FAIR HOUSING ACCESSIBILITY FIRST

Fair Housing Instruction, Resources, Support, Technical Guidance

(888) 341-7781 (V/TTY) - Technical Guidance
www.FairHousingFIRST.org

Homes & Communities
U.S. Department of Housing and Urban Development

EQUAL HOUSING OPPORTUNITY

Requirement 5: Controls in Accessible Locations

Participant Workbook

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Introduction

The Fair Housing Accessibility FIRST program is an initiative designed to promote compliance with the Fair Housing Act design and construction requirements. The program offers comprehensive and detailed instruction programs, useful online web resources, and a toll-free information line for technical guidance and support. This training is part of that program.

Purpose

The purpose of the Fair Housing Accessibility FIRST program is to offer training and technical guidance on accessibility requirements of the Fair Housing Act (FHA) and to increase the supply of accessible multifamily housing units nationwide. The program provides training and guidance to architects, builders, code officials, and others in the housing industry with the accessibility requirements for designing and constructing dwelling units covered by the FHA.

Technical Guidance

The Fair Housing Accessibility FIRST program provides the Design and Construction Resource Center (DCRC), which is staffed Monday through Friday from 8:00 AM to 5:30 PM eastern. You can reach the DCRC:

- Toll-free at 888-341-7781
- By emailing FairHousingFirst@hud.gov
- Subscribe via the website for updates from the Fair Housing Accessibility First program

Additional Training Events

You can register for events on the website by going to:

https://www.hud.gov/program_offices/fair_housing_equal_opp/accessibility_first_training_calendar

Please note that both a morning and an afternoon session are offered to accommodate scheduling. Training sessions will be posted as they become available.

Learning Objectives

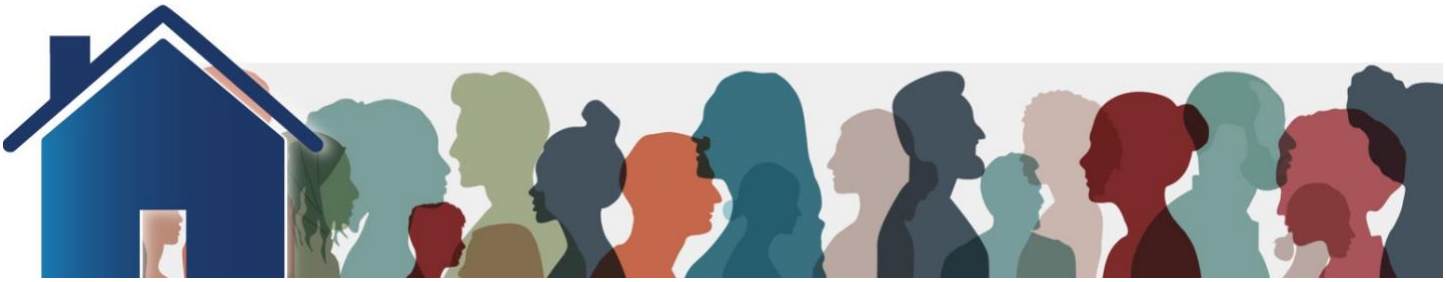
This training will help you to understand the technical guidance and protections provided by the Fair Housing Act (FHA), Requirement 5.

During this training, we will cover the following topics:

- Topic 1: FHA Overview and Requirement 5
- Topic 2: Controls and Outlets Subject to the Requirements of the Guidelines
- Topic 3: Accessible Locations
- Topic 4: Design Guidance for Forward Reach with No Obstruction
- Topic 5: Design Guidance for Forward Reach Over an Obstruction
- Topic 6: Design Guidance for Side Reach Over an Obstruction
- Topic 7: Mounting Locations for Outlets
- Topic 8: Strategies, Tips, and Resources for Requirement 5
- Topic 9: International Code Council Building Codes
- Topic 10: Accessible Controls and New Technology

This training relies on the provisions of the Fair Housing Act and its regulations, the Accessibility Guidelines and the Supplemental Questions and Answers, American National Standards Institute, or ANSI A117.1 (1986), and the Design Manual for the guidance that it provides about compliance with the technical design and construction requirements in the Act.

Topic 1: FHA Overview and Requirement 5



Over 50 years ago, Congress enacted the landmark Fair Housing Act of 1968, which outlawed private and public discrimination in housing for the first time. The Fair Housing Act protects people from discrimination when renting or buying a home, getting a mortgage, seeking housing assistance, or engaging in other housing-related activities.

The broad objective of the Fair Housing Act is to prohibit discrimination in housing because of a person's race, color, national origin, religion, sex, familial status, or disability.

Since the Fair Housing Act has less distinct requirements, design and construction guidance was developed into seven technical requirements for the Guidelines to clarify which areas of a multifamily project would have obligations.

To ensure that persons with disabilities will have full use and enjoyment of their dwellings, the Fair Housing Act also includes two important provisions: a provision making it unlawful to refuse to make reasonable accommodations in rules, policies, practices, and services when necessary to allow the resident with a disability equal opportunity to use the property and its amenities; and a provision making it unlawful to refuse to permit residents with disabilities to make reasonable modifications to either their dwelling unit or to the public and everyday use areas, at the residents' cost.

Notes:

Requirement 5: Controls in Accessible Locations

Covered Dwelling Definition

The Fair Housing Act design and construction requirements apply to "covered multifamily dwellings" designed and constructed "for the first occupancy" after March 13, 1991.

Covered multifamily dwellings are:

1. All dwelling units in buildings containing four or more dwelling units if the buildings have one or more elevators, AND
2. All ground floor units in other buildings containing four or more units without an elevator.

Multifamily dwellings with a building entrance on an accessible route shall be designed and constructed so that all premises within the covered multifamily dwelling units contain light switches, electrical outlets, thermostats, and other environmental controls in accessible locations.

Notes:

Requirement 5: Controls in Accessible Locations

Environmental Controls, Light Switches, and Electrical Outlets

The Guideline Requirements

5 Light switches, electrical outlets, thermostats, and other environmental controls in accessible locations

For users to access controls and operating mechanisms, ANSI specifies there be a clear floor space to allow an approach by a person using a wheelchair, set the height of the operable portion of the control, and require little or no force exertion to operate the control.

The Guidelines do not require that all controls be fully accessible, yet specific light switches, electrical outlets, thermostats, and other regularly used environmental controls must be in accessible locations. The Guidelines are based on ANSI (A117.1 – 1986) standards to address where to position controls and outlets within the reach range of a seated user. In addition, the Guidelines for Requirement 5 do not cover the force and type of motion required to operate controls as some other accessibility standards do.

Definition

Requirement 5 identifies environmental controls such as thermostats and other heating, air conditioning, and ventilation mechanisms, including ceiling fans and electrically operated skylights, as well as light switches and electrical outlets.

Notes:

Requirement 5: Controls in Accessible Locations

Seven Requirements

There are seven basic requirements in the Fair Housing Act's design and construction requirements.

1. Accessible building entrance on an accessible route
2. Accessible and usable public and common-use areas
3. Usable doors
4. Accessible routes into and through a covered unit
5. Light switches, electrical outlets, thermostats, and other environmental controls in accessible locations
6. Reinforced walls in bathrooms for later installation of grab bars
7. Usable kitchens and bathrooms

Safe Harbors

These requirements are in the Fair Housing Act, as amended, 42 USC 3604(f)(3)(C). To describe these requirements in more detail, the United States Department of Housing and Urban Development (HUD) published Fair Housing Accessibility Guidelines (the Guidelines) on March 6, 1991, and supplemented those Guidelines with a Supplemental Notice: Questions and Answers About the Guidelines published on June 28, 1994. The Guidelines are one of the 15 safe harbors for compliance identified by HUD.

There are currently 15 safe harbors; 10 were established before 2021, and five were added since 2021. The Guidelines of these documents are intended to provide a haven for compliance with the accessibility

Notes:

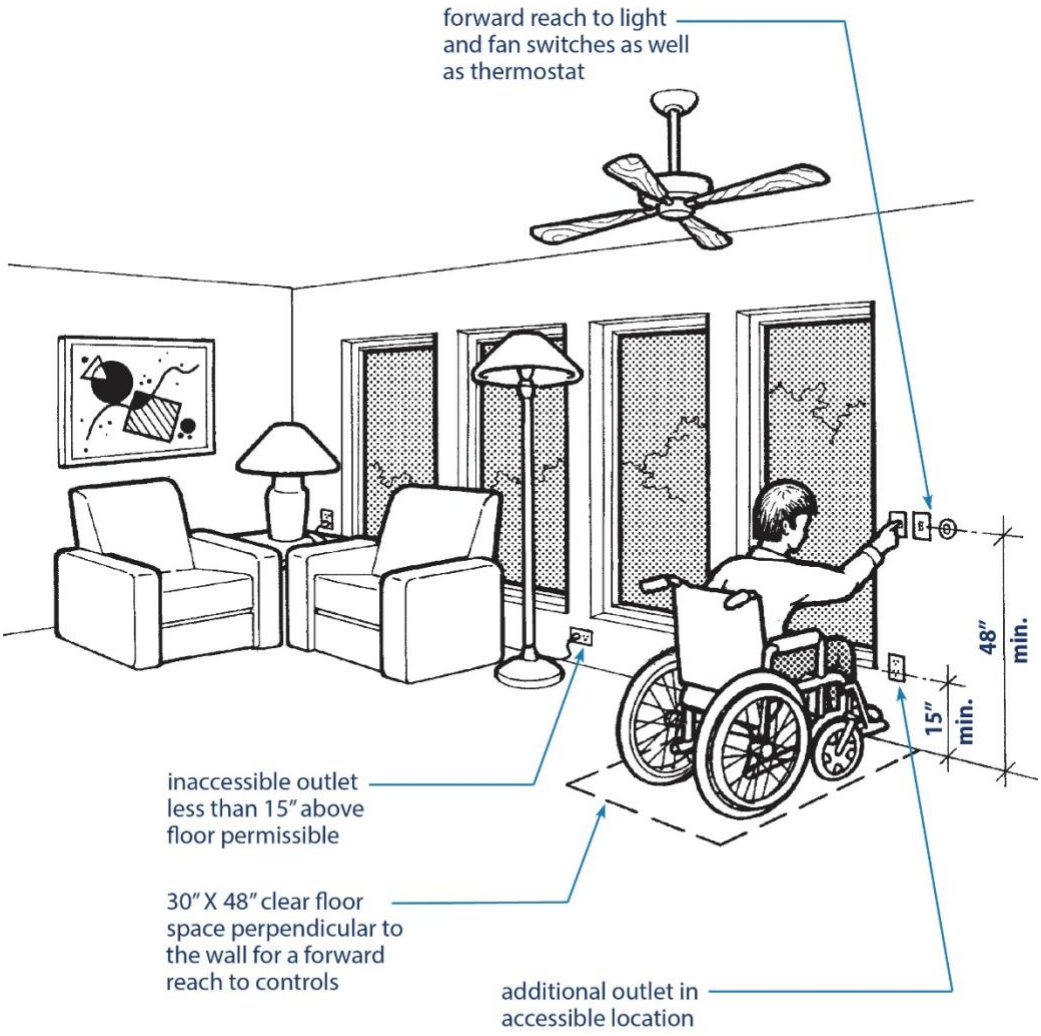
Requirement 5: Controls in Accessible Locations

requirements of the Fair Housing Act. The safe harbors are safe harbors only when used in their entirety. Therefore, once a specific safe harbor document has been selected, the building in question must comply with all the provisions that address the Fair Housing Act design and construction requirements to ensure the full benefit of the safe harbor.

The Fair Housing Act proactively addresses the needs of an evolving population, looking ahead at future conditions. With the aging of the population and the increase in the incidence of disability that accompanies aging, significant numbers of people will be able to remain in and safely use their dwellings longer. Housing designed under the Fair Housing Act will have accessible entrances, wider doors, and provisions to allow for easy installation of grab bars around toilets and bathtubs, i.e., features that make housing safer and more responsive to all users.

Notes:

Topic 2: Requirement 5 - Controls and Outlets Subject to the Requirements of the Guidelines



All Covered Switches, Outlets, and Controls Operated on a Frequent Basis Must be in Accessible Locations

Requirement 5 specifies switches, outlets, and controls covered in the Guidelines. These include covered light switches for controlling all room lights, electrical outlets, environmental controls such as thermostats, and other heating, air conditioning, and ventilation systems controls. Not covered in the Guidelines are circuit breakers, appliance controls, and outlets dedicated to specific appliances.

Notes:

Requirement 5: Controls in Accessible Locations

Controls and outlets not covered by the Guidelines include telephone jacks, circuit breakers, or electrical outlets dedicated to individual appliances such as refrigerators, built-in microwave ovens, washing machines, and dryers because neither circuit breakers nor these outlets are accessed frequently by residents.

Switches, Outlets, and Controls Covered by the Guidelines

Covered	Not Covered
• light switches for controlling all room lights • electrical outlets • environmental controls thermostats and controls for other heating, air condition ing, and ventilation systems	• circuit breakers • appliance controls • outlets dedicated for specific appliances

Appliance controls are not required to be in accessible locations because the Fair Housing Act is not intended to regulate the design of appliances. Thus, when appliance controls are built into or are located on the appliance itself, they are not considered to be covered controls.

Range or washing machine controls need not be within the reach range of seated users, although certainly it is preferred that such controls be within reach. Range hood fan and light controls, when mounted on the hood, are part of an appliance and are, therefore, not covered. However, if the range hood fan and light are wired to a separate switch on a wall or any location other than on the hood, range, or cooktop, then the control must be in an accessible location.

Garbage disposals do not fall under any of the categories of covered controls. The operating switch for garbage disposal is not mounted on the appliance itself but is wired to another location. Although not a covered control, since garbage disposals are used frequently and since it is relatively simple to place operating switches for garbage disposals in accessible locations, it is recommended that it be done.

Emergency interrupt switches to furnaces and water heaters are also not covered, although it is recommended they are within reach from a seated position. For example, suppose a mechanical system is located behind a narrow door in a small closet. In that case, it is recommended that the interrupt switch be positioned so that a person using a wheelchair can reach it from outside the closet.

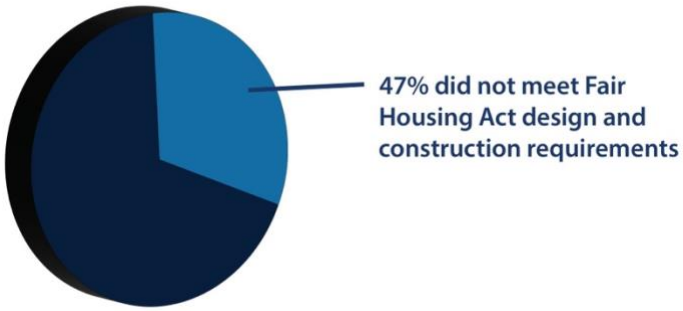
Notes:

Requirement 5: Controls in Accessible Locations

Comparable Controls

The Guidelines allow controls or outlets that do not satisfy the requirements if comparable controls or outlets in accessible locations are provided within the same area. Comparable controls or outlets are those that perform the same function. For example, floor outlets (which are inaccessible) or outlets mounted in the corner of kitchen counters are permitted under the Guidelines, provided other outlets are available to serve the same space or area.

Regional Violations

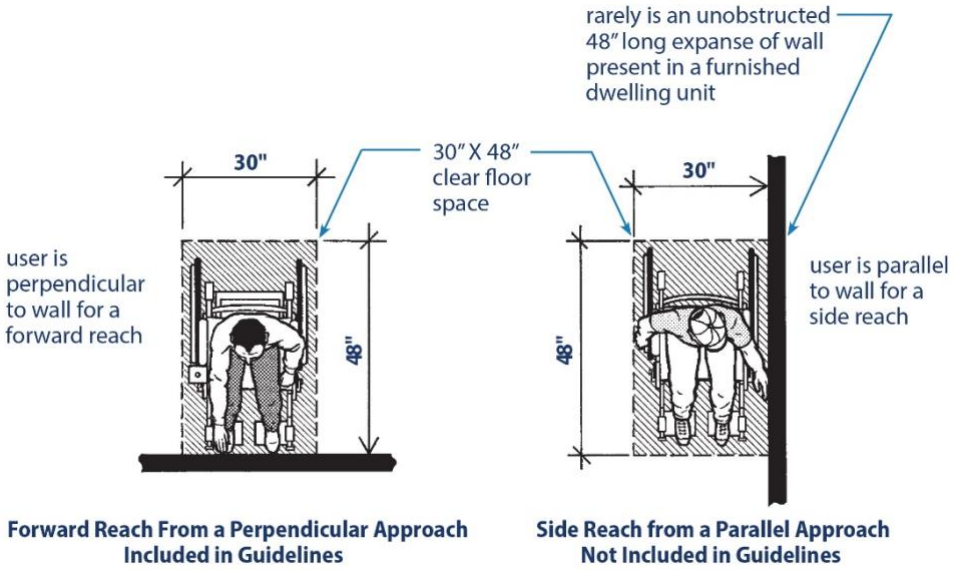


Compliance with Requirement 5 is critical. Between 2005 and 2014, the Housing Equality Center analyzed compliance at new construction apartment and condominium communities in Bucks, Chester, Delaware, Lancaster, Lehigh, Montgomery, and Philadelphia Counties in Pennsylvania. Of the 38 communities tested, 18 (47%) did not meet Fair Housing Act design and construction requirements. Noncompliant features included thermostats and environmental controls at inaccessible locations.

Notes:

Topic 3: Accessible Locations

The Guidelines, in correlation with ANSI Standards, provide specific height requirements for wall-mounted controls and outlets. These are based on the reach ranges of seated people. Reach ranges are provided for both forward and side reaches where the user must reach over an obstruction and where an obstacle does not restrict the user's approach. As seen in the diagram, a side reach from a parallel position without an obstruction requires 30 inches by 48 inches clear floor space parallel and close to the wall enabling users to reach controls and switches. Once a dwelling unit is furnished, sufficient room to execute a parallel approach usually is not available; thus, this specification was omitted from the Guidelines where this is typically the case. However, where built-in obstructions are present, such as a kitchen countertop with base cabinets, then a side reach over the obstructions may need to be considered.



Forward Reach From a Perpendicular Approach Included in Guidelines

Side Reach from a Parallel Approach Not Included in Guidelines

To ensure accessibility of all users when built-in counters, base cabinets, or other obstructions interfere, the Guidelines provide specific requirements for mounting controls and switches.

Control location access options are:

- Forward reach with no obstruction
- Forward reach over an obstruction
- Side reach over an obstruction

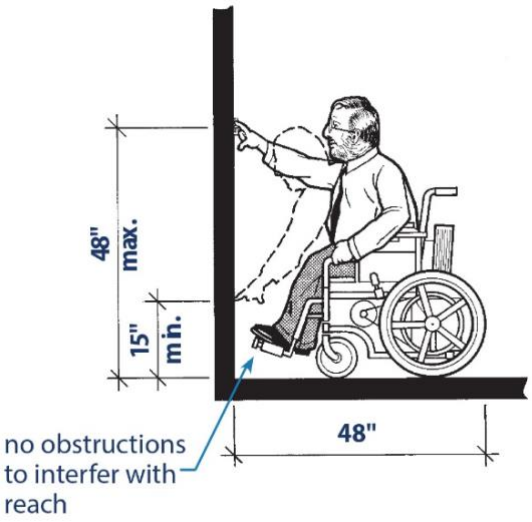
Notes:

Topic 4: Forward Reach with No Obstruction

Accessible Route

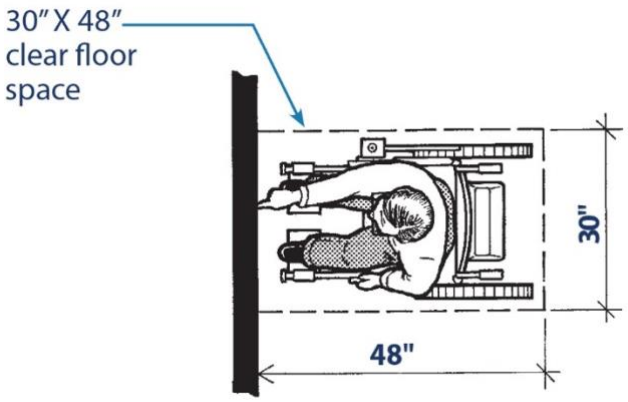
The Guidelines specify that when there are no obstructions to interfere with the reach of a person using a wheelchair, the controls and outlets should range from 15 to 48 inches above the floor.

A clear floor space of 30 inches by 48 inches is required to be perpendicular to the wall. Remember getting to the switch or outlet involves a minimum of 36 inches wide accessible route to allow a person using a wheelchair to approach the clear floor space and get into position to execute a forward reach to the control or outlet. Chapter 4 of the Guidelines provides additional support concerning accessible routes within a unit.



High Forward Reach Limit from a Perpendicular Approach

Although not required, consider a height lower than the maximum permitted for height of a thermostat or other controls for users in wheelchairs. For example, with a wall-mounted thermostat, depending on the text size of the device, users can have a hard time reading the screen. A person using a wheelchair, when positioned perpendicular to a wall, must lean forward over his or her feet and knees, making it difficult to get close enough to read small type. It is essential that thermostats and controls are mounted at or lower than 48 inches above the floor.



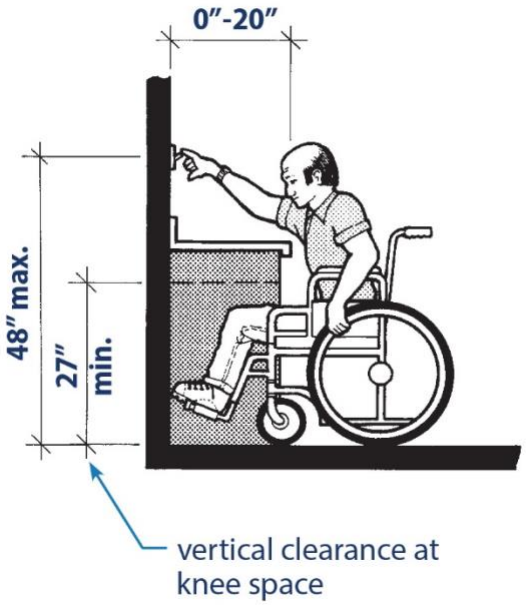
Low Forward Reach Limit from a Perpendicular Approach

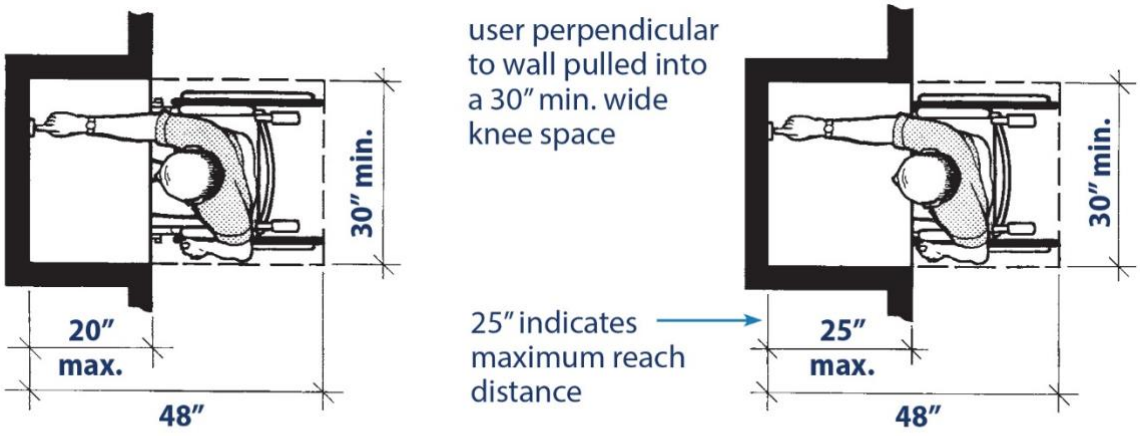
Notes:

Topic 5: Forward Reach Over an Obstruction

Sometimes controls and outlets are positioned above an obstruction, like a countertop or a built-in shelf. A minimum 30-inch wide clear knee space as deep as the reach distance, adjoining a 36-inch wide accessible route, must be available below the counter/obstruction to allow a person using a wheelchair to pull up and execute a forward reach over the obstruction.

If an obstacle extends 0 to 20 inches from the wall, the maximum height from the control or outlet over the obstruction is 48 inches above the finished floor, or AFF.

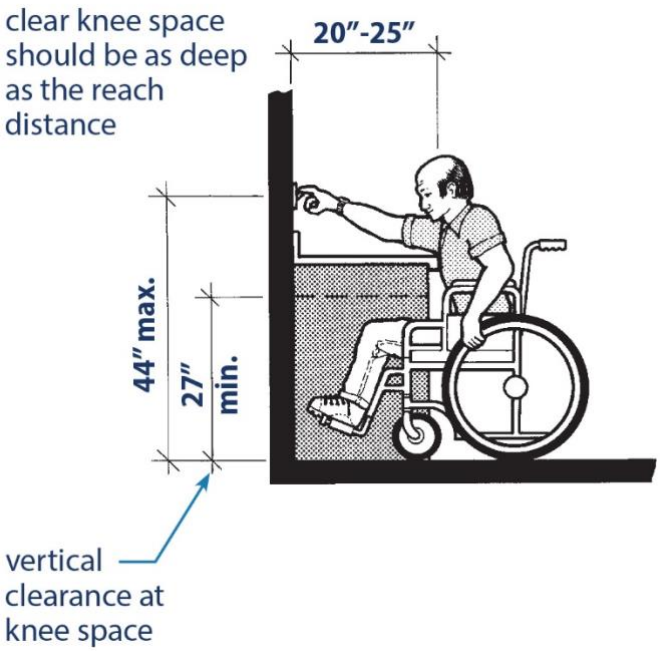




Maximum Forward Reach (From a Perpendicular Approach) over an Obstruction

Notes:

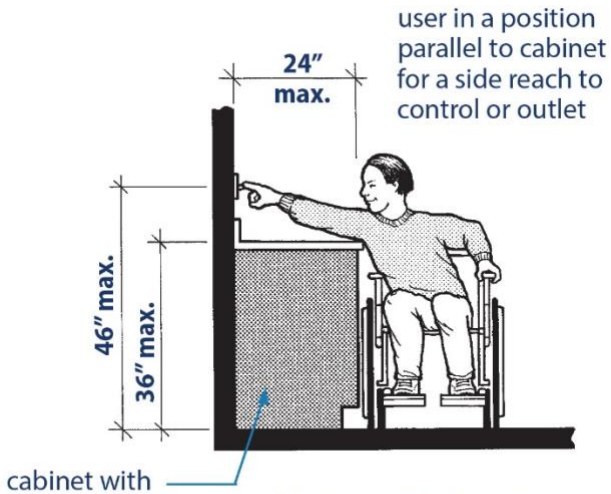
Requirement 5: Controls in Accessible Locations



However, for deeper shelves extending 20 to 25 inches from the wall, the maximum mounting height must be reduced to 44 inches. Any control or outlet mounted over an obstruction that extends further than 25 inches is considered outside the reach range and is not considered to be in an accessible location. HUD allows a tolerance of ½ inch to permit the installation of standard countertops that may project from the back wall for a maximum of 25 ½ inches.

Notes:

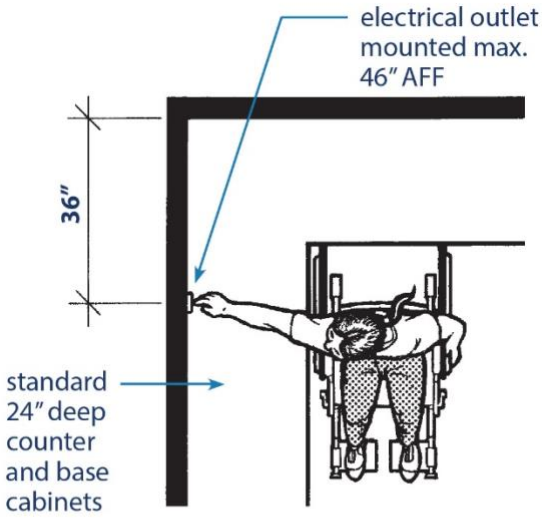
Topic 6: Side Reach Over an Obstruction



Maximum Side Reach (From a Parallel Approach) Over an Obstruction

When a person using a wheelchair approaches an obstruction, like cabinets, from a parallel position, it is considered a side reach. A side reach from a parallel position must have the 30 inches x 48 inches clear floor space adjoining a 36-inch-wide minimum accessible route. When executing a side reach over a cabinet, the maximum mounting height is 46 inches from the floor. Cabinets or obstructions have a maximum height of 36 inches from the floor.

HUD permits using a standard 24-inch cabinet depth with an additional extension of 1 to 1½ inches for countertops. The maximum depth is 25 ½ inches. Switches and outlets are not permitted outside the 25 ½ inches side reach limit. If a built-in shelf, cabinet, or other obstruction must be deeper than 25 ½ inches, then any switches, outlets, and controls that must be in accessible locations are not permitted to be installed over such deep surfaces.

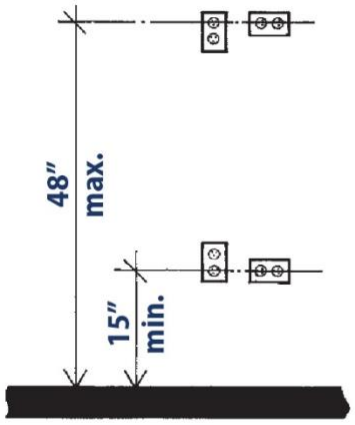


Electrical Outlets on Walls Over Cabinets Must be a Minimum of 36" from a Corner

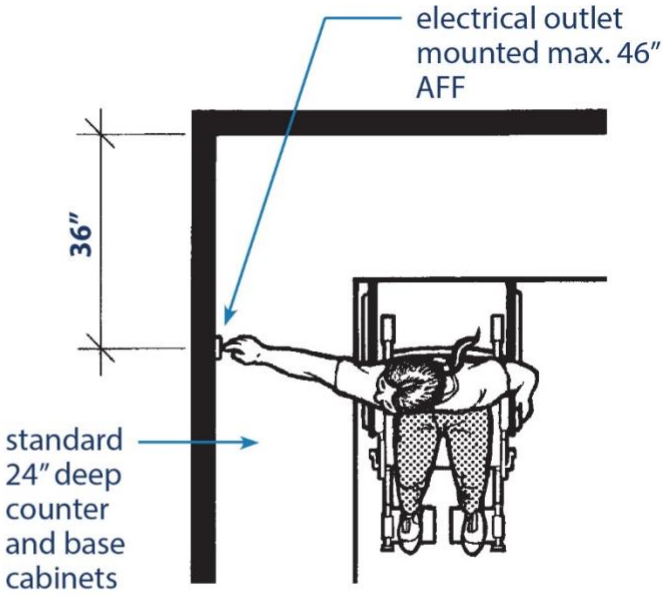
Notes:

Topic 7: Mounting Locations

Accessible controls and outlets are considered within range when they are between the maximum mounting height of 48 inches and the minimum height of 15 inches from the floor. When adding an accessible control or outlet near a wall corner, the Fair Housing Act Design Manual prescribes at least 36 inches from the corner. When electrical outlets are installed horizontally or vertically, duplex outlets must have both receptacles within the reach range.



Mounting Height for Outlets

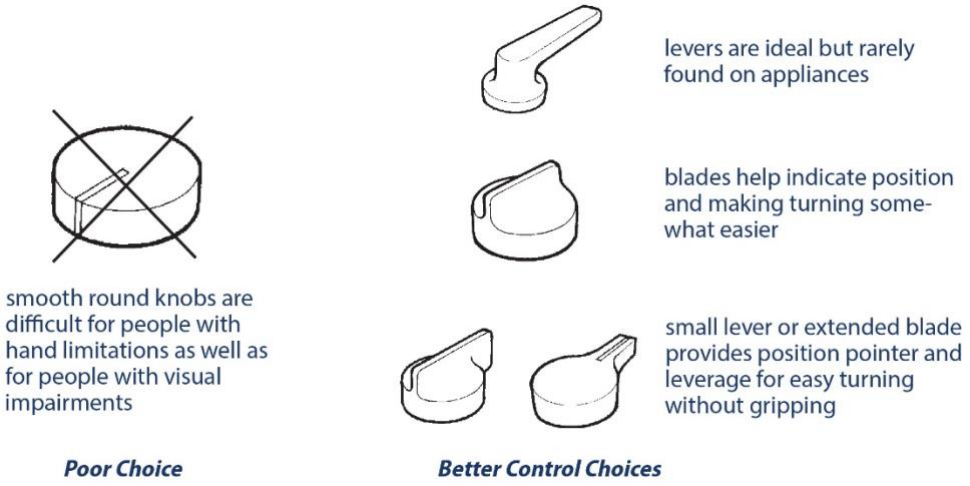


Electrical Outlets on Walls Over Cabinets Must be a Minimum of 36" from a Corner

Notes:

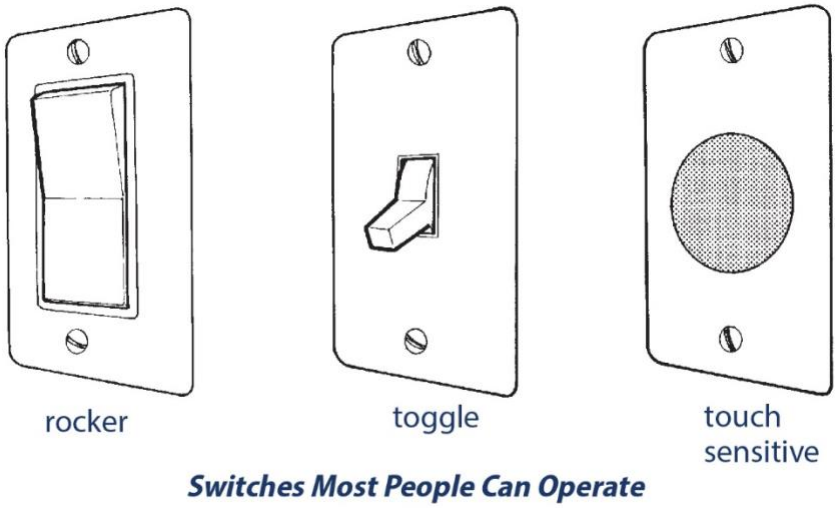
Topic 8: Strategies, Tips, and Resources for Requirement 5 – Switches and Controls

There are no requirements within the Guidelines on specific controls and switches to use inside a dwelling unit. However, particular types of switches and controls can increase usability for people with limited hand motions. Easily accessible switches are rocker, toggle, and touch switches, which require little to no force. They do not require gripping, twisting, or fine finger dexterity.



Lever Controls

With controls, lever controls are usable by all people with and without disabilities because they require no grasping or significant force to use. In some instances, their shape may double as an integral pointer to indicate the control's position. For people with limited strength or hand dexterity, smooth round knobs are especially difficult, as are controls that must be pushed down and turned at the same time.



Notes:

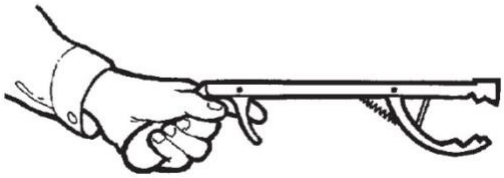
Requirement 5: Controls in Accessible Locations

Assistive Reacher

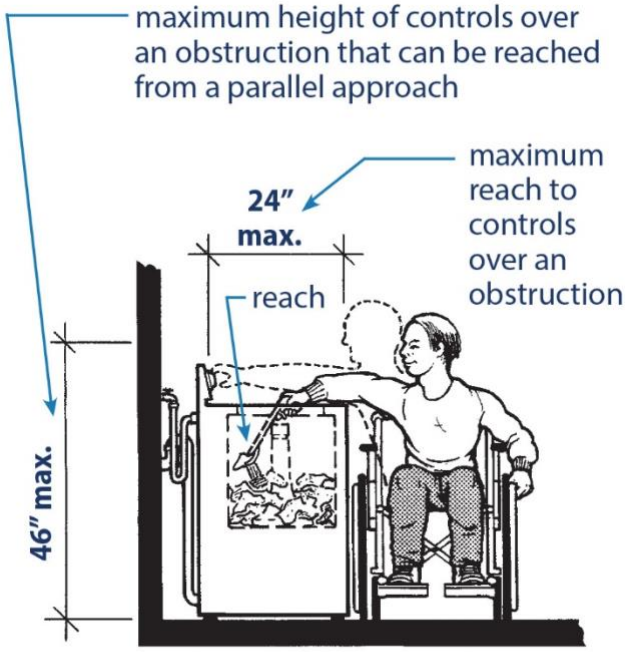
Assistive reachers and grabbers can increase the reach for people who are short in stature, are seated, or have limited reach range.

The Fair Housing Design Manual provides a Product Resource List in Appendix A, under “Assistive Devices,” for manufacturers that carry reachers/grabbers.

reachers and grabbers can increase the reach for people who are short in stature, are seated, or have limited reach range



Grabber/Reacher



Use of Top-Loading Machine Made Possible With Assistance of a Mechanical Reacher

Notes:

Topic 9: International Code Council

Building Codes

The International Code Council (ICC) provides guidance for building codes and standards and archives current and past code development rationale that assists designers and developers with code interpretations and applications. Most likely to be used in building codes, the most recent sections of the International Building Codes (IBC) provide safe harbors for accessibility compliance. While the requirements are mostly consistent with the FHA Guidelines, there are some differences including several that could be considered more stringent.

Section 1109.13 of 2006 IBC, 2012 IBC, 2015 IBC, and 2018 IBC determined the following criteria:

Controls, operating mechanisms, and hardware intended for operation by the occupant, including switches that control lighting and ventilation and electrical convenience outlets, in accessible spaces, along accessible routes, or as parts of accessible elements shall be accessible.

The exceptions are:

Notes:

Requirement 5: Controls in Accessible Locations

- Operable parts that are intended for use only by service or maintenance personnel shall not be required to be accessible.
- Electrical or communication receptacles serving a dedicated use shall not be required to be accessible.
- Where two or more outlets are provided in a kitchen above a length of countertop that is uninterrupted by a sink or appliance, one outlet shall not be required to be accessible.
- Floor electrical receptacles shall not be required to be accessible.
- HVAC diffusers shall not be required to be accessible.
- Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to be accessible.
- Access doors or gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release latch on self-latching devices at 54 inches maximum and 48 inches minimum above the finished floor or ground, provided the self-latching devices are not also self-locking devices, operated by means of a key, electronic opener, or integral combination lock.

Notes:

Topic 10: Accessible Controls and New Technology

The material presented in the following topic is purely informational. It is not an FHA design and construction requirement. Nor is it an endorsement for any product or service.

Internet of Things (IoT)

Topic 10 of this training explores the integration of technology and accessibility.

This topic is provided as a potential best practice for builders interested in utilizing technology and for residents with access to technology.

The 2009 National Multifamily Housing Council survey revealed renters want smart home automation technology and security. The technological advances provided by the Internet of Things, also referred to as, IoT, offer users an alternative in the management of doors, switches, and appliances.

Notes:

Requirement 5: Controls in Accessible Locations

A peer-reviewed study, *Design and Implementation of the E-Switch for a Smart Home*, describes the design and implementation of a platform based IoT and a cloud environment that allows the user to remotely control and monitor domestic services via a mobile application. This platform is intended to represent the first step in transforming a home into a smart home, and it allows the collection and storage of the e-switch information. This use of technology is growing due to smartphone and internet use, alongside the rapid development of IoT.

The article lays out the fundamental expectations that align with smart home technologies.

> *"A home is a place where people are in control and can feel safe. It can be seen as a place with security and control, a site of activity, and special for relationships and continuity. And a smart home is one in which a communication network links sensors, appliances, controls, and other devices to allow remote monitoring and control by occupants and others, in order to provide frequent and regular services to occupants and the electricity system; linking to physical and operational factors, and assuming functionality beyond the usual boundaries of the home."*

Notes:

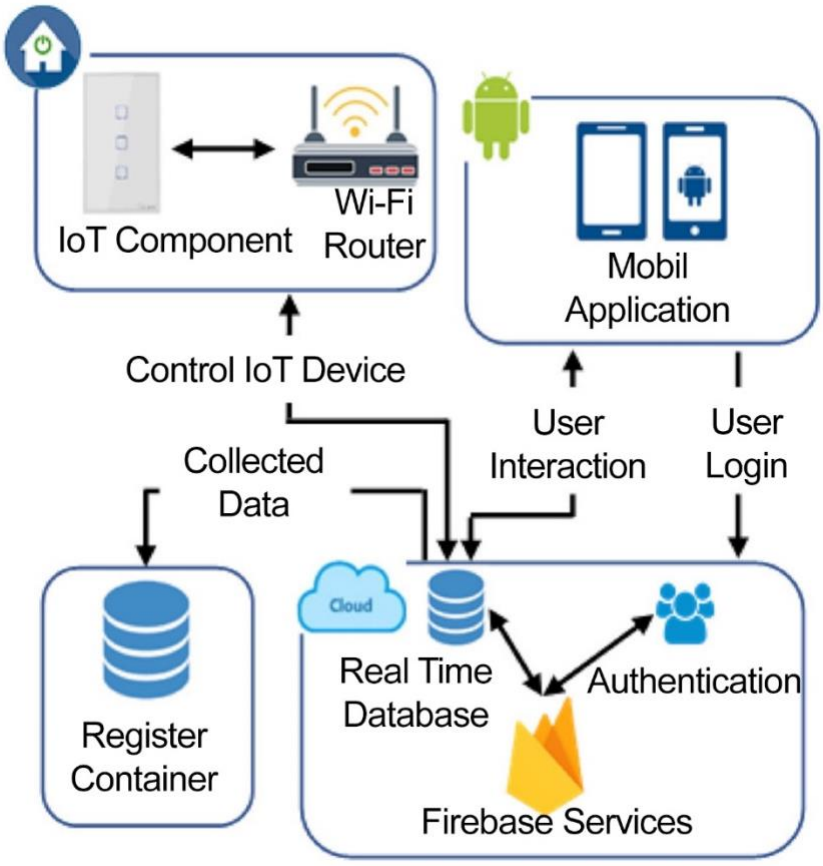
Requirement 5: Controls in Accessible Locations

Currently, wireless technologies for smart homes, such as Wi-Fi, Bluetooth Low Energy, and ZigBee, help the development of systems in addition to allowing remote control through smartphone applications.

IoT architecture is composed of four main components. Each of these components can be implemented separately and works as an independent service. However, they can to communicate.

A smart switch is installed in the electrical grid of a building. It is connected using Wi-Fi wireless technology to a router. Digital information is collected from IoT devices located in a kitchen, living room, bedroom, or other spaces in the home.

In this way, a user can monitor the function of household appliances. Cloud computing provides computing power and storage space to develop, maintain, and run home controls and domestic services.



Remember, smart controls are not an FHA design and construction requirement.

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However, some designers and developers see a smart home as a way to implement accessibility within the automation process for different devices within a building or individual unit, including:

- Monitoring control and automation for heating
- Ventilation
- Air conditioning (HVAC)
- Lighting
- Electronics
- Household appliances
- Security systems

Smart Devices

A 2021 article entitled 7 Ways *Smart Homes and Smart Devices Can Help People with Disabilities*, written by Pranoti Panchwagh, introduces ways that smart devices are adding accessibility to the lives of people with disabilities.

- According to the Centers for Disease Control, more than 61 million Americans live with a disability.
- 13.7 percent of Americans have a mobility disability with serious difficulty walking or climbing stairs.

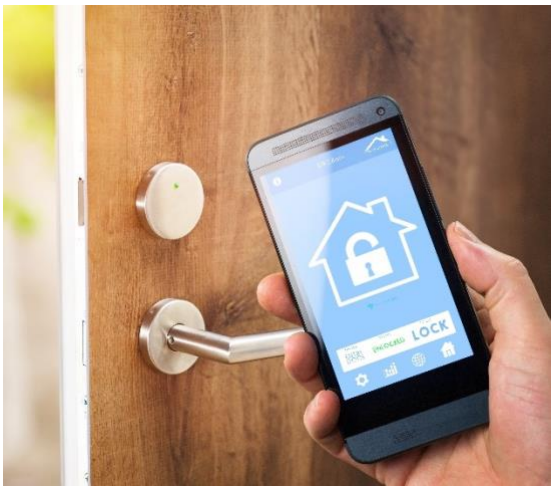
Panchwagh believes that although smart devices are a luxury for many people, they are a necessity for some people. Smart devices offer a new level of access for the user providing complete control of the home environment from the palm of their hand.

IT IS IMPORTANT TO REMEMBER THAT THIS TOPIC IS INFORMATIONAL. SMART TECHNOLOGY IS NOT ASSOCIATED WITH ANY FHA DESIGN AND CONSTRUCTION REQUIREMENT. NOR IS THIS TRAINING AN ENDORSEMENT FOR ANY PRODUCT OR SERVICE.

Notes:

Accessible Controls and New Technology

Smart Locks and Smart Doors



The control of door locks and entry into a dwelling unit is made more accessible with smart locks and doors in several ways. Smart locks and smart doors can provide an alternative to traditional door hardware, keys, or keypads.

The use of a smartphone enables the user to lock and unlock the door with ease. The user is able to grant guest access and even limit the number of times someone can access their home.

This allows users with disabilities to easily allow housekeepers, caretakers, nurses, therapists, family, and friends to enter the dwelling without the user having to go to the door and reach for the lock and handle to unlock the door.

Smart Lighting

Smart lighting is remotely controllable with the use of a smartphone, a dedicated remote control, or other types of smart devices.

Many types of smart lighting systems are connected to motion sensors that turn lights on and off depending on whether or not the room or space is occupied.

Smart lighting technology makes it easy for people with mobility challenges to turn their home lights on and off, thereby increasing safety and reducing the chance of having to navigate a room or space without the level of light necessary for the user.

Notes:

Requirement 5: Controls in Accessible Locations

Smart Thermostat

Smart thermostats allow the user to control the temperature of their home remotely. Smart thermostats are cost-effective, energy-efficient, and controllable from a smartphone.

This technology provides increased accessibility enabling the user to easily control the temperature of their home without having to physically go to the thermostat to read the temperature and reach to adjust the temperature.

Smart Hub Voice Assistants

Smart technologies can help the user easily manage the controls in their home. Smart appliances and other smart devices can work together to allow the user to access multiple controls in one location.

Smart devices can be integrated with a variety of voice assistants, which enables users with disabilities to control other devices in their home simply with a voice command.

This convergence of technology allows a level of accessibility only previously imagined in science fiction. But voice technology is real, and it allows the user to control the devices and appliances within their home with maximum access and a “hands-free experience.”

Notes:

Requirement 5: Controls in Accessible Locations

Voice assistants communicate with other devices forming a centralized hub that allows the user to control multiple functions virtually.

- This capability can have tremendous benefits in the life of a user who is experiencing limited mobility.
- The location of a control and a user's proximity to the control have less impact on a user's ability to manipulate the control.

Custom Control

Smart technology provides the user the ability to easily control doors and door locks, lights, thermostats, appliances, ceiling fans, and other switches and amenities within their homes.

Users who adopt the technology gain the capability to exercise custom control in their homes, which truly makes accessibility just a touch or voice away.

Note: This content is purely informational. Smart technology is not associated with any FHA requirement.

Notes:

Contacts

Do not hesitate to contact us with further questions via the Design and Construction Resource Center (DCRC) by calling 888-341-7781 or emailing us at FairHousingFirst@hud.gov.

Notes: