 inches
- c. 60 inches
- d. 66 inches

### Lavatories (Sinks in a Toilet Room)

A 30 inch by 48 inch clear floor space is required in front of accessible lavatories. If the lavatory is located in an alcove that is deeper than 24 inches, the width must be increased to 36 inches. Space under the lavatory is included in the clear floor space; therefore, knee and toe clearances are required. Toe clearance should be provided between the floor and 9 inches above the finish floor and extend horizontally under the lavatory for a distance between 17 to 25 inches. See Figure 306.2. The space under the lavatory should be clear of obstructions for the knees between 9 and 27 inches above the finish floor. The clearance needs to be 11 inches deep at the height of 9 inches above the finish floor and at least 27 inches above the finish floor for a depth of 8 inches. This knee clearance can be reduced at a rate of 1 inch depth for every 6 inches of height between 9 inches and 27 inches above the finish floor. See Figure 306.3. (306.2, 306.3, and 606)

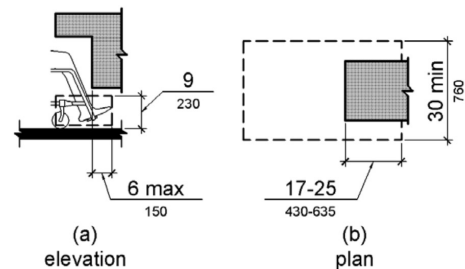


Figure 306.2  
Toe Clearance

### Urinals

Stall-type and wall-hung type urinals can be accessible if the rims are no more than 17 inches above the finish floor and are no less than 13-1/2 inches deep. A 30 inch wide by 48 inch deep clear floor space is required in front of the accessible urinals. If the urinal is located in an alcove that is deeper than 24 inches, a width of at least 36 inches needs to be provided. (305 and 605)

*TIP: An accessible urinal is only required in restrooms with more than one urinal. (213.3.3)*

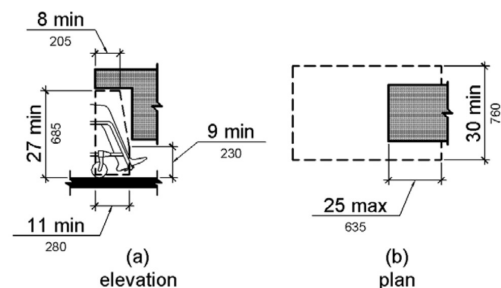


Figure 306.3  
Knee Clearance

There are exceptions to a front approach clear floor space requirement for restrooms accessed through a private office, in residential dwelling units, and those used primarily by children. Only one bowl of

a multi-bowl sink needs to have the required clear floor space. The dip of the overflow pipe below the lavatory does not have to be considered when providing the required knee and toe clearances because one's knees can go on either side of the pipe. (606.2)

A common mistake with sink installations is where to take the maximum height measurement. The top of the sink or counter can be no higher than 34 inches above the finish floor unless it is a sink in a unisex restroom accessed from a single private office or within a residential dwelling unit. The 34 inch maximum measurement is to whichever is higher, the front of the sink rim OR counter surface. Drop-in sinks, oftentimes, stick up above the counter, so the top of the sink should be installed no higher than 34 inches above the finish floor, NOT the top of the counter. (606.3)

Faucets cannot require tight grasping, pinching, or twisting of the wrist in order to operate. Therefore, faucets with knob handles do not comply with the ADA STANDARDS. Typically, lever handle controls are installed at accessible sinks. (309 and 606.4)

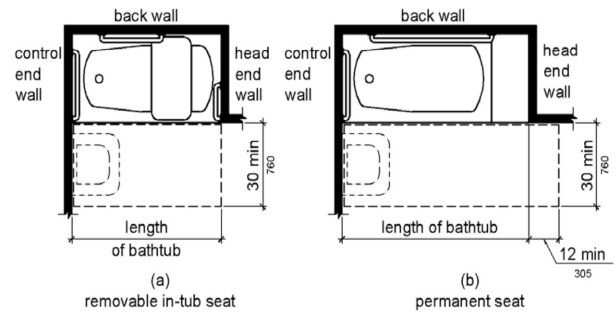
The pipes under the sink must be insulated or covered to prevent contact. (606.5)

The accessible sink may not be placed within the accessible toilet stall. (213.3.4)

*TIP: Do not position a lavatory in a circulation path unless there is cane detection, such as the side of a counter or wall, at the leading edge at a height 27 inches or lower. The bottom of an accessible lavatory cannot be mounted below 27 inches, or it impedes on the required knee clearance.*

### Bathtubs

Accessible bathtubs need a minimum of a 30 inch wide clear floor space that is along the entire length of the bathtub. An accessible lavatory can be in this required clearance if it is on the same end as the controls. If a permanent seat is provided at the head end wall, the side clear floor space needs to extend another 12 inches beyond the head end wall. See Figure 607.2.b.

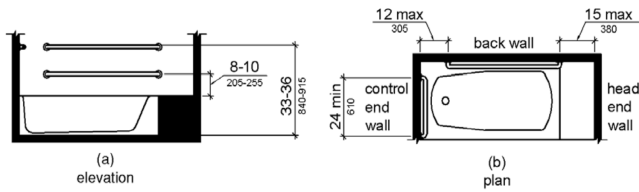


**Figure 607.2**  
Clearance for Bathtubs

A seat is required at the head end of the bathtub. It may be permanent or removable. The top of the seat must be between 17 and 19 inches above the bathroom finish floor (not the bathtub finish floor). The depth of the seat should be 15 to 16 inches. It must be securely placed. Permanent seats may only be placed at the head end of the bathtub. Their depth must be 15 inches or greater. They need to extend the entire width of the bathtub to the back wall. They can extend beyond the outer edge of the bathtub. (610.2)

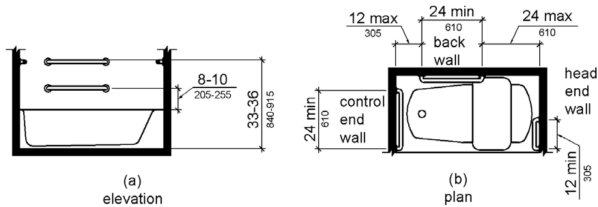
Grab bars are also required unless the bath is located in a bathroom accessed through a single private office or residential dwelling unit. Even if one of the exceptions applies, reinforcement (or blocking) must be installed in the walls so that grab bars can be easily installed in the future if the need arises. Grab bars at bathtubs need to have the same cross section as those listed above at water closets.

The placement of the grab bars depends on if the bathtub seat is permanent or removable. For permanent seats, two grab bars must be placed on the back wall. One should be mounted between 33 and 36 inches above the finish floor. The other one needs to be installed between 8 and 10 inches above the rim of the bathtub. Both grab bars must be installed no more than 15 inches from the head end wall and a maximum of 12 inches from the control end wall. Another grab bar is required on the control end wall at a height between 33 and 36 inches above the finish floor. It should have a minimum length of 24 inches and placed close to the front edge of the bathtub. See Figure 607.4.1.



**Figure 607.4.1**  
Grab Bars for Bathtubs with Permanent Seats

If the bathtub seat is permanent, two grab bars are still required on the back wall. They will be installed at the same heights as those without permanent seats. The only difference is that they should be a minimum of 24 inches in length and installed no more than 24 inches from the head end wall and 12 inches from the control end wall. A grab bar should also be installed on the control wall in the same manner and size as the one for non-permanent seats. A fourth grab bar must be installed on the head end wall at the front edge of the bathtub at the standard height between 33 and 36 inches with a minimum length of 12 inches. See Figure 607.4.2.



**Figure 607.4.2**  
Grab Bars for Bathtubs with Removable In-Tub Seats

The controls need to be positioned on an end wall between the bathtub rim and grab bar. They should also be located within the front half of the open side of the bathtub. As with faucets, lever controls should be installed. (607.5)

Tempered water no warmer than 120 degrees needs to be provided from a shower spray unit. This unit must have a hose that is at least 59 inches long and can be fixed or held during use. An on/off control with a non-positive shut-off is needed so that the water is kept at about the same temperature while in the off position until one is ready to rinse off. Adjustable-height shower heads on vertical bars allow for even more flexibility; however, they need to be installed so that do not interfere with the use of the grab bars. (607.6)

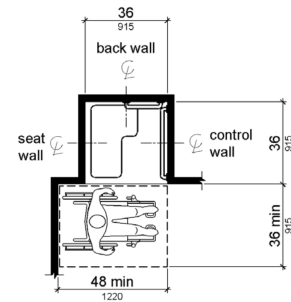
If there is a bathtub enclosure, they cannot obstruct controls, faucets, shower and spray units. They also cannot get in the way of someone transferring from a wheelchair into the bathtub or onto the seat. Tracks for the enclosure are not allowed. This should not be an issue as they are generally not the preferred choice for enclosures due to their difficult cleaning and maintenance.

## Shower Compartments

### Transfer Type

There are three types of accessible shower compartments: transfer type, standard roll-in type and alternate roll-in type. Each has their own requirements for size, grab bars, seats, and controls. *Transfer* type showers are required to be 36 inches wide by 36 inches deep. These dimensions are the clear inside dimensions from center points of opposing sides and are not minimum or maximum dimensions. The clear floor space along the shower can be no less than 36 inches wide by 48 inches long. The dimension is taken from the control wall to beyond the seat wall. (608.2.1)

Grab bars mounted between 33 and 36 inches above the finish floor are required across the control wall and around the corner on the back wall to a point 18 inches from the control wall. See Figure 608.2.1. There are exceptions to this requirement for private offices and residential dwelling units. (608.3.1)



Note: Inside finished dimensions measured at the center points of opposing sides  
**Figure 608.2.1**  
Transfer Type Shower Compartment Size and Clearance

A seat is required in a transfer type shower. It can be folding or non-folding. Transient lodging guest rooms that are required to be accessible need folding seats. In residential dwelling units, the seats do not have to be installed, but the wall reinforcement must be installed. (608.4) The seat

must extend the width of the side wall and stop no more than 3” from the shower entry. The top of the seat is required to be no less than 17 inches and no higher than 19 inches from the bathroom (NOT shower) finish floor. (610.3)

As with other plumbing fixtures, the controls cannot have knobs; they need to have lever handles. The faucets, shower spray unit, and the controls should be mounted on the side wall that is opposite the seat at a height between 38 and 48 inches above the finish floor. They should be located horizontally no more than 15 inches from the centerline of the seat toward the shower opening. See Figure 608.5.1. (608.5.1)

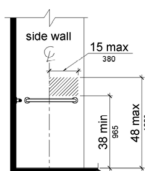


Figure 608.5.1  
Transfer Type Shower Compartment Control Location

### Standard Type

The minimum inside clear dimensions measured at center points of opposing sides for a *standard* roll-in type shower compartment must be a minimum of 30 inches wide by 60 inches deep. The clear floor space adjacent to the shower cannot be less than 30 inches wide by 60 inches along the entry face of the compartment. The only element that can be located inside this clear floor space is an accessible lavatory if it is not adjacent to the controls or shower seat. See Figure 608.2.2. (608.2.2)

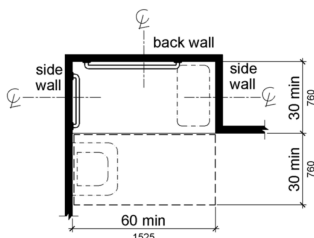


Figure 608.2.2  
Standard Roll-In Type Shower Compartment Size and Clearance

In a standard roll-in type shower compartment with a seat, provide grab bars on the back wall and side wall opposite the seat. Grab bars should not

be installed over the seat on the side wall or back wall. If there is not a seat in the standard shower, grab bars are needed on all three walls. Each grab bar within a single shower needs to be mounted at the same height between 33 and 36 inches above the finish floor. They should be installed no more than 6 inches from adjacent walls. See Figure 608.3.2. (608.3.2) Continuous grab bars may also be installed.

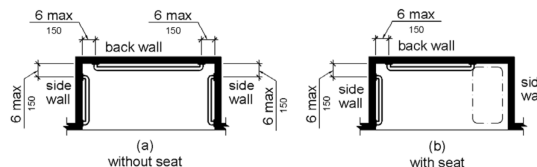


Figure 608.3.2  
Grab Bars for Standard Roll-In Type Showers

The controls, faucets, and shower spray unit in a standard roll-in type shower compartment *without* a seat can be mounted on any of the three walls above the grab bar as long as they are no higher than 48 inches above the shower floor. The controls, faucets, and shower spray unit in a standard roll-in shower compartment *with* a seat need to be installed on the back wall adjacent to the seat within 27 inches of the seat wall. See Figure 608.5.2. (608.5.2)

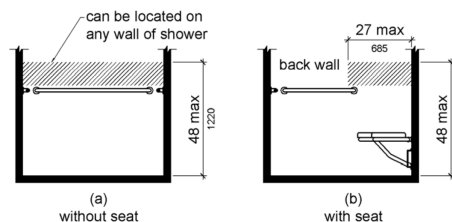


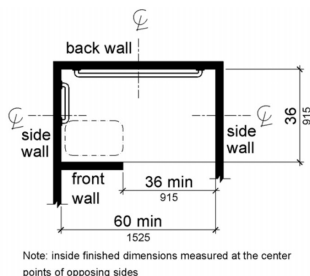
Figure 608.5.2  
Standard Roll-In Type Shower Compartment Control Location

If seats are provided in standard roll-in type shower compartments, they must be the folding type. They also need to be installed on the side wall that is adjacent to the controls and should be as wide as the side wall, itself. The seat can stop no more than 3 inches from the shower entry. As with the transfer style seats, the top of the seat is required to be installed between 17 and 19 inches from the bathroom (NOT shower) finish floor. (610.3)

### Alternate Type

The dimensions for an *alternate* roll-in type shower compartment are 36 inches wide by 60 inches deep.

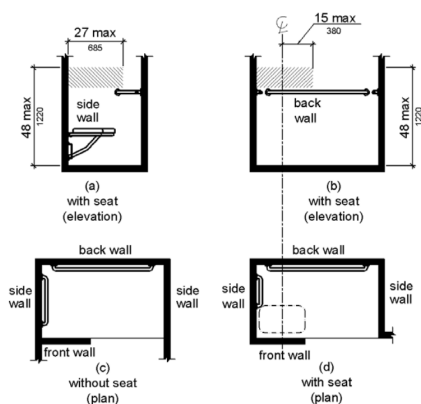
Unlike the standard roll-in type shower, the entry side is not completely open. There is a 36 inch wide opening provided at one end of the long side. See Figure 608.2.3. (608.2.3)



**Figure 608.2.3**  
Alternate Roll-In Type Shower Compartment Size and Clearance

At alternate roll-in showers, the back wall and the side wall furthest from the compartment entry are required to have grab bars mounted between 33 and 36 inches. As with the standard shower, do NOT place grab bars above shower seats, more than 6 inches from adjacent walls, or at varying heights. (608.3.3)

The controls, faucets, and shower spray units in the alternate roll-in shower compartments *without* seats can be placed no higher than 48 inches above the shower floor only on the side wall farthest from the shower entry. In alternate showers *with* a seat, they must be positioned on the side wall adjacent to the seat and can be no more than 27 inches from the side wall that is behind the seat. They could also be placed on the back wall opposite the seat no more than 15 inches from the centerline of the seat. See Figure 608.5.3. (608.5.3)

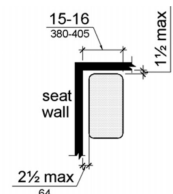


**Figure 608.5.3**  
Alternate Roll-In Type Shower Compartment Control Location

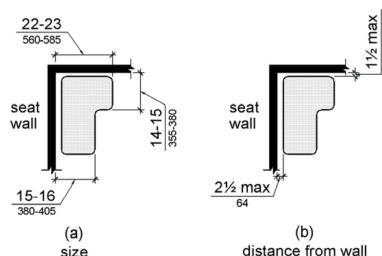
If a seat is provided in an alternate roll-in type shower compartment, it also needs to be the folding type. It can only be installed on the front wall opposite the back wall. It needs to extend across the entire front wall, stopping just shy of 3 inches from the entry into the shower. (See Figure 608.5.3(d).) Like the other shower seats, the top of the seat must be positioned between 17 and 19 inches above the bathroom finish floor. (610.3)

### All Accessible Shower Types

The seats installed, if any, in each of the three types of showers can be one of two types, rectangular shaped or L-shaped. Both types have individual guidelines as to size and how far from the wall they can be installed. Those requirements are shown in Figures 610.3.1 (rectangular) and 610.3.2 (L-shaped). The seats and their components must sustain vertical and horizontal forces of 250 pounds. (610.4)



**Figure 610.3.1**  
Rectangular Shower Seat



**Figure 610.3.2**  
L-Shaped Shower Seat

All three shower types have the same requirements as bathtubs for shower spray units and water. However, there is an exception for shower heads if they are NOT at medical care facilities, long-term care facilities, transient lodging guest rooms, or residential dwelling units. They may be fixed if the shower head is located no more than 48 inches above the shower floor. (608.6)

The thresholds in roll-in type showers cannot be higher than 1/2 inch; they need to be beveled for the top 1/4 inch of height. The shower floors may slope to drains, but the slope may not exceed 1:48. (304.2) For transfer type showers, the thresholds can be up to 1/2 inch high with beveled, rounded, or vertical edges. Existing facilities can have 2 inch high thresholds in transfer-type shower compartments if a 1/2 inch high threshold would interfere with the structural reinforcement of the floor slab. (608.7)

Like bathtubs, the shower enclosures cannot obstruct the controls, faucets, and shower spray units or obstruct the transfer onto the shower seats from wheelchairs. (608.8)

*TIP: If both showers and bathtubs are provided, only one bathtub OR one shower must be accessible. (213.3.6)*

## CONCLUSION

The *2010 ADA Standards for Accessible Design* provides very detailed requirements for accessible restrooms and washrooms. It can be a confusing set of regulations to understand and remember, even for experienced designers and contractors. We hope this course consolidated the requirements in such a way that you have a better understanding of what needs to be accessible, when it needs to be accessible, and how to accomplish accessibility within restrooms and washrooms.

## REVIEW QUESTIONS:

- 18. What is the required clear floor space for a lavatory?**
- a. 30 inches by 48 inches
  - b. 32 inches by 60 inches
  - c. 36 inches by 48 inches.
  - d. 30 inches by 60 inches
- 19. Per the ADA Standards, what is the minimum clear floor space required within a standard roll-in shower?**
- a. 30 inches by 48 inches
  - b. 36 inches by 48 inches
  - c. 30 inches by 60 inches
  - d. 36 inches by 60 inches

### *References:*

ADA.gov – ADA Standards for Accessible Design

# REVIEW QUESTION ANSWERS

- 1. What height do accessible mirrors need to be mounted if they are located above a sink, lavatory, or countertop in a restroom?**
  - The middle of the mirror should be at 60 inches above the finished floor (AFF); incorrect, the bottom of reflecting surface should be 40 inches or less.
  - The bottom of the reflecting surface should be 40 inches or less AFF; Correct**
  - The bottom of the frame should be 40 inches or less AFF; Incorrect, the bottom of the reflecting surface should be 40 inches or less AFF
  - Mirrors are not required to be accessible; incorrect, mirrors do need to be accessible.
- 2. Which restroom described below must be fully accessible?**
  - A restroom in a private residence; incorrect accessibility compliance applies to public restrooms
  - A pair of restrooms in a public building constructed in 1990 that has never been renovated; incorrect if the building has not been renovated and was built prior to January 26, 1992, it is not required to be accessible.
  - A restroom in a construction trailer; incorrect this is an exception to the rule
  - A public restroom in a new school; Correct, any public restroom built after January 26, 1992 needs to meet accessibility requirements.**
- 3. What is the required clear width for an accessible door?**
  - 30"; incorrect, width is 32 inches
  - 32"; correct**
  - 34"; incorrect, width is 32 inches
  - 36"; incorrect, width is 32 inches
- 4. Regarding accessible doors, which statement is true?**
  - Push button electric door operators may substitute providing the maneuvering clearances at doors; incorrect push button electric door operators are NOT a requirement of ADA Standards and do not fulfill/replace other standards.
  - If a door is recessed only 9", the maneuvering clearances for parallel approach are acceptable; incorrect there are minimum maneuvering clearances that must be maintained, Table 404.2.4.1 goes over these Maneuvering Clearances
  - Push button electric door operators are a requirement for restroom doors in public schools; incorrect push buttons are not a requirement of ADA standards
  - Doors cannot swing into the clear floor space for any fixture in a multi-user public restroom; correct**
- 5. How much clearance beyond the latch side of the door is needed on the push side if it has both a latch and a closer?**
  - 0 inches; incorrect, clearance needs to be 12 inches
  - 12 inches; correct**
  - 18 inches; incorrect, clearance needs to be 12 inches
  - 24 inches; incorrect, clearance needs to be 12 inches
- 6. Which of the following is true of permanent restroom accessible signs?**
  - They should be mounted on the latch side of the door; correct**
  - They should be mounted so the centerline is at 60 inches above the finish floor; incorrect, the bottom of the highest letter should be no higher than 60 inches above the finished floor.
  - They do not need to contain Braille; incorrect, Braille is required to go below the text
  - A 24 inch by 24 inch clear floor space is required in front of it; incorrect this does not relate to signs
- 7. What does the depth of a wheelchair accessible stall (toilet compartment) need to be if it has a wall mounted water closet?**
  - 56 inches; correct the depth of the stall should be 56 inches**
  - 59 inches; incorrect the depth of the stall should be 56 inches
  - 60 inches; incorrect the depth of the stall should be 56 inches
  - 66 inches; incorrect the depth of the stall should be 56 inches
- 8. Which of the following statements is true?**
  - The rear wall grab bar located at an accessible water closet should be no less than 42 inches long; incorrect this grab bar should be a minimum of 36 inches long.
  - The side wall grab bar located at an accessible water closet should be no less than 42 inches long; correct, the grab bar located on the side wall needs to be a minimum of 42 inches long.**
  - Grab bars are not required at ambulatory accessible toilet compartments; incorrect, an ambulatory accessible toilet compartment is a narrower toilet compartment that is useful for those that need support on two sides, they are equipped with 2 parallel grab bars.
  - The side wall grab bar located at an accessible water closet should be no less than 36 inches long; incorrect the side wall should be no less then 42 inches long.
- 9. When is an ambulatory accessible toilet compartment/stall required?**
  - If the number of stalls in the men's and women's restrooms combined is 6 or more; incorrect, it goes by number of stalls in a single restroom, not by total number in building.
  - If the number of stalls in a restroom is 6 or more or the total number of urinals and water closets in a restroom is 6 or more; correct**
  - If the stalls are located in a hospital; incorrect, a hospital is not the only public entity
  - If a wheelchair accessible stall is not feasible; incorrect, an ambulatory is required along with a wheelchair accessible stall if there is a total number of 6 or more stalls within one restroom.

10. Which of the following is not allowed to overlap the required clearance around a water closet?
- Shelves; incorrect, these can be installed inside this clearance
  - Seat cover dispensers; incorrect, these can be installed inside this clearance
  - Clear floor space for other fixtures; incorrect, the clear floor space for the water closet can overlap the clear floor space for other fixtures and turning spaces.
  - Door; correct, this is not allowed to overlap the required clearance around a water closet**
11. In an accessible toilet compartment, how long does a side grab bar need to be?
- 36 inches; incorrect, the side grab bar needs to be a minimum of 42 inches
  - 42 inches; correct**
  - 48 inches; incorrect, the side grab bar needs to be a minimum of 42 inches
  - 54 inches; incorrect, the side grab bar needs to be a minimum of 42 inches
12. In a toilet compartment, how long does the rear wall grab bar need to be?
- 36 inches; correct**
  - 42 inches; incorrect, the rear wall grab bar needs to be a minimum of 36 inches
  - 48 inches; incorrect, the rear wall grab bar needs to be a minimum of 36 inches
  - 54 inches; incorrect, the rear wall grab bar needs to be a minimum of 36 inches
13. What is the required clear width of an accessible toilet compartment door?
- 30 inches; incorrect, clear width of toilet compartment door needs to be 32 inches
  - 32 inches; correct**
  - 34 inches; incorrect, clear width of toilet compartment door needs to be 32 inches
  - 36 inches; incorrect, clear width of toilet compartment door needs to be 32 inches
14. What is the maximum distance a toilet compartment door can be from the adjacent wall or partition?
- 2 inches; incorrect, maximum distance can be 4 inches
  - 3 inches; incorrect, maximum distance can be 4 inches
  - 4 inches; correct**
  - 6 inches; incorrect, maximum distance can be 4 inches
15. What is the required clear floor space for a urinal that is within a 25 inch deep alcove?
- 30 inches x 48 inches; incorrect, the required floor space is 36 inches x 48 inches
  - 36 inches x 48 inches; correct**
  - 36 inches x 60 inches; incorrect, the required floor space is 36 inches x 48 inches
  - 60 inches x 60 inches; incorrect, the required floor space is 36 inches x 48 inches
16. Which of the following is NOT accessible?
- A lavatory is installed so that the centerline of it is 19 inches off of the adjacent wall; incorrect, this meets the requirements and is accessible
  - A water closet in a wheelchair accessible stall is installed so that the centerline of it is 19 inches off of the adjacent wall; correct, this is NOT accessible, the water closet needs to be placed so that its centerline is between 16 and 18 inches from the side wall or partition.**
  - A lavatory is installed so that the centerline of it is 17 inches off of the adjacent wall; incorrect, this meets the requirements and is accessible
  - A water closet is installed so that the centerline of it is 17 inches off of the adjacent wall; incorrect, this meets the requirements and is accessible
17. What is the required depth of a toilet compartment with a floor mount water closet?
- 56 inches; incorrect, required depth of a toilet compartment with a floor mount water closet is 59 inches
  - 59 inches; correct, this is the required depth**
  - 60 inches; incorrect, required depth of a toilet compartment with a floor mount water closet is 59 inches
  - 66 inches; incorrect, required depth of a toilet compartment with a floor mount water closet is 59 inches
18. What is the required clear floor space for a lavatory?
- 30 inches by 48 inches; correct**
  - 32 inches by 60 inches; incorrect, clear floor space in a lavatory should be 32 inches x 60 inches
  - 36 inches by 48 inches ; incorrect, clear floor space in a lavatory should be 32 inches x 60 inches
  - 30 inches by 60 inches; incorrect, clear floor space in a lavatory should be 32 inches x 60 inches
19. Per the ADA Standards, what is the minimum clear floor space required within a standard roll-in shower?
- 30 inches by 48 inches; incorrect, the minimum clear floor space required within a standard roll-in is 30 inches by 60 inches.
  - 36 inches by 48 inches; incorrect, the minimum clear floor space required within a standard roll-in is 30 inches by 60 inches.
  - 30 inches by 60 inches; correct
  - 36 inches by 60 inches; incorrect, the minimum clear floor space required within a standard roll-in is 30 inches by 60 inches.