

BASIC DIMENSIONS

It's important to know the basic dimensional tolerances for compliance with the Americans with Disabilities Act. The ADA Accessibility Guidelines Standards for Accessible Design give complete information for applying these basics, as well as scoping requirements for new construction.

WHEELCHAIR SPACE ALLOWANCES AND REACH RANGES:

- Clear width - 36" continuously and 32" at a point (doorway, etc.)
- Width for passing - 60" minimum.
- Turning space - 60" diameter minimum.
- Clear floor space - 30" x 48" minimum for stationary wheelchair.
- Forward reach - 48" maximum high reach, 15" minimum low reach.
- Side reach - 54" maximum high reach, 9" minimum low reach.
- Reach over an obstruction - Varies, see ADAAG.

SUMMARY OF THE BASICS:

- Remember, these dimensions are the minimum for new construction!
- 36" clear width for wheelchair
- 60" clear turning diameter for wheelchair
- 30" x 48" clear floor space for wheelchair
- 15" to 48" mounting height to operable part of switches, handles, dispensers, controls (desirable for forward approach)
- 80" high clear head room
- 27" high clear knee space
- 28" to 34" high table and counter tops
- 32" wide clear openings for doors, passages
- 8' wide parking with 5' wide access aisle (8' + 8' for van)
- 60" high to centerline of signage
- 34" - 38" AFF for handrails
- 33" - 36" AFF for grab bars HINT: mount all grab bars and handrails 35" AFF
- All controls, door handles, etc. operable with a closed fist
- Accessible parking maximum slope - 1:50
- Path of travel maximum slope - 1:20
- Ramps, curb cuts maximum slope - 1:12
- Beveling at thresholds, level changes maximum slope - 1:2

Table for Converting Slope Ratios to Degrees or Percent of Grade. Refer to this table if you use a tool which measures slope degrees or percent instead of slope ratios. Slope ratio = degrees = percent

1:50 = 1.1 = 2% maximum for accessible parking & cross slopes.

1:20 = 2.8 = 5% maximum for sidewalks, walkways

1:12 = 4.7 = 8% maximum for ramps, curb cuts

1:10 = 5.7 = 10% maximum curb cut flared sides

1:2 = 26.6 = 50% maximum beveling level changes

ADA ACCESSIBILITY GUIDELINES FOR SPECIFIC ELEMENTS:

Sidewalks (path of travel) - 36" minimum clear width, with passing space of 60" x 60" provided every 200'.

Clear head room of 80" minimum.

No changes in level greater than ¼ without beveling.

Protruding objects - 4" maximum for objects projecting from walls with their leading edge between 27" and 80" AFF.

Head room - 80" minimum for walks and other circulation spaces.

Carpet - ½" maximum pile thickness.

Gratings - ½" maximum wide spaces in one direction.

Parking spaces - 96" minimum wide with 60" minimum wide access aisle for accessible spaces.

Surface slope not exceeding 1:50.

96" wide space with 96" wide access aisle for vans (minimum of one required).

114" vertical clearance.

Complying signage mounted so as not to be obscured by a vehicle parked in the space (no dimension stated, we suggest not less than 72" high.)

Curb ramps - 1:12 maximum slope.

1:20 maximum slope for adjacent surfaces.

1:10 maximum slope for flared sides.

36" minimum width.

Ramps - 1:12 maximum slope.

30" maximum rise for any run.

36" minimum clear width.

Level landings at top and bottom at least as wide as the ramp and 60" clear length. (60" x 60" if ramp changes direction)

1:50 maximum slope for cross slopes.

Handrails - Ramps with a rise greater than 6" or a horizontal projection greater than 72" must have handrails on both sides.

12" extension parallel to ground top and bottom.

1¼" - 1½" diameter of gripping surface.

1½" clear space between rail and wall.

Top of gripping surfaces mounted 34" - 38" above ramp surface.

Ends of rails rounded or returned smoothly to floor, wall, or post.

- Stairs** - 11" minimum wide treads, uniform riser heights and tread widths.
1½" maximum nosing projection, undersides to be sloped with a minimum angle of 60° from the horizontal.
Complying handrails both sides.
12" horizontal projection of handrail at top; handrail to continue to slope width of one tread plus have 12" horizontal extension at bottom.
- Elevators** - Hall call buttons - 42" AFF to centerline.
Hall lantern fixtures - 72" AFF minimum to centerline.
Door reopening device - 5" AFF and 29" AFF. Car control floor buttons - 54" AFF maximum (side approach),
48" AFF maximum (front approach.) Raised letters & Braille.
Car emergency controls - 35" AFF minimum to centerline.
Emergency communication system - 48" AFF maximum to highest operable part.
Hoistway entrances - floor designations both jambs, 60" AFF to centerline of 2" high characters (raised & Braille).
Car size - 54" deep by 80" wide minimum (68" wide alternate).
Illumination levels - not less than 5 footcandles.
- Doors** - 32" minimum clear width.
48" plus width of door swinging into space clear width for two doors in a series.
½" maximum threshold height.
48" maximum height for door handles, pulls, latches, locks, and other operating devices - operable with closed fist.
3 seconds minimum sweep (closing) period.
5 lbf maximum opening force for interior hinged, sliding, or folding doors.
Opening force for exterior doors reserved (probably will be 8.5#)
Fire doors to have minimum opening force allowed by appropriate authority.
Automatic and power-assisted doors to comply with ANSI/BHMA A156.10-1985.
- Drinking fountains** - Spout - 36" AFF maximum to the spout outlet. Flow of water - 4" minimum high.
Clear knee space - 27" minimum between the bottom of the apron and the floor, 30" minimum wide, 17" to 19" deep.
30" wide x 48" deep clear floor space for forward approach.
Controls at front and operable with closed fist.
- Water closets (toilets)** - Clear floor space varies by configuration, see ADAAG.
17" - 19" high to top of toilet seat.
Grab bars required - 36" rear grab bar, 42" side grab bar, see ADAAG for various positioning.
Flush controls maximum 44" AFF, mounted on the wide side of toilet areas.
- Toilet stalls** - Standard stall 60" wide and 56" - 92" deep. See ADAAG for alternate stall sizes, configurations.
Toilet stall doors to comply with door requirements, with handles both inside and outside, mounted 48" maximum AFF.
- Urinals** - 17" maximum AFF to rim.
30" wide x 48" deep clear floor space for forward approach.
Flush controls 44" maximum AFF.

Lavatories (sinks) - 34" maximum AFF to rim or counter surface.

29" minimum clear knee space AFF to bottom of apron.

27" minimum clear AFF to bottom of sink bowl.

Clear space 30" wide by 19" deep underneath sinks.

6½" maximum sink bowl depth.

30" wide by 48" deep clear floor space for forward approach.

Faucets operable with closed fist.

Mirrors - Bottom edge of reflecting surface 40" AFF maximum.

Restroom dispensers - 48" maximum height AFF.

Fixed storage (cabinets, shelves, closets, drawers, etc.) - Clear floor space of 30" x 48" for forward or parallel approach.

Reach ranges apply to accessible storage spaces.

Clothes rods or shelves 54" maximum AFF for side approach, 48" maximum AFF for forward approach.

Controls and operating mechanisms - 30" x 48" clear floor space for wheelchair approach.

48" - 54" maximum AFF height to highest operable part for forward or parallel approach (48" maximum is recommended).

15" minimum AFF for electrical and communications system receptacles on walls.

All controls and mechanisms to be operable with one hand and not require tight grasping, pinching, or twisting of the wrist, with maximum force of 5 lbf for activation. (The "closed fist" test for handles and controls: if you can operate the mechanism with one hand, held in a fist, so can a person with limited use of the hands.)

Alarms - Visual signal devices are required in restrooms and general usage areas such as meeting rooms, hallways, lobbies, and any other area for common use.

80" above the highest floor level within the space or 6" below the ceiling, whichever is lower.

No place in any room or space more than 50' from visual signal.

See ADAAG for other requirements.

Signage - Width-to-height ratio between 3:5 and 1:1; stroke-width-to-height ratio between 1:5 and 1:10.

3" minimum character height for signage mounted overhead.

Letters and numerals to be raised 1/32", upper case, and 5/8" to 2" in height.

Grade 2 Braille to accompany raised text.

Pictogram field to be at least 6" high.

Characters and symbols to contrast with background (70% typical)

Signs to be installed on wall adjacent to the latch side of door at 60" AFF to the centerline of the sign. (exit signs can be mounted directly on out-swinging doors.)

Accessible elements to be identified with the international symbol of accessibility.

Telephones - 30" x 48" clear floor space for wheelchair approach.

Highest operable part to be within reach ranges (48" AFF is safe)

29" minimum cord length.

Telephone books within reach range.

See ADAAG for hearing aid compatible, volume control, and text telephone requirements.

Fixed or built-in seating and tables - 27" high, 30" wide, and 19" deep knee space required for wheelchairs.

Tops of accessible tables and counters to be 28" to 34" AFF.

Automated teller machines - Provide for parallel approach and both forward and side reach.

Instructions and all information for use is to be accessible to and independently usable by persons with vision impairments.

Dressing and fitting rooms - 60" diameter clear floor space.

32" wide clear opening.

24" x 48" bench fixed to the wall along the longer dimension, mounted 17" to 19" AFF.

Full length mirrors, 18" wide by 54" high mounted to afford a view from the bench.

Restaurants and cafeterias - 5%, but not less than one, of fixed tables are to be accessible.

Counters and bars are to have an accessible area, 60" long.

36" wide clear access aisle to be provided to accessible seating.

Food service lines to be 36" minimum wide, 42" preferred; tray slides mounted maximum 34" AFF.

Tableware and condiment areas to be within reach ranges.

Vending machines and other equipment to have operable parts within reach ranges.