

PHCP SELF-INSTRUCTION PROGRAM

***BOOK #15***

- ***SPECIAL NEEDS PRODUCTS FOR ASSISTED LIVING***

# **Special Needs Products for Assisted Living**

**A guide to understanding the basic plumbing requirements  
of the Americans With Disabilities Act (ADA)**

## **Series Two Unit 8**

**PHCP Self Instruction Program**

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For a complete list of topics covered, see the index.

## UNIT OBJECTIVES

The information in this Manual has been selected to give you an overview of common types of plumbing fixtures, faucets and accessories which meet ADA guidelines. It includes definitions of common industry terms, descriptions of the major types of fixtures and information specified for the installation of these fixtures by the ADA.

This manual has been designed to give you an overview of ADA guidelines as it relates to plumbing fixtures and accessories as of its printing in 1993. However, changes will be made in the guidelines from time to time. These guidelines are specific and detailed with little room for variation. It is important that you make note of any changes in the ADA guidelines.

Some of the products reviewed in this Unit may not be a part of your company's current inventory. Other products which may be stocked by your company may not be discussed in this Unit. Always refer to manufacturers' literature and recommendations on the products your company sells if unsure about a particular product.

To do your job well, it is important that you learn the details about specific items stocked by your company. The most complete and accurate information can be found by studying the ADA guidelines and manufacturers' catalogs and materials. Be certain to spend time studying these materials.

When completing this Unit, you will be able to

- recognize and use basic plumbing requirements specified by the ADA
- discuss the specifications required for different types of fixtures and installations
- understand the importance of providing fixtures and accessories that comply with ADA guidelines

**THESE MATERIALS SHOULD NOT BE USED TO PLAN ACTUAL INSTALLATIONS OR TO INSTALL FIXTURES, FAUCETS OR ACCESSORIES.**

### DISCLAIMER

Although the information contained in this Unit is believed to be accurate, the ASA Education Foundation and the American Supply Association disclaim any and all warranties, expressed or implied, regarding both the accuracy of that information and its application.

The publication of this material does not constitute the rendering of legal advice. We encourage you to seek competent, professional assistance in response to any specific questions or concerns you might have.

## STEPS FOR COMPLETING THIS UNIT

1. If your company has the videotape for use with this Series, view the video before you start Unit One.
2. Use the answer mask/book mark to cover the printed answers in the left hand column. Read the information in each Frame carefully.
3. Keeping the answer covered, write your response to the Frame question in the empty column at the right of each page.
4. Move the answer mask to check your response with the answer in the left column.
  - If your response is reasonably close to the printed answer, go on to the next Frame.
  - If your response differs from the answer given, review the material in the Frame to see why the printed answer is considered the best answer for the question.
  - If after reviewing the material in the Frame you still believe that your response is better than the printed answer, circle the printed answer. If you agree that the printed answer is best, mark an "X" through your response.
  - If after several attempts, you cannot understand the Frame or the answer to the Frame question, ask someone in your company for help.
  - If you still feel confused, contact the Foundation, and we will try to find a product knowledge expert to assist you.
5. Answer the questions in the Review at the end of each section. Check your responses with the answers given at the back of the book. Reread the Frames indicated for answers you have missed.
6. When you've completed all Frames, prepare for the Unit Quiz by going over the Review pages and the definitions in the Glossary.
7. Take the Unit Quiz at the end of the Manual.
8. Send the whole book, with the completed Quiz, to the ASA Education Foundation for grading. You and your immediate supervisor will be notified about your completion of the Unit.

The Americans With Disabilities Act, commonly called "the ADA," prohibits discrimination against people with disabilities in employment, transportation, public accommodations, activities of state and local government, and telecommunications.

In this Unit, we will look at sections of the ADA that deal with public accommodations and commercial facilities.

When we use the terms ADA, the Act, and the Guide, each refers to The Americans With Disabilities Act.

*Prohibits discrimination against persons with disabilities*

**What is the purpose of the Americans With Disabilities Act?**

ADA provides complete definitions of the types of public accommodations and of services operated by private entities, also called commercial facilities, that must comply with ADA requirements. All three of these terms simply refer to a facility or business available to and used by the public. In general, the requirements for plumbing fixtures and accessories are the same for all public and private entities covered by the Act.

If a customer needs in-depth information about which public accommodations and commercial facilities need to comply, refer them to the ADA guidelines or their legal counsel.

Yes

**In general, are the requirements for plumbing fixtures and accessories the same for all public and private entities covered by ADA?**

You need to know the definitions of some key terms used in ADA. Here is a list of terms and their definitions:

- If or if then - means the specification applies only when the conditions described are present.
- May - denotes an option or alternative.
- Shall - denotes a mandatory specification or requirement.
- Should - denotes an advisory specification or recommendation.

We will use the same general terminology here, except for "shall". When the ADA uses "shall", we will substitute the term "must".

*Shall or must*

**What is the term used to denote a mandatory specification or requirement?**

In general, a private residence is not covered by ADA because it is neither a place of public accommodations nor a commercial facility. However, if the home or a portion of the home is used as a place of public accommodation, then that portion not used exclusively for a private residence is covered by the Act.

An example is an attorney who meets with his or her clients at his or her home. That portion of the home used, including restrooms, as a place of public accommodations is covered by the Act.

Also, any residential housing that is owned and operated by the state or local government is covered by the Act.

*When the residence is used as a place of public accommodation or is operated by state or local government*

**When would a private residence be covered by ADA?**

Although ADA establishes specifications and requirements for accommodations, they are the *minimum* needed to aid the disabled. There may be state or local laws and codes that have different specifications and requirements for accessibility and accommodations from ADA. If local or state laws and codes provide greater accessibility and usability, they take priority.

Become familiar with your local codes before deciding which specifications or requirements to use.

*No. ADA provides the minimum requirements*

**Do you use ADA specifications and requirements if local and state codes provide for greater accommodations and accessibility?**

We mentioned in Frame 1 that the purpose of ADA is to prohibit discrimination against disabled persons. To prohibit discrimination in the use of plumbing fixtures and accessories, we must consider three factors. These fixtures and accessories must be:

- accessible
- easy to use
- safe

Elderly people also benefit from having fixtures and accessories that are attainable, easy to use and safe (although advanced age, in and of itself, is not considered a disability).

*Fixtures and accessories must be accessible, easy to use, and safe*

**What are the three factors we must consider with fixtures and accessories which prohibit discrimination?**



Those with disabilities need clear floor space to assure access to plumbing fixtures. Clear floor space, also called clearance, is the amount of floor space needed to easily maneuver a wheelchair and approach the fixture.

Clear floor space requirements vary with the type of fixture and installation. We will discuss specific clear floor space requirements later as we look at each fixture installation.

*Clear floor space  
or clearance*

**What is the term used to describe the space needed to maneuver a wheelchair and approach the fixture?**

People with disabilities and the elderly need controls and operating mechanisms, such as faucets, that are easy to use. These mechanisms must not require tight grasping, pinching, or twisting of the wrist. The maximum amount of force needed to work the controls must not exceed 5 lb. F (Force).

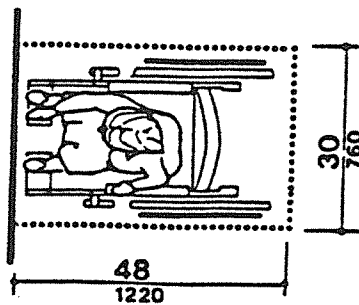
Also, to be easy to use, a person with a disability must be able to reach controls and operating mechanisms. ADA provides for specific reach ranges, the height at which accessories and fixtures must be installed, so they are within reach of a person in a wheelchair.

*5 lb. F*

**What is the maximum force allowed to make controls work in order for the mechanism to comply with ADA?**

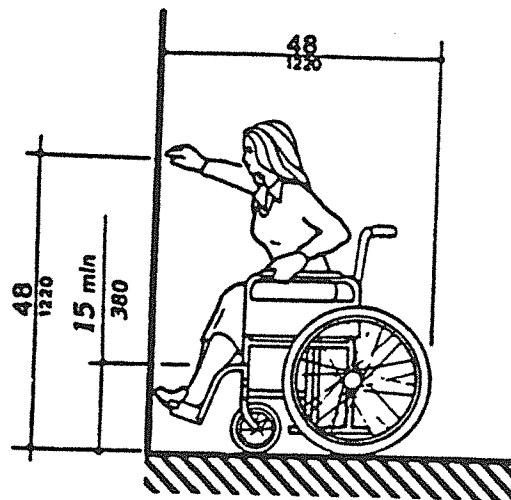
In the last Frame, we mentioned reach ranges--the height at which accessories and fixtures must be installed so they are within reach of people in wheelchairs. Clear floor space and the approach to the fixture or accessory will determine the installation height (reach range).

First, let's look at forward reach. If the clear floor space only allows a wheelchair user a single, straight path to a fixture or accessory it is referred to as a "forward approach" as shown here.



CLEAR FLOOR SPACE

If the clear floor space only allows a forward approach the high forward reach must be no more than 48". The minimum low forward reach is 15".

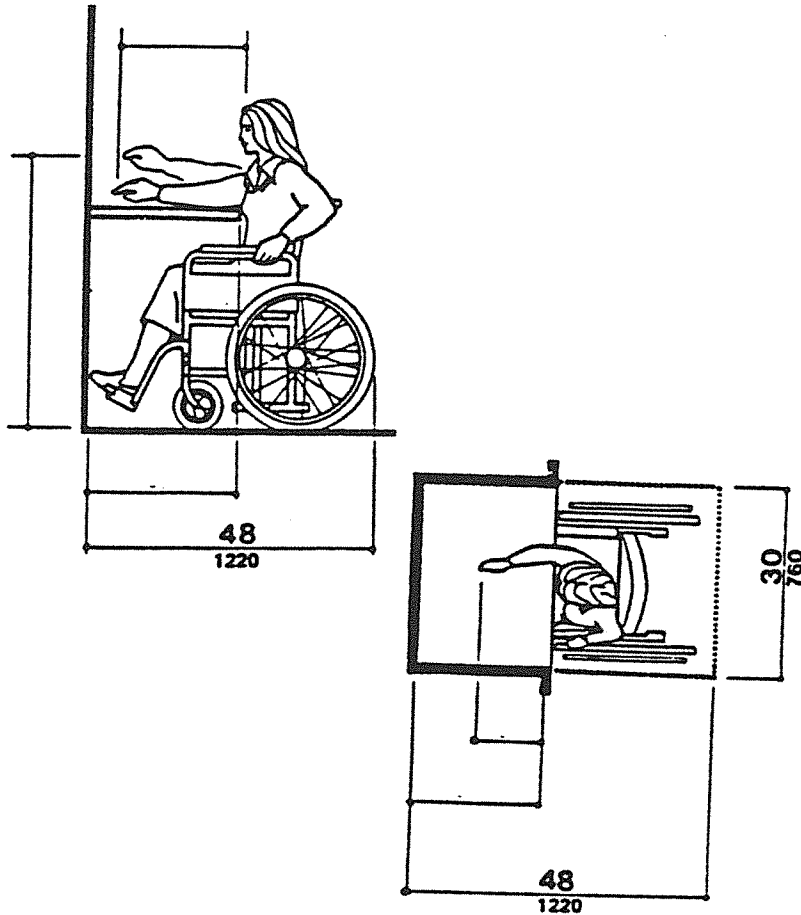


HIGH FORWARD REACH LIMIT

Maximum 48"  
Minimum 15"

What are the maximum and minimum heights for forward reach?

If the wheelchair user must reach over an obstruction, high reach and clearance change. Below are illustrations of the requirements for high forward reach over an obstruction as illustrated in the ADA Handbook.



#### MAXIMUM FORWARD REACH OVER AN OBSTRUCTION

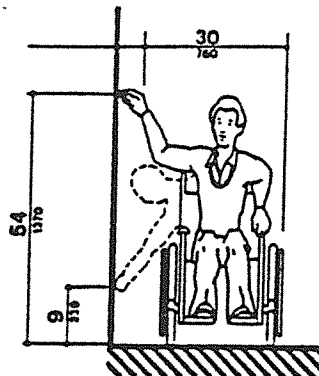
First, note that the obstruction must be no more than 25" deep. Clear floor space under the obstruction must be equal to or more than the depth of the obstruction.

When the depth of the obstruction is less than 20 inches, then the height for forward reach must be no more than 48 inches. When the depth of the obstruction is 20 to 25 inches, then the height for forward reach must be no more than 44 inches.

25 inches

**What is the maximum depth allowed by ADA for obstructions to fixtures and accessories?**

Now, let's look at side reach requirements. If the clear floor space allows parallel approach by wheelchair users, the high side reach must be no more than 54", and the low side reach must be no less than 9" above the floor.

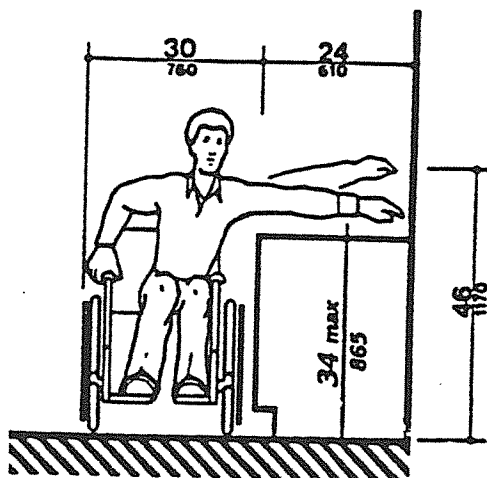


SIDE REACH REQUIREMENTS

No more than 54" high and no less than 9" above the floor

What are the maximum and minimum height ranges for side reach?

If the side reach is over an obstruction, the height must be no more than 46". In the illustration here, the obstruction is no higher than 34" and is 24" deep.



MAXIMUM SIDE REACH OVER AN OBSTRUCTION

46 inches

What is the maximum reach height for a side reach over an obstruction?

Next, for safety of the user, ADA provides guidelines and requirements for grab bars and seats including:

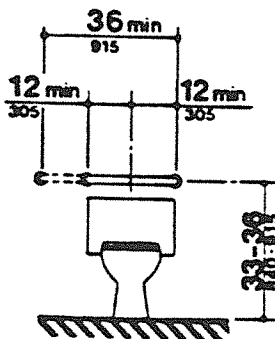
- the number of grab bars in some installations
- the structural strength and size of grab bars and attachments
- the structural strength of tub and shower seats and their attachments

You learned in Unit 6 of this Series that grab bars are accessories installed around water closets, bathtubs, and showers to provide support and balance for the disabled user. People need them for support while transferring from a wheelchair to a fixture or while sitting down from a standing position.

*Around toilets,  
bathtubs, and  
showers*

**Where are grab bars installed to give support and balance for the user?**

Water closet installations require a minimum of two grab bars. One bar is installed on a side wall and the second is placed on the back wall.



This shows one possible placement of the grab bars. Note that the height requirement of the grab bars is a minimum of 33 inches, and a maximum of 36 inches from the floor. This is to assure the bars are within the reach range.

**How many grab bars are required in a water closet installation?**

*Two*

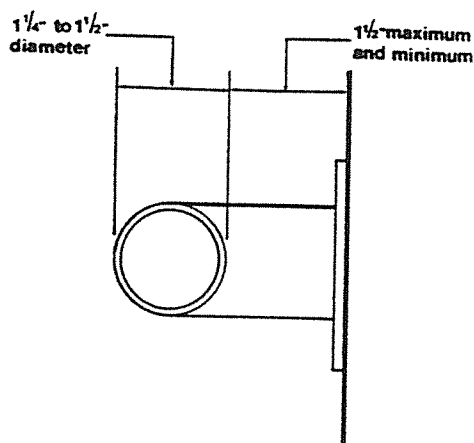
The number of grab bars required for bathtubs and showers varies with the type of bathing fixture and installation. Your customer may decide to install more, but at minimum, the following must be installed:

- **Standard or conventional bathtubs** must have four horizontal grab bars.
- **Bathtubs with a seat or transfer surface built-in** must have three horizontal grab bars.
- **Showers with seats** must have two horizontal grab bars or one continuous grab bar.
- **Roll-in (wheelchair) showers** must have three horizontal grab bars or one continuous grab bar.

*The type of fixture and installation*

**What determines the number of grab bars required for bathtubs and showers?**

To assure grab bars are usable, the space between the wall and the grab bar must be *exactly* 1 1/2" and the diameter must be 1 1/4" to 1 1/2".



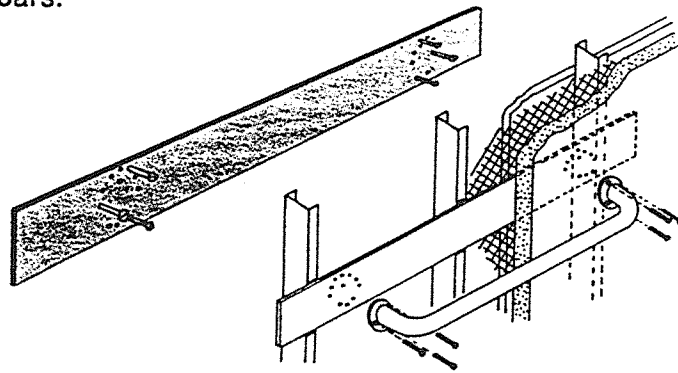
The bars must be strong enough to support 250 lbs. of force in any direction and they must not rotate within their fittings. Also, in some installations, walls must be reinforced to support the structural requirements of the grab bar.

*Exactly 1 1/2 "*

**What is the required space between the wall and the grab bar in order to comply with ADA?**

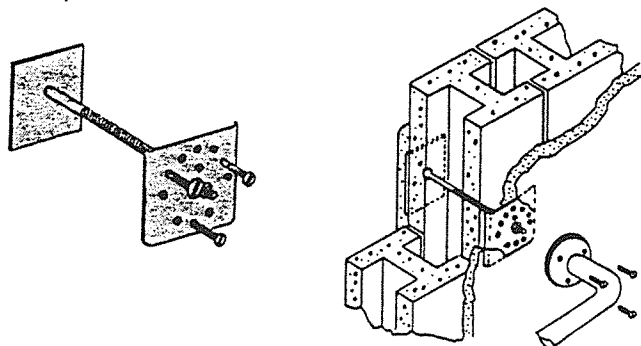
In the previous frame, we mentioned that in some grab bar installations, walls must be reinforced for added safety. One way walls might be reinforced is with concealed anchor plates. An anchor plate is a device, usually made of steel, used to hold an object firmly in place. Various types of anchor plates are available to support grab bars.

The cut-away below shows a concealed anchor plate for stud walls. This anchor plate is 12 guage steel, 3 inches wide, and comes in lengths for different configurations of grab bars.



CONCEALED ANCHOR PLATE FOR STUD WALLS

This cut-away shows a concealed anchor for solid walls made of plaster, tiled brick, hollow tile, cinder blocks or other such materials. The anchor plate is 12 guage steel and the back plate is 10 guage. Each flange on the grab bar requires one anchor plate.



CONCEALED ANCHORS FOR SOLID WALLS

As with all other requirements for disabled installations, you should check your local codes for specific requirements for reinforced walls for grab bar installations.

**What is one way walls might be reinforced to install grab bars?**

*Concealed anchor plates*

DIRECTIONS: In the space to the left, label each of the following statements "TRUE" or "FALSE."

- \_\_\_\_\_ 1. The purpose of the Americans With Disabilities Act is to prevent discrimination against persons with disabilities.
- \_\_\_\_\_ 2. When ADA uses the term "shall" in its guidelines, it means you have an option or choice.
- \_\_\_\_\_ 3. In general, a private residence is not covered by ADA unless it is one that is owned and operated by state or local government or is one that is used in part for public accommodation.
- \_\_\_\_\_ 4. Clear floor space means there must be enough floor space for people in wheelchairs to maneuver the chair and to approach the fixture.
- \_\_\_\_\_ 5. ADA does not specify heights to install certain fixtures and accessories such as water closets, lavatories, and grab bars.
- \_\_\_\_\_ 6. Clear floor space and the approach to the object determine the installation height.
- \_\_\_\_\_ 7. If a wheelchair user must reach over an obstruction, high reach and clearances do not change.
- \_\_\_\_\_ 8. In some grab bar installations, walls must be reinforced for added safety.
- \_\_\_\_\_ 9. Local codes should be checked for specific requirements for reinforced walls before installing grab bars.
- \_\_\_\_\_ 10. Grab bars are needed only in bathtub installations.
- \_\_\_\_\_ 11. Water closet installations require a minimum of four grab bars.
- \_\_\_\_\_ 12. All types of shower stalls require three grab bars.
- \_\_\_\_\_ 13. The diameter of a grab bar must range from a minimum of 1 1/4" to a maximum of 1 1/2".
- \_\_\_\_\_ 14. Shower seats that fit into a tub but lift out are not allowed by ADA.

Check your responses with the answers given on page 62.



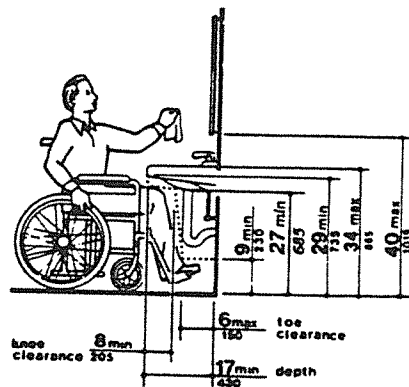
Now we will look closer at ADA requirements and guidelines for lavatories, sinks, bathtubs and showers used in places of public accommodation.

Clearance is an important factor to consider when installing any type of lavatory for disabled persons in wheelchairs. Clearance refers to the space a wheelchair user needs to use the lavatory space comfortably.

Clearance

What term refers to the space a wheelchair user needs to use the lavatory comfortably?

ADA provides minimum and maximum clearance guidelines for lavatory installations. Here is an illustration of some of the clearance requirements. Note the clearance needed for the knees and the toes.



LAVATORY CLEARANCES

Knee: Min. 8 inches  
Toes: Max. 6 inches

What is the minimum number of inches required for knee clearance? The maximum number of inches for toe clearance?

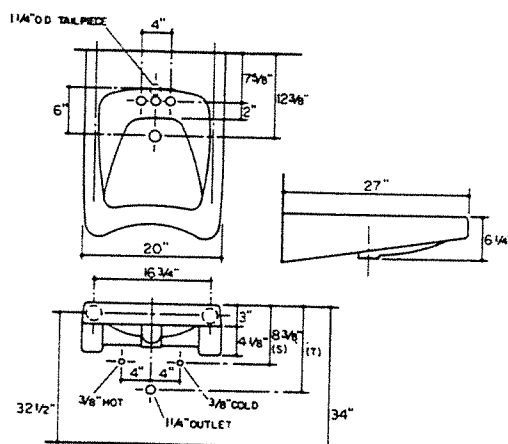
Lavatories must be mounted with the rim or counter surface no higher than 34" above the finished floor. When mounted, the lavatory must provide a clearance of at least 29" above the finished floor to the bottom of the apron.

These dimensions allow people in wheelchairs to get their knees under the lavatory or counter and to reach the faucet and spout.

29"

What is the minimum clearance required between the finished floor and the bottom of the apron?

Below is an illustration of a wall mounted lavatory designed specifically for people in wheelchairs. Notice the curved shape of the lavatory allows the user to lean in closer to the faucet and spout.

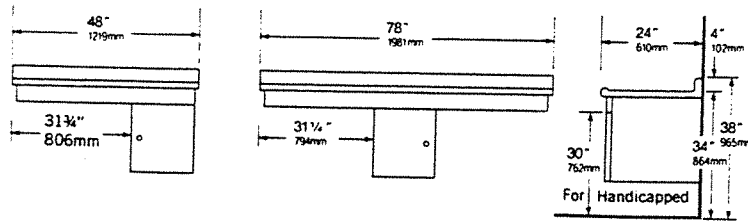


This lavatory is 20" by 27" and is 34" from the floor to the top of the rim. Recall from the previous frame that lavatories must be mounted no higher than 34" from the finished floor to the rim or counter surface.

34"

What is the maximum height from floor to rim that lavatories must be mounted to accommodate a user who is physically disabled?

The lavatory installation shown here meets the required clearance to accommodate a wheelchair. This lavatory with vanity measures 34" from the floor to the counter surface and has a 30" clearance from the floor to the bottom of the overhang.



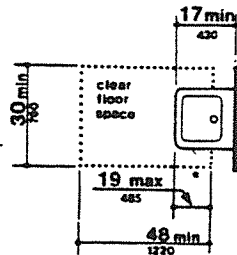
Note that the 30" clearance exceeds the 29" minimum requirement. This is acceptable because ADA suggests that, when possible, it is desirable to exceed the minimum specifications when it increases the comfort of the disabled user.

Yes

Is it acceptable to exceed the minimum clearance requirements, particularly when it increases the comfort of the disabled user?

People in wheelchairs need clear floor space in front of a lavatory to allow a forward approach. ADA provides us with these guidelines: lavatories must have a clear floor space of 30" x 48" adjoining or overlapping an accessible route. Part of the clear floor space may extend underneath the lavatory, up to a maximum of 19 inches.

Here is an illustration of how space underneath the lavatory might be used as clear floor space.



19 inches

What is the maximum number of inches underneath the lavatory that can be used as clear floor space?

Another concern for people in wheelchairs is the hot water and drain pipes underneath lavatories. Any pipe must be insulated or covered in some other manner to avoid injury.

Sharp or abrasive surfaces under lavatories are also a concern. These dangerous surfaces must be eliminated.

*They must be insulated or covered in some other manner*

**What must be done to hot water pipe and drain pipe underneath lavatories to avoid injury to someone in a wheelchair?**

Some buildings that must comply with ADA may provide a kitchen or food preparation area. If there is a sink, then the sink must be mounted with the counter or rim no higher than 34" above the floor.

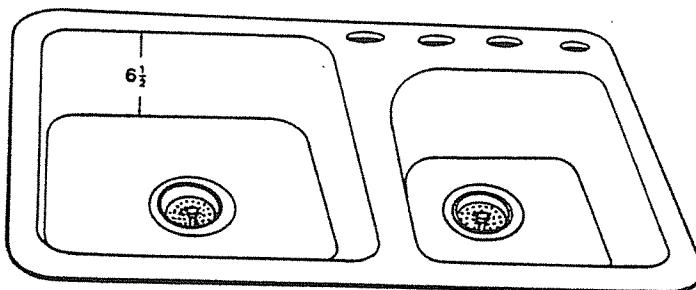
Like lavatories, exposed water and drain pipes under sinks must be insulated or covered in some manner to protect against contact.

Installers must also take special care not to leave any sharp or rough surfaces exposed under the sink.

34 "

**What is the maximum mounting height allowed for sinks measured from the floor to the counter or rim?**

The depth of the sink is another important consideration for users with disabilities, especially for those in wheelchairs. When meeting ADA guidelines, installed sinks must be no deeper than 6 1/2".



Clear floor space required for sinks is the same as for lavatories: a minimum of 30" by 48" and must extend 19" underneath the sink.

6 1/2 inches

**What is the maximum depth allowed for sinks that must meet ADA guidelines?**

In this next section, we will look at bathtub installations which meet ADA guidelines. Key components to consider with bathtubs are:

- seats
- grab bars
- controls and faucets
- shower units
- enclosures
- clear floor space

We will discuss controls and faucets in the section on faucets and accessories.

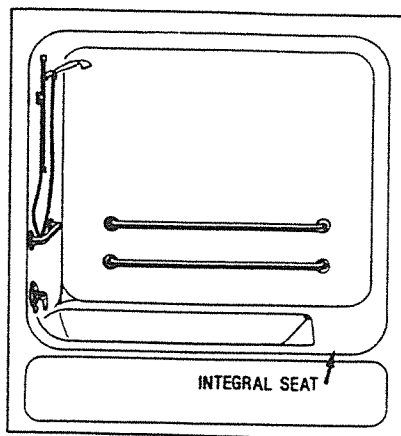
Because safety is a concern for the bather, bathtubs must have an in-tub seat or a seat at the head of the tub. The seat provides a place for the bather to sit while bathing or to help them transfer from a wheelchair to the bathtub.

The seats in bathtubs designed for use by people with handicaps are sometimes called transfer seats or shower seats.

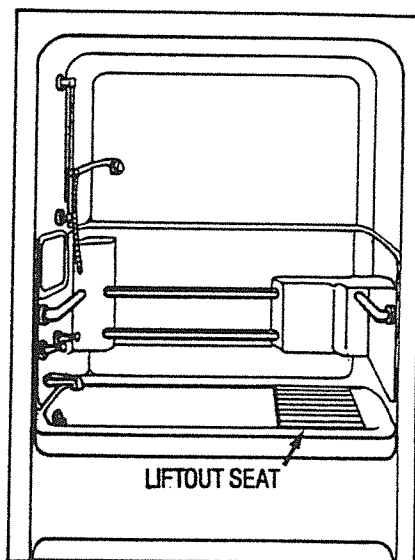
*Transfer seats or shower seats*

**What are seats in bathtubs designed for use by people with handicaps sometimes called?**

Some manufacturers make bathtubs with the seat as an integral part of the bathtub. Recall that integral means it is molded as part of the fixture. Below is an illustration of a bathtub with an integral seat.



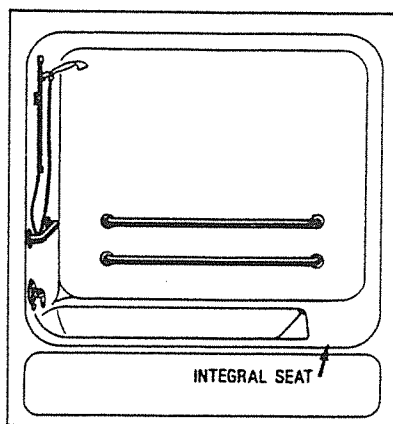
Bathtubs are also available with a lift-out or lift-up transfer seat. When using a liftout or lift-up transfer seat, the guide states that it must be mounted securely, on the opposite side of the controls and must not slip during use. It must structurally withstand a minimum of 250 lb. of force.



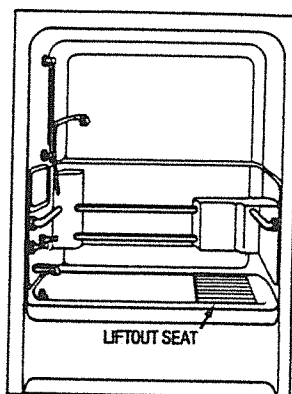
*Integral seat*

**What is the seat called that is molded as part of the bathtub?**

Look at the two bathtub installations again. Notice the number and placement of the grab bars in each type. The bathtub with the integral seat has three grab bars, while the bathtub with the lift-out transfer seat has four.



BATHTUB WITH INTEGRAL SEAT



BATHTUB WITH LIFT-OUT SEAT

As discussed in Frame 15, bathtubs with an integral seat require a minimum of three grab bars and standard bathtubs require a minimum of four grab bars. Therefore, both of these bathtub installations meet ADA guidelines.

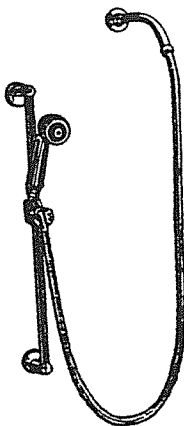
Note the placement of the bars. The high level bar helps to provide support for those transferring into the tub or standing in the tub to shower. The low level bar helps those who prefer to climb down into the tub.

**What type of bathtub requires at least three grab bars to meet ADA requirements?**

*One with a integral seat*

Another requirement for bathtub installations is a shower spray unit. The shower spray must have a hose at least 60" long that can be used both as a fixed showerhead and as a hand-held shower.

Below is one type of shower that may be used to accommodate the bather with a disability. It is called a hand-held personal shower because it allows users to hold the shower in their hand and direct the spray in the desired direction. Notice the shower is mounted using a vertical wall bar or sliding bracket. The bracket is attached to the wall and the personal shower slides onto it.



HAND-HELD PERSONAL SHOWER

60 inch minimum

**What is the length of a shower hose which meets ADA requirements?**

Some bathtub installations will have enclosures. Enclosures are also called shower doors; they are used to prevent water from splashing onto the floor. If the bathtub has an enclosure, it must not obstruct the controls or interfere with the bather's transfer from wheelchair onto bathtub seat or into the tub.

Also, bathtub enclosures must not have tracks mounted on the tub rim.

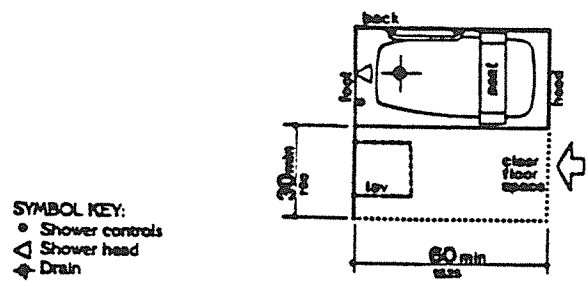
*Obstruct controls;  
Transfer from a  
wheelchair*

**What are two things enclosures must not obstruct or interfere with?**

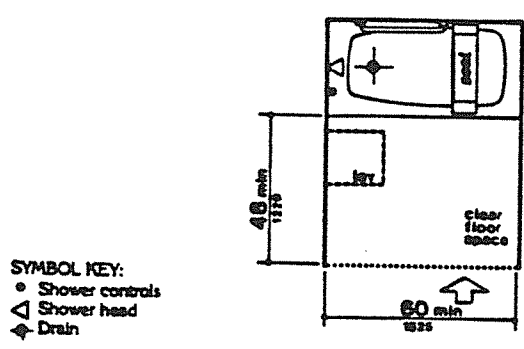


The clear floor space needed for access to a bathtub is determined according to the type of approach to the tub.

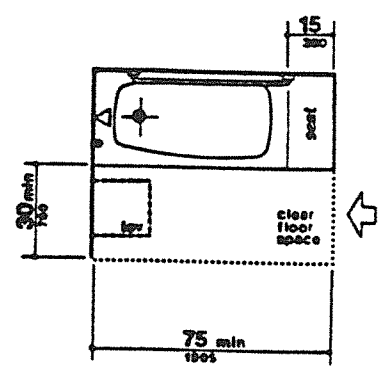
The installation below requires a parallel approach. The minimum clear floor space is 30" x 60".



This tub installation requires a forward approach and its minimum clear floor space is 48" x 60".



The tub below requires a parallel approach and its minimum clear floor space is 30" x 75". Note in this installation, the additional clear floor is needed because of the use of a built-in transfer seat instead of a liftout seat.



*The type of approach to the tub*

**What factor determines the clear floor space required for bathtub installations?**

As with bathtubs, shower stalls for bathers with disabilities must be safe and easy to use. As defined in Unit 4, a shower is an enclosure in which you stand to wash your body by using a spray of water. A shower stall is generally made of a single piece of material such as fiberglass.

ADA specifies minimum size requirements for two types of shower stalls: a conventional square shower enclosure and a shower enclosure to permit a wheelchair to enter the enclosure.

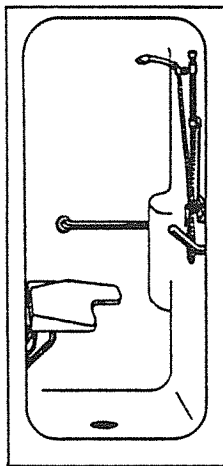
The square shower must be 36" x 36" (I.D.), and the wheelchair shower must be a minimum of 60" x 30" deep (I.D.).

Square= 36" x 36"  
Wheelchair =  
60 x 30"

**What are the minimum dimensions required for a square shower stall and for a wheelchair shower stall?**

The square shower stalls must have a shower seat that extends the full depth of the stall. It must be mounted a minimum of 17 inches to a maximum of 19 inches from the bathroom floor. It must also be on the wall opposite the controls.

Below is an example of one manufacturer's shower stall that meets ADA minimum requirements. Note this model offers a fold-up shower seat mounted on the wall opposite the controls, and is 36"W x 36"D (I.D.)

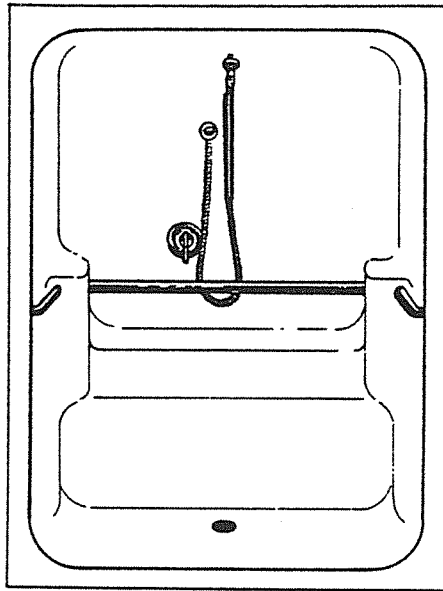


**What is the required mounting height for shower seats in shower stalls?**

Minimum 17"  
Maximum 19"

Here is another example of a shower stall that meets ADA guidelines. This is a wheelchair or roll-in shower.

Remember the ADA guidelines for wheelchair showers is that they must be a minimum of 60"W x 30"D in order to allow enough space to maneuver a wheelchair.

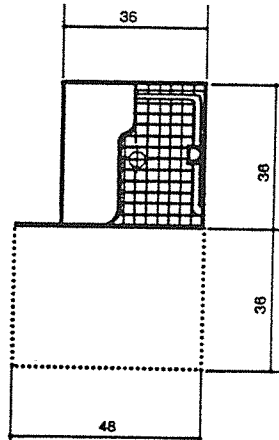


60" x 30"

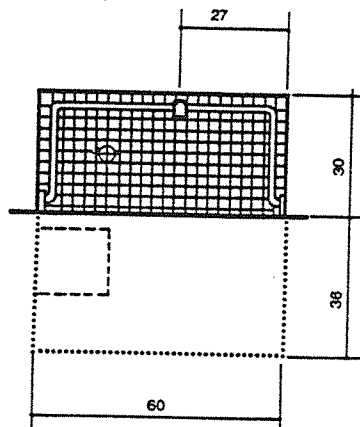
**What is the minimum requirement for the dimensions of a wheelchair shower?**

Like the other fixtures we have discussed, showers require clear floor space for the disabled person in a wheelchair. Here are illustrations showing the minimum clear floor space required for the 36" x 36" shower and for the 60" x 30" wheelchair roll-in shower.

This smaller 36" x 36" stall requires at least 36" x 48" clear floor space as shown here.



The larger 60" x 30" stall requires at least 36" x 60" clear floor space as illustrated below.

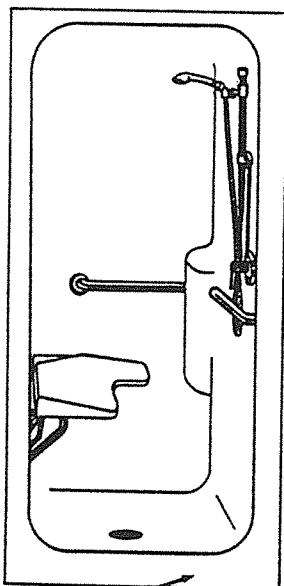


*Small - 36"x36"  
requires 36"x48"  
clear floor space*

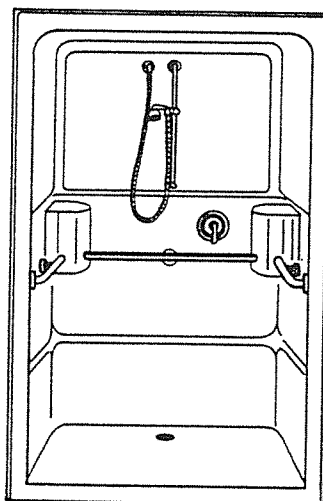
*Large - 60"x30"  
requires 36"x60"  
clear floor space*

**What is the minimum clear floor space required for each of these shower stalls?**

Another specification you should know about is curb height for shower stalls. The curb is the raised part of the shower stall entrance that prevents water from flowing out of the shower onto the floor. Some manufacturers call the curb a dam or threshold.



Curb



If provided, curbs in shower stalls 36" x 36" must be no higher than 1/2". Roll-in (wheelchair) showers that are 30" x 60" must not have curbs.

To control the flow of water, the floor of the shower stall is sloped towards the drain.

*Curb, threshold or dam*

**What is the name for the raised part of the shower stall entrance that prevents water from flowing out of the shower onto the floor?**

Directions: Fill in the blanks with the word or words which best complete each statement.

1. The space a wheelchair user needs to use the lavatory comfortably is called \_\_\_\_\_.
2. The minimum number of inches required for knee clearance at a lavatory is \_\_\_\_\_.
3. Lavatories must be mounted with the rim or counter surface no higher than \_\_\_\_\_ above the finished floor.
4. People in wheelchairs need clear floor space in front of a lavatory to allow \_\_\_\_\_.
5. A place for the bather to sit while bathing or to help them transfer from a wheelchair to the bathtub is called a \_\_\_\_\_.
6. Bathtubs with a lift-out transfer seat requires four \_\_\_\_\_.
7. Shower sprays must have a \_\_\_\_\_ at least 60" long that can be used as a \_\_\_\_\_ showerhead and as a hand-held shower.
8. Bathtub enclosures must not have \_\_\_\_\_ mounted on the tub rim.
9. The factor which determines clear floor space at a bathtub is the \_\_\_\_\_.
10. The required size for a square shower stall is \_\_\_\_\_ x \_\_\_\_\_.
11. Shower seats in shower stalls must be mounted a minimum of \_\_\_\_\_ and a maximum of \_\_\_\_\_.
12. A shower stall that accommodates a wheelchair is also called a \_\_\_\_\_ shower.
13. A wheelchair roll-in shower requires at least a 36" x 60" \_\_\_\_\_.
14. Wheelchair showers must not have \_\_\_\_\_.

Compare your responses with the answers provided on page 62.

Next, we will examine the specific types of water closets, urinals and toilets stalls designed for people with disabilities.

Like the other fixtures we have discussed, the ADA objective is that the elderly or people with disabilities will have access to these fixtures and can use them safely. First, we will focus on water closets.

Recall from the Unit 2 on sanitary fixtures, water closet is the industry term for a fixture most commonly called a "toilet". Manufacturers' literature refer to this fixture as a toilet, so we will use the term "toilet" in this section.

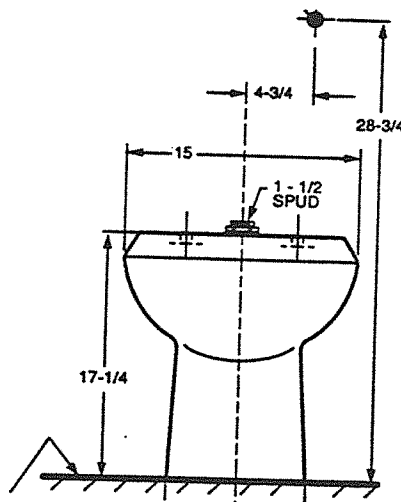
Water closet

What is the industry term for a toilet?

According to ADA guidelines, toilets installed to accommodate people with disabilities must be no lower than 17" and no higher than 19" measured from the finished floor to the top of the toilet seat.

In some facilities, your customer may want to install toilets at both heights to provide comfort for users of varying heights.

The illustration below is a toilet that measures 17 1/4" to the top of the bowl. The seat will add another 1 1/2" to the overall height making it 18 3/4" -- just under the maximum of 19".



What are the minimum and maximum heights for toilets measured to the top of the toilet seat?

17" minimum  
19" maximum

We mentioned in the overview that two grab bars are required for toilet installations and must be installed 33" to 36" high. Another requirement for the grab bar *behind* the toilet is that it must be a minimum of 36" in length.

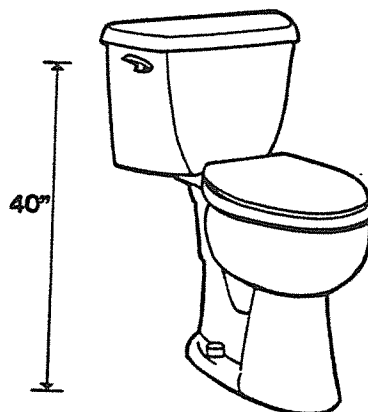
36" minimum

What is the minimum length for the grab bar installed on the back wall of a toilet installation?

Two types of flush controls may be used. The control may be hand operated or it may be an automatic flush control. If hand operated, the flush control must not require more than 5 lbs. of force to operate.

The positioning of the flush control is also very important. Hand operated controls for flush valves must be mounted on the wide side of toilet areas no higher than 44" above the finished floor.

Below is an illustration of a toilet with the flush control on the side of the toilet tank. Notice the flush control measures 40" from the finished floor.



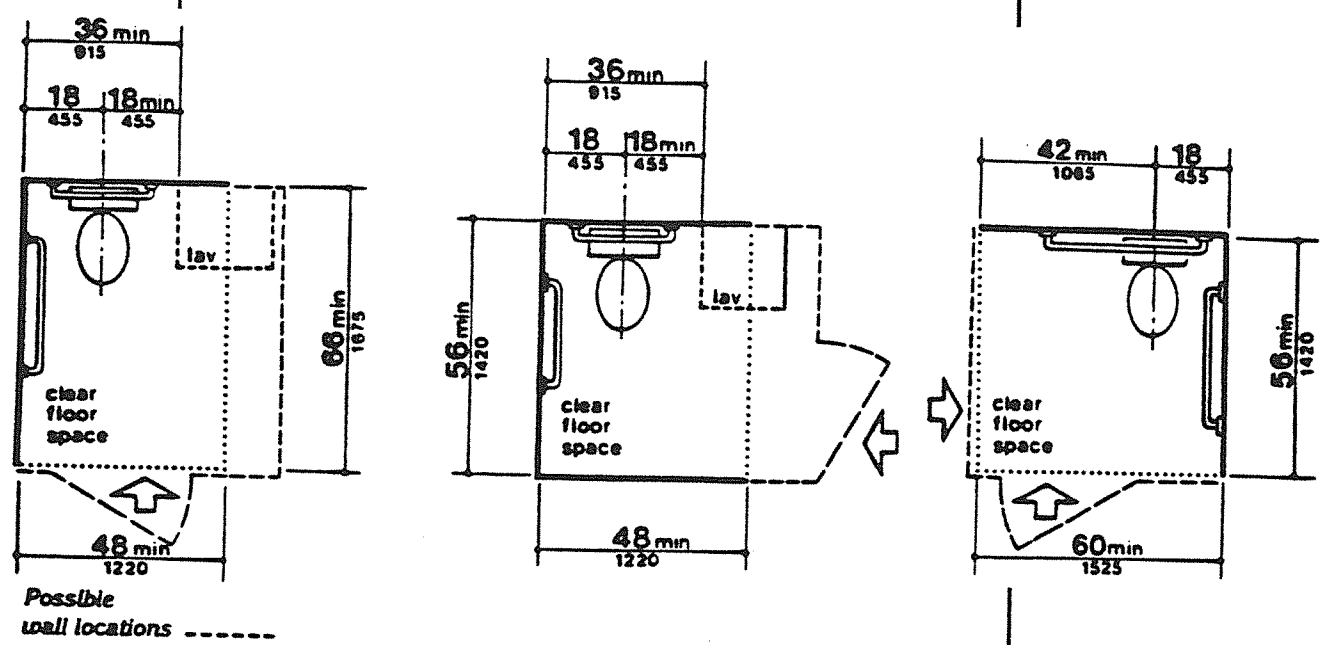
Hand operated or automatic

What two types of flush controls may be used in toilet installations?



People in wheelchairs must have clear floor space to maneuver their wheelchairs and approach the toilet. The approach may be specified as either a left-handed or a right-handed approach.

Below are illustrations of three alternate approaches and the minimum clear floor space needed for each approach to the toilet.



**CLEAR FLOOR SPACE AT WATER CLOSETS**

The illustration on the left is of a left-handed approach with the entrance door opposite the toilet fixture. Minimum clear floor in this layout is 48" x 66".

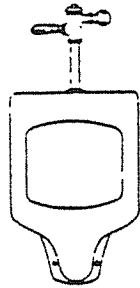
The illustration in the middle is also of a left-handed approach, but the door wall is adjacent to the toilet. Minimum clear floor space required is 48" x 56".

On the right is a right-handed approach and here, the entrance is on the wall opposite the toilet fixture. Minimum clear floor space in this layout is 60" x 56".

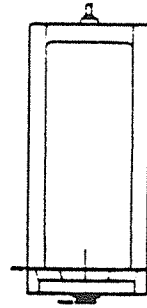
**When providing clear floor space at toilets, what are the two approaches that may be specified?**

*Left-handed or right-handed approach*

Next, we will look at fixtures used in facilities for men called urinals. A urinal is designed to receive and dispose of urine only. The guide specifies wall-hung urinals with an elongated rim or stall-type design.



WALL HUNG

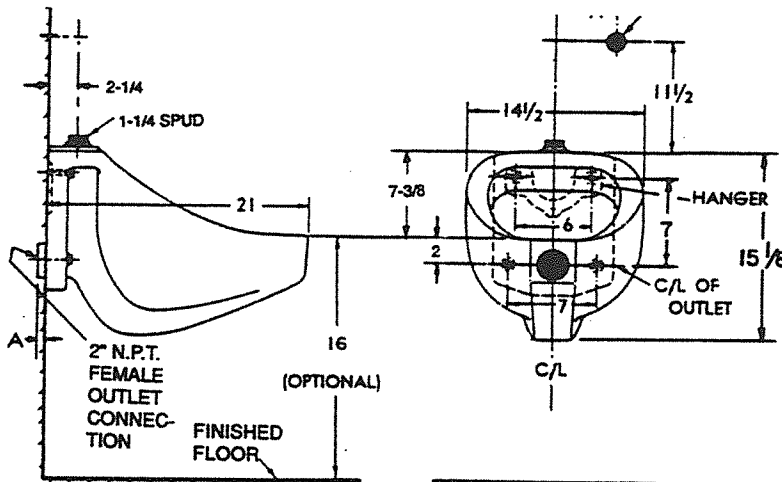


STALL TYPE

What are the types of urinals specified by ADA?

Wall-hung with elongated rim;  
Stall-type

Below is one example of a wall-hung urinal. The maximum height for the rim/lip of a wall-hung urinals is 17" above the finished floor. Like the toilet, flush controls for urinals must be hand operated or automatic. They must also be mounted no more than 44" above the finished floor.



What is the maximum height for wall-hung urinals, measured from the finished floor?

17"

Urinals must have a minimum of 30" x 48" clear floor space in front of the fixture to allow a forward approach.

Facilities often have multiple wall hung urinals installed and will sometimes have privacy shields or screens between each fixture. Privacy shields or screens are partial walls between urinals that allow the user privacy. When used, the shields must not extend beyond the front edge of the urinal rim, and must also have 29" clearance between them.

29 inches

**What is the clearance required for privacy shields used between urinals?**

Stall-type urinals are mounted in the floor and are partially recessed into the floor. Although ADA specifies stall-type urinals as one type which may be used, some areas have codes which prohibit this type of urinal. Consult your local codes for requirements in your area.

Also, refer to ASA's Unit 9 on Commercial Fixtures for additional information regarding stall-type urinals.

If your customers request stall-type urinals, the flush control and clear floor space requirements are the same as those required for wall-hung urinals.

No. They are the same: hand operated or automatic

**Do stall-type urinals have different flush control requirements than wall-hung urinals?**

The next type of sanitary installation we will discuss is one ADA refers to as "toilet stalls". Toilet stalls are simply toilets that have compartments or some other type of wall around them to provide privacy.

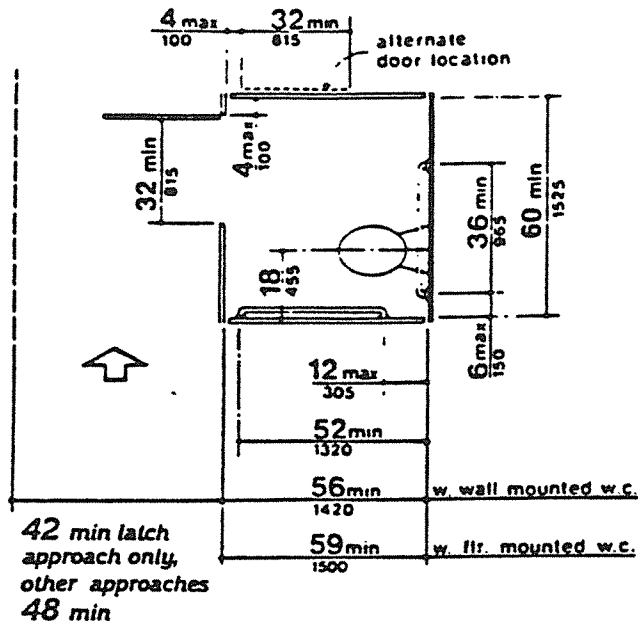
Like other fixtures, some of the stalls in public places must be accessible to people in wheelchairs. ADA provides the guidelines to achieve this goal.

Toilet stalls

**What are toilets called that have compartments or some other type of wall around them for privacy?**

Designing toilet stalls requires knowledge of both local codes and ADA requirements. Because of the many options and variables in toilet stalls such as the size, location of a stall in relation to others in a room, or the approach to the stall itself, we will only look at the requirements that might affect the type of mounting needed for the water closet.

Below is an illustration of a stall that ADA calls a "standard stall".



STANDARD TOILET STALL

Note the dimensions 56 min and 59 min. These numbers indicate the minimum depth of the stall. When the minimum depth of the stall is 56 inches, a wall mounted toilet must be used. If the minimum depth of the stall is 59 inches, then a floor mounted toilet may be used.

You need not know the specifics of all of the possible stall configurations to do your job well. Remember to refer your customers to the ADA for further information relating to toilet stall requirements such as toe clearance, placement of grab-bars, and door latches.

Wall hung toilet

What type of toilet fixture is required when the minimum depth of the toilet stall is 56 inches?

**DIRECTIONS:** Fill in the blanks with the word or words which best complete each statement.

1. The industry term for a fixture most commonly called a toilet is a \_\_\_\_\_.
2. Toilets installed to accommodate disabled users must measure a minimum \_\_\_\_\_ and a maximum \_\_\_\_\_.
3. Flush controls on toilets may be hand operated or \_\_\_\_\_.
4. People in wheelchairs must have \_\_\_\_\_ to maneuver their wheelchair and approach the toilet.
5. Fixtures designed to receive and dispose of urine only are called \_\_\_\_\_.
6. Controls for urinals may be automatic or \_\_\_\_\_.
7. Controls for urinals must be mounted no higher than 44 inches above the \_\_\_\_\_.
8. Urinals mounted in the floor are called \_\_\_\_\_ urinals.
9. Toilets that have compartments or some other type of wall to provide privacy are called \_\_\_\_\_.
10. Toilet stalls require wall hung toilets when the minimum depth of the stall is \_\_\_\_\_.

Compare your responses with the answers given on page 63.

In this section, we will review faucets and controls, accessories, and specialty fixtures that meet ADA guidelines.

As indicated in the overview, faucets and controls complying with ADA guidelines must not require more than 5 lbs. of force to operate.

In general, when ADA uses the term "controls", it is referring to faucets, bathtub valves, flush valves on toilets and urinals or the controls on water fountains. Users must be able to operate any of these controls with one hand and the controls must not need tight grasping, pinching, or twisting of the wrist while operating.

**When ADA uses the term "controls", what is it usually referring to?**

*Faucets, bathtub valves, flush valves, and water fountain controls*

Acceptable lavatory faucets for ADA installations may be any of the following control types:

- lever-operated
- push type
- electronically controlled

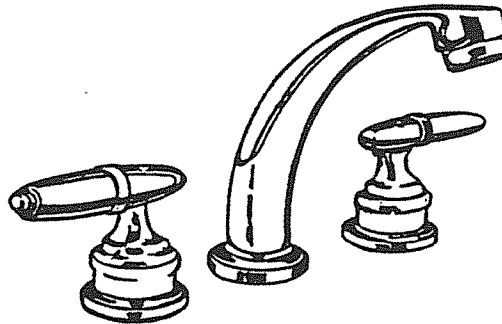
However, if self-closing valves are used, then the faucet must remain open for at least 10 seconds.

Many faucets on the market today meet ADA guidelines. In the next frames, we will look at examples of some of these faucets.

**If self-closing faucets are used, how long must they remain open?**

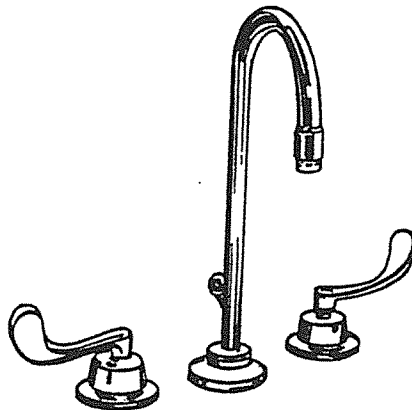
*10 seconds*

Here are two examples of lever type faucet handles. This faucet is a two handled widespread lavatory faucet available with 6" to 16" centers. The manufacturer describes this faucet as a "heavy duty commercial faucet". It would commonly be used in public facilities.



TWO HANDLED WIDESPREAD FAUCET

This faucet is also a two handled widespread type, but comes with a gooseneck spout. You have seen this type before in the unit on faucets and accessories. Gooseneck spouts may be rigid or swing from side to side.



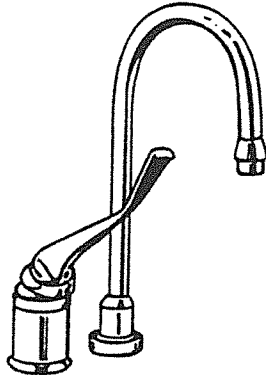
TWO HANDLED WIDESPREAD WITH GOOSENECK SPOUT

Both of these faucets follow ADA guidelines because of their lever type handles.

**What common feature do the two faucets shown above have that meet ADA guidelines?**

*Lever type handles*

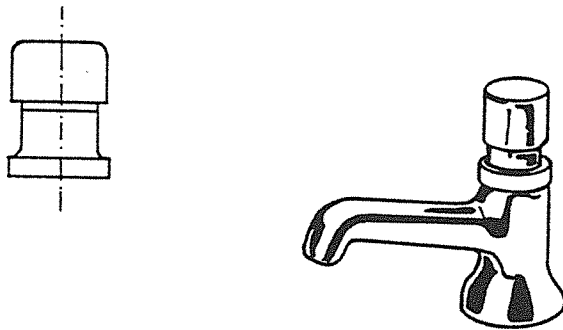
The type of faucet shown below would most commonly be used on a sink for a commercial installation. It is a single handle lever type with a rigid gooseneck spout. An interesting feature of this faucet, the control handle returns to the neutral position when the valve is turned off.



Where would you most commonly find the faucet shown in the above illustration?

*On a sink in a commercial installation*

We mentioned in Frame 50 that the push-type faucet is one acceptable choice for disabled installations. The push-type faucet has a button on top of the faucet itself which when pushed down by the user causes water to flow out of the spout. The illustration below shows a push-type faucet for lavatories.



Which type of faucet has a button on the top which controls the flow of water out of the spout?

*Push -type faucet*



Some push-type faucets may have a flow regulator. A flow regulator, sometimes called a flow control is a device that limits the flow of water under various pressures on the faucet.

Other push-type faucets may have a metering device as part of its construction. A metering device allows the installer to adjust the faucet to discharge a specific amount of water, for example, 1/2 gallon per minute.

The metering action may be adjusted to keep the water flowing for the required minimum of 10 seconds.

Either type of control or device is acceptable provided the water flows for a minimum of 10 seconds and requires no more than 5 lb. of force to operate.

*Flow regulator  
and metering  
device*

**What two types of water controls may be found on push-button faucets?**

The push-button faucet shown in Frame 53 typically delivers either all cold water or all hot water, not blended water.

Your customer might install this faucet in facilities such as airport washrooms or roadside rest stops.

**Does the push-button faucet typically deliver blended water?**

*Nb*

Electronic faucets are another option for installations for people with disabilities

Electronic faucets use an infrared sensor system to activate the water flow when users place their hands under the faucet. The sensor's angle and range is set to a specified range to avoid triggering by non-users.

The sensor system, electronic control circuit and solenoid are housed within the faucet body.

**How do users activate the water flow with an electronic faucet?**

*By placing their hands under the faucet*

Some manufacturers offer electronic faucets with a choice of spouts; a common horizontal spout or a gooseneck spout. They also offer a choice of single hole mounting or 4" centers. Many are single supply.

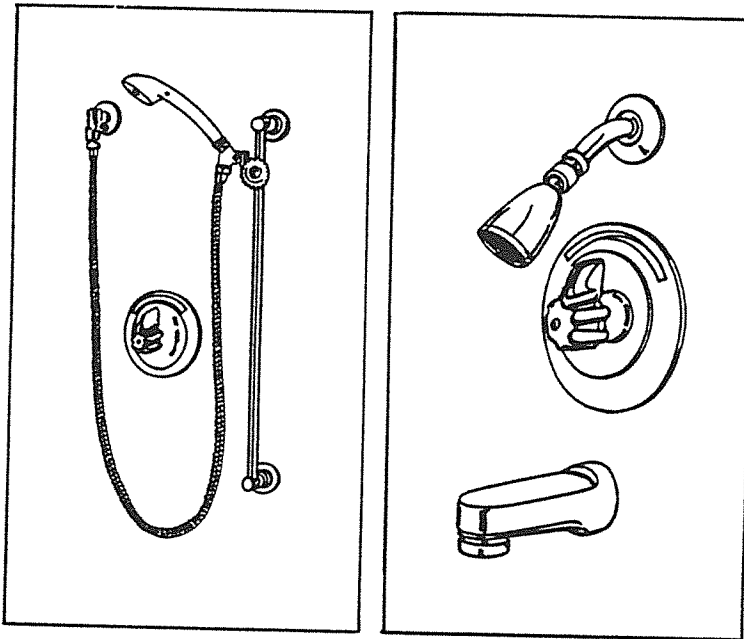
Some manufacturers offer a thermostatic mixing valve for electronic faucets. The thermostatic mixing valve blends and maintains the water at a pre-set temperature, usually no more than 110 degrees Fahrenheit.

**What are two choices of spouts used with electronic faucets?**

*Horizontal or gooseneck*

Recall that all controls, including bath tub and shower controls must require no more than 5 lb. of force to operate. Recall also that bath tub installations must have a shower unit that can be used both as a hand-held shower and as a fixed shower. We will treat these faucets as one.

Manufacturers offer several types of bath tub and shower valves, but most have some variation of the lever handle. You will find both two-handle and single handle faucets, but the single handle is commonly used in commercial installations.



The illustration on the right shows a single lever handle valve with a showerhead that can be used as both a hand-held and fixed shower. The showerhead attaches to the slide bar or bracket for easy adjustment by the user.

The illustration on the left shows the same single lever handle, but with a fixed showerhead and tub spout. The fixed shower may be used only in un-monitored facilities where vandalism is an issue. Again, local codes may have specific requirements for this type of installation.

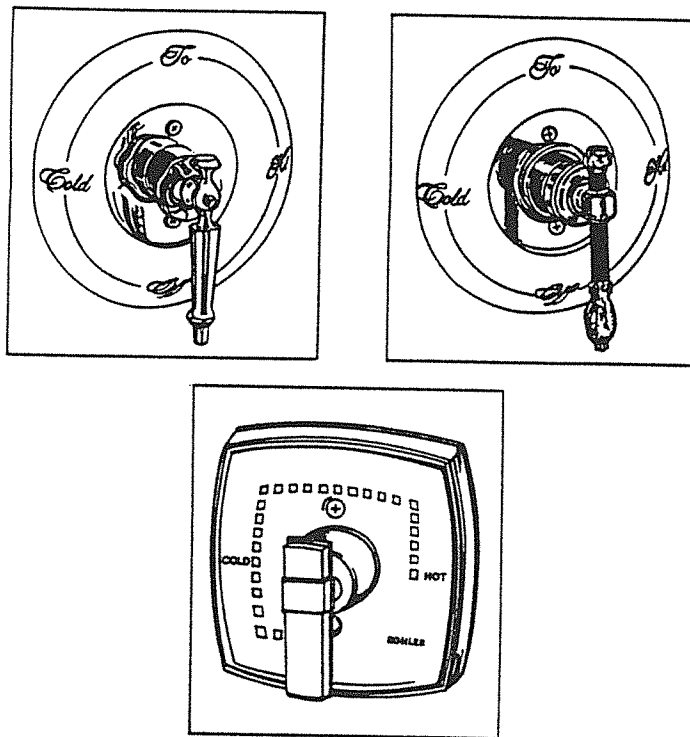
**What is the most common type of handle used for bath tub and shower controls?**

*A variation of the lever handle*

Some areas require pressure balancing faucets and valves in all remodeling and new construction projects. These requirements are in addition to the ADA guidelines. Pressure balanced faucets maintain a constant balance of hot and cold water.

Manufacturers offer a variety of features with their pressure balanced faucets. Some offer the ability to adjust the water temperature to suit individual preferences; others will automatically shut off if the cold water pressure is completely lost.

Review your supplier's literature to determine the features their pressure balance faucets might offer.

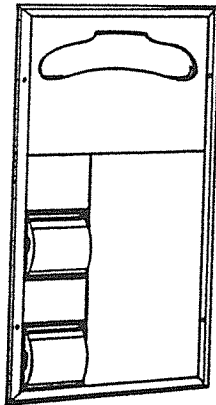


The illustration above shows a pressure balance faucet with several styles of lever handles to choose from.

**What does a pressure balanced faucet do?**

*Maintains a constant balance of hot and cold water*

Two common accessories found in washrooms and toilet facilities are toilet tissue dispensers and toilet seat cover dispensers. (A dispenser is a container that feeds out a product in convenient amounts.) You may find these items as separate dispensers or as combination dispensers.



**What are two common dispensers found in washrooms and toilet facilities?**

*Toilet tissue dispenser and toilet seat cover dispenser*

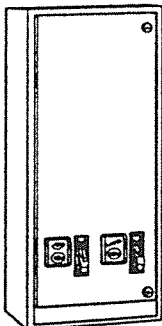
ADA gives us two guidelines for toilet tissue dispensers:

- They must be mounted a minimum of 19 inches from the floor.
- They must not control delivery of the toilet tissue. (In other words, they must allow a continuous paper flow)

**What are two requirements for toilet tissue dispensers?**

*Mounted a minimum of 19" from the floor.  
Allow a continuous paper flow.*

In addition to the toilet tissue and toilet seat cover combination dispensers, you may find these combined with other types of receptacles. The two most common are an ashtray and sanitary napkin disposal.



Dispensers and receptacles are generally recessed in walls or mounted flush against a partition in compartments to allow clearance for the grab bar.

Study manufacturers' literature to become familiar with the various types of dispensers that comply with ADA.

*Recessed in walls;  
mounted flush  
against a partition*

**What are two ways toilet tissue and toilet seat cover dispensers are mounted to allow clearance for grab bars?**

The types of dispensers and receptacles we have discussed so far are accessories for toilet compartments. Additional types of dispensers and receptacles used in washrooms and toilet facilities include paper towel dispensers, paper cup dispensers, and waste receptacles.

Again, these dispensers and receptacles are available as individual dispensers and separate waste receptacles or in some combination of the three.

If there are controls on the dispensers, they must not require more than 5 lb. of force to operate. They must also be mounted within reach of people in wheelchairs. Recall from the overview that the approach and whether its a forward or side reach will determine the height for installation.

**What are two ADA guidelines related to dispensers?**

*No more than 5 lb.  
of force to operate;  
must be within the  
reach of people in  
wheelchairs*

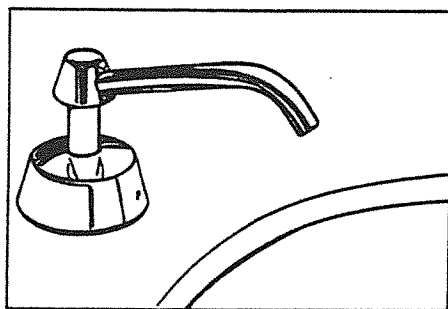
Another type of dispenser accessory that may sometimes be found in washrooms is the vendor dispenser. The vendor dispenser generally requires a coin or coins to cause the dispenser to release the product.

Two common vendor dispensers are sanitary napkin-tampon dispensers and condom dispensers. Like other dispensers in facilities for people with disabilities, they must also be within reach of people in wheelchairs.

**What are two vendor dispensers found in facilities for the disabled?**

*Sanitary napkin-tampon dispensers;  
condom dispensers*

One of the most common accessories found in all types of installations is the soap dispenser. The soap dispenser shown below may be mounted on a lavatory or counter top and it satisfies ADA guidelines because the valve operates with less than 5 lb. of force. Children and the elderly also find this type of dispenser easy to use.



Consult your manufacturer's literature for other soap dispensers that operate with no more than 5 lb. of force.

**How does this dispenser satisfy ADA guidelines?**

*The valve operates with less than 5 lb. of force*

Some of your customers may be interested in drinking fountains or water coolers that comply with ADA guidelines. A drinking fountain is a fixture with a nozzle or spout that delivers a stream of water for drinking. The water may or may not be refrigerated.

A water cooler is a device or fixture for dispensing refrigerated drinking water.

*Drinking fountain*

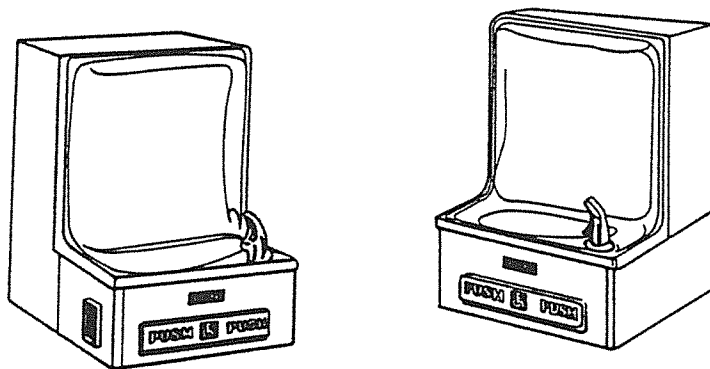
**What is a fixture called that has a spout or nozzle that delivers a stream of water for drinking?**

For both drinking fountains and water coolers, key factors covered by ADA are:

- Spout height and controls
- Spout location
- Clearance and clear floor space

Spouts for both fountains and coolers must be no higher than 36" measuring from the floor or ground surfaces (for outside installations) to the spout outlet.

Controls for the fixtures must require no more than 5 lb. of force to operate. The controls must also be mounted on the front or on the side near the front edge as shown below.



**What is the maximum height for the spouts on both drinking fountains and water coolers?**

*36 inches*



Spouts of drinking fountains and water coolers must be at the front of the fixture; and, the spouts must direct the water flow in a path that is parallel or nearly parallel to the front of the fixture.

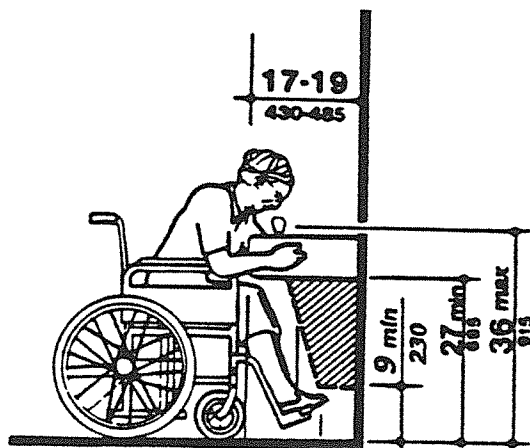
However, if the drinking fountain has a round or oval bowl the spout must be positioned so the stream of water is within 3" of the front edge of the bowl.

Further, the spouts must provide a flow of water at least 4" high so the user can insert a cup or glass under the flow of water.

*At the front of the fixture*

**Where must spouts of drinking fountains and water coolers be located?**

If water coolers or drinking fountains are post or wall mounted they must have a clear knee space between the bottom of the apron and the floor or ground at least 27 inches high, 30 inches wide, and 17 to 19 inches deep.



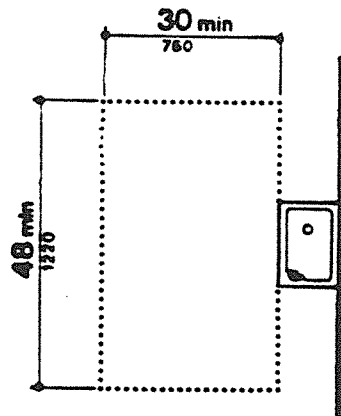
In addition, these fixtures must have a minimum clear floor space of 30" by 48" to allow wheelchair bound persons to approach the fixture facing forward.

**What are the clearance requirements for post or wall mounted fountains and coolers?**

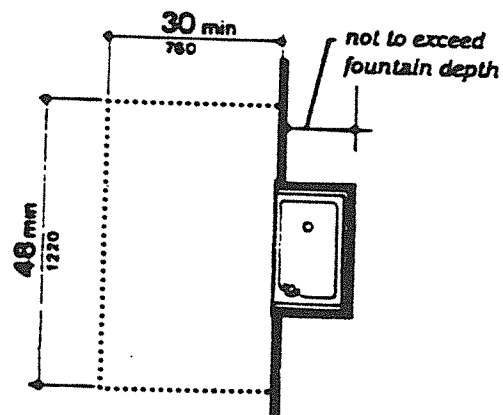
*From apron to floor- 27 inches  
30 inches wide,  
and 17-19 inches  
deep*

Some water coolers and drinking fountains such as free-standing or built-in fixtures do not have usable clear space under them. This type of installation must have a clear floor space at least 30" by 48" that allows a person in a wheelchair to make a parallel approach to the fixture.

These illustrations show the clear floor space in relation to the type of fixture.



FREE STANDING



BUILT-IN

Minimum 30"x 48"

What is the minimum clear floor space required for built-in or free-standing water coolers and drinking fountains?

**DIRECTIONS:** In the space on the left, write the term that best fits the following definitions.

- \_\_\_\_\_ 1. Item users must be able to operate with one hand and must not require grasping, pinching, or twisting of the wrist to use.
- \_\_\_\_\_ 2. A faucet which must remain open for 10 seconds.
- \_\_\_\_\_ 3. A faucet that requires the user to press a button on top in order to activate the water flow.
- \_\_\_\_\_ 4. A device that limits the flow of water under various pressures.
- \_\_\_\_\_ 5. A faucet that uses an infrared sensor system to activate the water flow.
- \_\_\_\_\_ 6. A valve which blends and maintains the water at a pre-set temperature.
- \_\_\_\_\_ 7. Faucets that maintain a constant balance of hot and cold water.
- \_\_\_\_\_ 8. Accessory commonly found in washrooms that feeds out products in convenient amounts.
- \_\_\_\_\_ 9. This accessory must be mounted a minimum of 19 inches from the floor and must not control delivery of the product
- \_\_\_\_\_ 10. This accessory generally requires a coin to cause the dispenser to release the product.
- \_\_\_\_\_ 11. A fixture with a nozzle or spout that delivers a stream of water for drinking.
- \_\_\_\_\_ 12. A fixture for dispensing refrigerated drinking water.
- \_\_\_\_\_ 13. Part of drinking fountains and water coolers that must be at the front of the fixture.

Compare your responses with the answers given on page 63.

In previous sections, most of the fixtures and accessories we looked at are used in places of public accommodation. However, you may have customers who care for an elderly person or a person with a disability in their private homes; or perhaps a customer who is disabled or elderly but wishes to remain independent. This section is about fixtures and accessories that might be useful for this purpose.

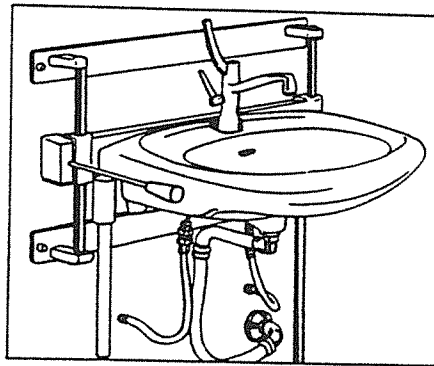
No doubt you have several stylish lavatories your customers might choose if they need wheelchair access. The important factors to consider when choosing a lavatory are:

- mounting height
- exposed pipes and drain that might cause injuries
- knee and toe clearance

**What are three factors to consider for lavatories when wheelchair access is needed?**

*Mounting height, exposed pipes and drain that might cause injuries, and knee and toe clearance*

One manufacturer offers a height adjustable lavatory in which the bowl may be raised or lowered to suit the user's height. This bowl can be adjusted from the height of a child to an adult to a user in a wheelchair.



The adjustable lavatory operates with a gas cylinder or an electric motor. The basin moves up or down on vertical bars attached to the wall within a range of approximately 12 inches. A long lever on the side makes it easy for a variety of users to adjust the basin to their most comfortable height.

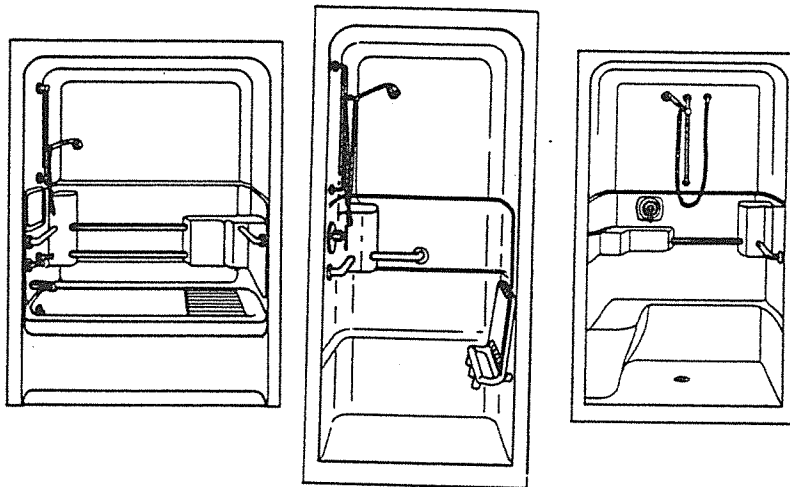
**What kind of mechanism makes the lavatory operate?**

*A gas cylinder or an electric motor*

Bathing is especially dangerous for elderly people and those with disabilities. Manufacturers have responded to their needs and offer fixtures that provide greater safety features and comfort without looking institutional.

Grab bars are the most critical safety feature for bath tubs and showers. Seats or transfer areas also offer additional safety and comfort.

Here are illustrations of some of the choices your customer has for bathing fixtures. The illustration below on the left is of a tub and shower combination. Note the four grab bars and where they are placed to aid the bather. This fixture also has a lift out transfer seat. You should look for the same safety features in seats for private use as for public use. Recall that the seat should fit tight so it doesn't move while the bather is transferring to the tub or while sitting on it. Also, look for strength of the seat.



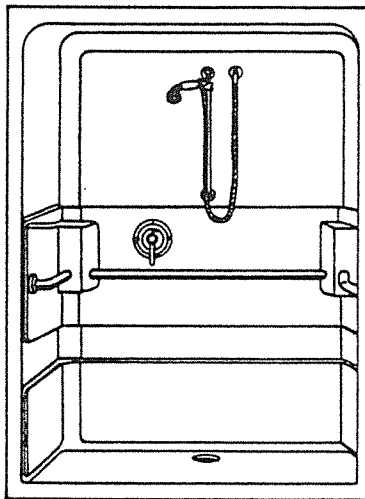
Above in the center and on the right are showers that offer safety and comfort. The shower in the center has a nylon fold-up seat; the shower on the right has an integral seat. Each has built in grab bars for safety.

*Grab bars*

**What is the most critical safety feature for bath tubs and showers?**

Below is an illustration of a wheelchair shower. Users can roll their wheelchair into this shower because it is constructed with a low threshold. The shower has grab bars in nylon and a slip resistant bottom for added safety.

There are other showers that allow wheelchair accessibility. Review your suppliers' materials to learn who might offer wheelchair showers.

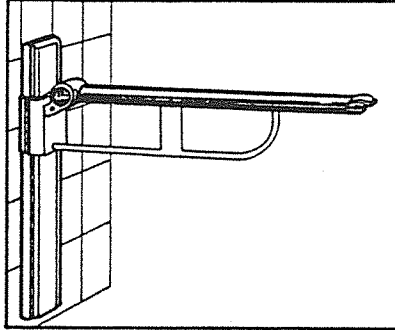


*It has a low threshold that allows a wheelchair to roll into the shower*

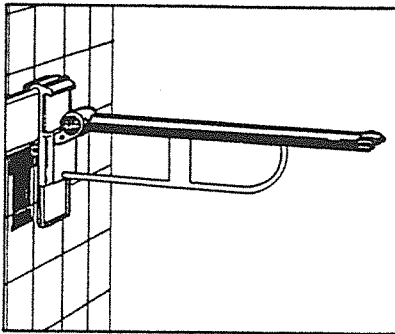
**How is the construction of a wheelchair accessible shower different from most showers?**

Next, we will examine safety supports designed a little different than grab bars. Below is a support arm that folds against the wall when not in use and automatically locks in this position.

When the support arm is mounted on a vertical track, the height may be adjusted.



If it is mounted on a horizontal track, the arm adjusts laterally. For added safety, a locking device keeps the support in the set position.



Your customer might choose to use this type of support system at a toilet fixture or bath tub to aid in transferring a person from a wheelchair to the fixture.

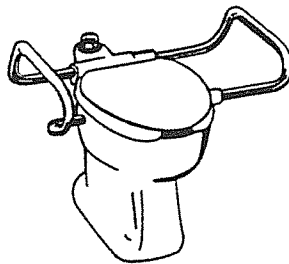
As with grab bars, these support arms must structurally withstand 250 lb. of force. In some installations, walls will need to be reinforced in order to give additional support to meet this structural requirement.

*Locking device to keep the arm in the set position*

**What is the added safety feature used with this type of support system?**

The illustration below shows an example of another support system designed specifically for toilets. The hand rails are combined with a toilet seat that is mounted on the toilet bowl.

Safety features offered with this system are stainless steel mounting hinge posts with special torque nuts to prevent loosening, and the seat has "check bumpers" to help prevent the seat from shifting during transfer.

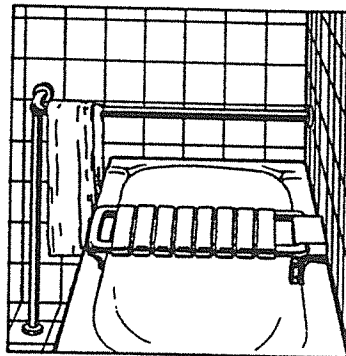


Toilets in some bathrooms may not have walls close by to install grab bars or other wall mounted support systems. So, this type of system offers another alternative for your customers.

*On the toilet bowl*

**How is the system shown in the illustration mounted?**

Here is yet another type of support system for the tub area. It is called a wall and floor mounted support rail. It mounts with one or two rails attached to the floor for support. The horizontal rail is attached to the wall.



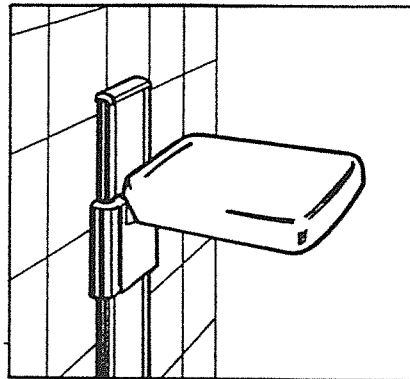
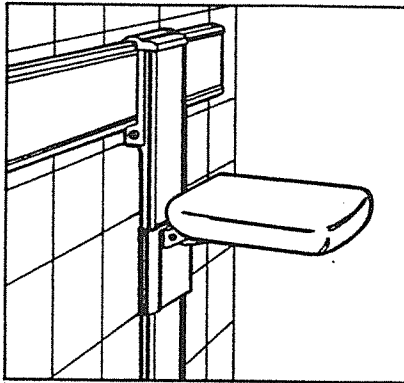
*The tub area*

**Where would you use the support system illustrated above?**



The elderly and people with disabilities often need a safe and comfortable place to sit and rest. The seat illustrated below is multi-purpose. In the shower, on a staircase or in a small kitchen are some of the places it may be used.

The seat mounts on a vertical or horizontal track, folds up out of the way, and has a locking device to keep it in the set position.



Always look for the safety features suggested by ADA such as not slipping during use and ability to withstand 250 lbs. of dead weight. Although compliance is not an issue in private homes, these are good safety guidelines to look for.

*Kitchen, staircase*

**Where might this seat be used other than in the shower?**

There is also a folding seat designed specifically for the shower. It mounts on a wall and comes with or without front leg support. Users may choose from four types of seats:

- upholstered seat with a hole for intimate washing
- upholstered seat with small water outlet holes
- rigid seat with hole for intimate washing
- rigid seat without a hole

Most people prefer to attend to their personal hygiene themselves, but safety is also important to the elderly or people with disabilities. A chair seat like one of these might allow the user to care for their personal needs and feel safe in the bathroom.

*Attend to their personal hygiene themselves*

**What might the seat with a hole in it allow a disabled or elderly person do for themselves?**

Accessories illustrated in this section are but a sampling of the aids available to help the disabled and elderly lead independent lives at home. No doubt, increased awareness will generate more products in the future. Study manufacturers' literature to stay up-to-date about products designed for assisted living.

*Nb*

**Are the accessories illustrated in this section the only aids available to the disabled and elderly for private homes?**

It is important that you know the sections of the ADA we referred to in this Unit are only part of the Act. Always refer customers to the ADA guidelines when questions arise about compliance.

Become familiar with your local codes. These codes are important whether your customer is looking for fixtures and accessories for public accommodations or for a private home.

**DIRECTIONS:** In the space on the left, label each of the following statements "True" or "False".

- \_\_\_\_\_ 1. A height adjustable lavatory operates to adjust within a 12" range.
- \_\_\_\_\_ 2. Grab bars are the most critical safety features for bath tubs and showers.
- \_\_\_\_\_ 3. A wheelchair shower does not need grab bars because the user does not get out of the wheelchair.
- \_\_\_\_\_ 4. Some support systems have arms that fold up when not in use.
- \_\_\_\_\_ 5. There are no supports systems for toilets that do not have walls close by to install grab bars.
- \_\_\_\_\_ 6. Compliance with ADA guidelines is an issue in private homes.
- \_\_\_\_\_ 7. Local codes are important for both public places and private homes.

Compare your responses with the answers given on page 64.

## REVIEW ANSWERS

### Overview of ADA, page 18

- |     |       |                        |
|-----|-------|------------------------|
| 1.  | TRUE  | <i>See Frame 1</i>     |
| 2.  | FALSE | <i>See Frame 3</i>     |
| 3.  | TRUE  | <i>See Frame 4</i>     |
| 4.  | TRUE  | <i>See Frame 7</i>     |
| 5.  | FALSE | <i>See Frame 8</i>     |
| 6.  | TRUE  | <i>See Frame 9</i>     |
| 7.  | FALSE | <i>See Frame 10</i>    |
| 8.  | TRUE  | <i>See Frame 16-17</i> |
| 9.  | TRUE  | <i>See Frame 17</i>    |
| 10. | FALSE | <i>See Frame 13</i>    |
| 11. | FALSE | <i>See Frame 14</i>    |
| 12. | FALSE | <i>See Frame 15</i>    |
| 13. | TRUE  | <i>See Frame 16</i>    |
| 14. | FALSE | <i>See Frame 15</i>    |

### Lavatories, Sinks, Bathtubs and Showers, page 32

- |     |                   |                        |
|-----|-------------------|------------------------|
| 1.  | clearance         | <i>See Frame 18</i>    |
| 2.  | 8"                | <i>See Frame 19</i>    |
| 3.  | 34"               | <i>See Frame 20-21</i> |
| 4.  | forward approach  | <i>See Frame 23</i>    |
| 5.  | seat              | <i>See Frame 27</i>    |
| 6.  | grab bars         | <i>See Frame 29</i>    |
| 7.  | hose, fixed       | <i>See Frame 30</i>    |
| 8.  | tracks            | <i>See Frame 31</i>    |
| 9.  | approach          | <i>See Frame 32</i>    |
| 10. | 36" x 36"         | <i>See Frame 34</i>    |
| 11. | 17", 19"          | <i>See Frame 34</i>    |
| 12. | roll-in           | <i>See Frame 36</i>    |
| 13. | clear floor space | <i>See Frame 36</i>    |
| 14. | curbs             | <i>See Frame 37</i>    |

## **Water Closets, Urinals, and Toilet Stalls, page 39**

1. water closet *See Frame 38*
2. 17", 19" *See Frame 39*
3. automatic *See Frame 41*
4. clear floor space *See Frame 42*
5. urinals *See Frame 43*
6. hand-operated *See Frame 44*
7. the finished floor *See Frame 44*
8. stall-type *See Frame 46*
9. toilet stalls *See Frame 47*
10. 56" minimum depth *See Frame 48*

## **Faucet, Accessories and Specialty Fixtures, page 53**

1. controls *See Frame 49*
2. self-closing valve or faucet *See Frame 54*
3. push-type faucet *See Frame 53*
4. flow regulator or flow control *See Frame 54*
5. electronic faucets *See Frame 56*
6. thermostatic mixing valve *See Frame 57*
7. pressure balanced *See Frame 59*
8. dispensers *See Frame 60*
9. toilet tissue dispenser *See Frame 61*
10. vendor dispenser *See Frame 64*
11. drinking fountain *See Frame 66*
12. water cooler *See Frame 66*
13. spout *See Frame 67-69*

**Fixtures and Accessories for Private Homes, page 61**

1. FALSE *See Frame 72*
2. TRUE *See Frame 73*
3. FALSE *See Frame 74*
4. TRUE *See Frame 75*
5. FALSE *See Frame 76*
6. FALSE *See Frame 78*
7. TRUE *See Frame 81*

## GLOSSARY

**ADA** See AMERICANS WITH DISABILITIES ACT

**Americans With Disabilities Act** Federal regulation which prohibits discrimination against disabled persons in employment, transportation, public accommodations, activities of State and local government, and telecommunications.

**anchor plate** a device, usually made of steel, used to hold an object firmly in place

**clear floor space** area of floor space needed to maneuver a wheelchair and approach a fixture (*also called clearance*)

**clearance** refers to the space a wheelchair user needs to use a plumbing fixture comfortably (*also called clear floor space*)

**commercial facilities** see PRIVATE ENTITIES

**controls** term used by ADA when referring to faucets, flush valves, bath tub valves, and controls on water fountains

**curb** raised part of the shower stall entrance that prevents water from flowing out of the shower (*also called a dam or threshold*)

**dam** see CURB

**dispenser** container that feeds products out in convenient amounts

**drinking fountain** fixture with a nozzle or spout that delivers a stream of water for drinking. The water may or may not be refrigerated.

**electronic faucet** uses an infrared sensor system to activate the water flow when users place their hands under the faucet

**enclosures** door used to prevent water from splashing onto the floor (*also called a shower door*)

**flow control** see FLOW REGULATOR

**flow regulator** device that limits the flow of water under various pressures. (*also called a flow control*)

**grab bars** accessories installed around toilets, bath tubs, and showers to provide support and balance for a disabled user

**hand-held personal shower** allows users to hold the shower in their hand and direct the spray in the desired direction

**height adjustable lavatory** toilet bowl that may be raised or lowered to suit the user's height, and operates with a gas cylinder or electric motor

**"if then"** the specification applies only when the conditions described are present

**integral** molded as part of the fixture

**"may"** denotes an option or alternative may be used

**metering device** used to adjust the faucet to discharge a specific amount of water-for example, 1/2 gallon per minute

**"must"** used in this unit to replace "shall"

**pressure balanced faucet** maintains a constant balance of hot and cold water

**privacy shield** screens or walls used between urinals to provide privacy

**private entities** distinction made by the ADA for facilities(not publicly owned) available to and used by the public that must comply with the ADA. *(also called commercial facilities)*

**private residence** not generally covered by ADA. An exception is if a portion of the home is used as a place of public accommodation

**public accommodations** distinction made by the ADA for facilities available to and used by the public that must comply with the ADA

**push-type faucet** faucet which has a button on top when pushed down by the user causes water to flow out of the spout

**reach ranges** the heights at which accessories and fixtures must be installed so they are within reach of a person in a wheelchair

**roll-in shower** another name for a shower large enough to allow a wheelchair to enter the stall

**safety support** accessory similar to a grab bar, but may be adjustable or fold up when not in use

**seat** accessory that provides a place for the bather to sit while bathing or to help them transfer from a wheelchair to the bath tub *(also called shower seats and transfer seats)*

**"shall"** denotes a mandatory specification or requirement

**"should"** advisory specification or recommendation

**shower stall** a shower generally made of a single piece of material

**shower seat** see SEAT

**shower** enclosure in which you stand to wash your body using a spray of water

**stall-type urinal** urinal mounted in the floor and partially recessed into the floor

**the Guide** term used when referring to the ADA

**the Act** term used when referring to the ADA

**thermostatic mixing valve** blends and maintains the water at a pre-set temperature

**threshold** see CURB



**toilet stalls** toilets that have compartments or some other type of wall around them to provide privacy

**transfer seat** see SEAT

**urinal** fixture designed to receive and dispose of urine only

**vendor dispenser** dispenser that generally requires a coin to cause the release of product

**wall-hung urinal** urinal mounted on the wall

**water cooler** device or fixture for dispensing refrigerated drinking water

**water closet** sanitary fixture most commonly called a toilet, commode, pot or crapper

**wheelchair shower** see ROLL-IN SHOWER

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