

Figure 3

### Ramp Surface

- The ramp surface shall:
  - not have any openings that will permit the passage of a 13 mm sphere,
  - not have any elongated openings oriented approximately perpendicular to the direction of travel,
  - be stable, firm and slip-resistant, and
  - be bevelled at a maximum slope of 1 in 2 at changes in level up to and including 13 mm.

### Curb Ramps

- A curb ramp is required where there are curbs in the path of travel from a passenger loading zone to a building. Curb ramps are commonly used to provide access from a parking area to a sidewalk that leads to a building.
- Curb ramps should have a minimum width of not less than 920 mm, and preferably 1200 mm in areas where there is snow, measured across the ramp. (Figure 4)
- The sides of the curb ramp should be flared.
- The gradients of the curb ramp and the flared sides should be not more than 1 in 10.
- Curb ramps should have a surface that is slip-resistant and colour- and texture-contrasted with the adjacent surfaces.

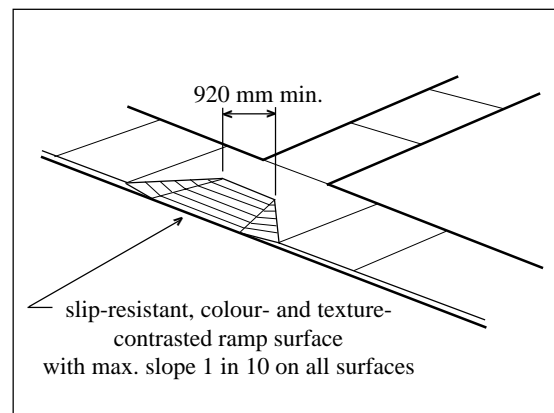


Figure 4

### Tactile Cues

- A tactile cue is a device that is perceived by the sense of touch that prepares, alerts or warns users of the presence of a construction feature or hazard.
- Tactile cues are useful when provided on a walking surface to warn users of the top and bottom landing of a ramp.
- To be most noticeable, tactile cues should extend:
  - the full width of the ramp, and
  - not less than 900 mm in front of the ramp.
- A tactile cue should be:
  - slip-resistant,
  - detectable by walking on as being different from surrounding surfaces, and
  - of a colour that contrasts with surrounding surfaces.

The contents of this brochure are for information purposes only. Designers and builders should refer to *The Uniform Building and Accessibility Standards Regulations* for the purposes of interpretation and application of the law.

#### For more information contact:

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## Barrier-Free Ramps



*“Promoting  
construction of  
safe buildings  
through leadership  
and guidance”*

## Ramps in Barrier-Free Paths of Travel

Ramps are essential for persons who require a wheelchair for mobility. Ramps are often preferred to stairs by persons with other limitations or physical disabilities.

The following requirements for ramps are based on Section 3.8 of the National Building Code (NBC) of Canada 1995 as adopted and amended by *The Uniform Building and Accessibility Standards Regulations*. These regulations set out where a barrier-free path of travel is required. The following requirements apply to ramps in a barrier-free path of travel.

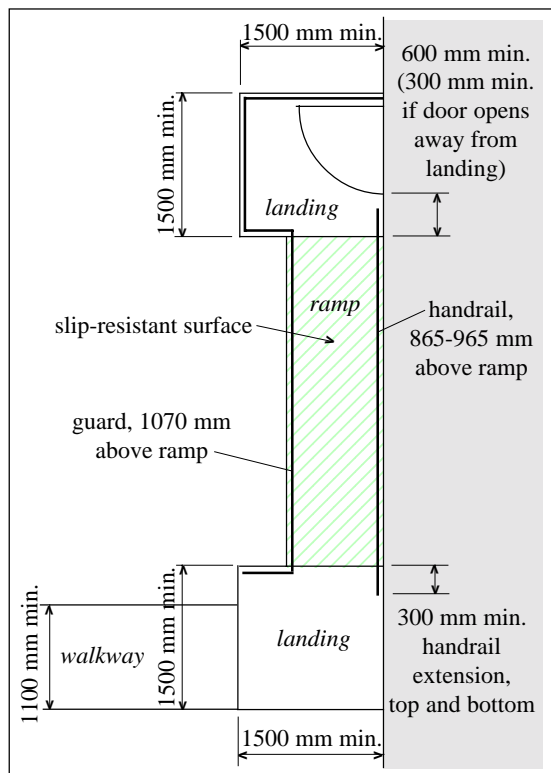


Figure 1

## Ramps

- Ramps must be used in barrier-free paths of travel where floors or walks have slopes steeper than 1 in 20 or where there is a change in floor level of more than 13 mm.
- Ramps shall have a minimum width of not less than 870 mm between handrails.
- Ramps shall have a maximum slope of 1 in 12. Since gradients of 1 in 20 are safer and less strenuous, use of the maximum slope of 1 in 12 should be avoided in favour of a more gentle grade except when limited space is available.
- Level landings of not less than 1 500 by 1 500 mm must be provided at the top and bottom of a ramp. (Figure 1)
- Intermediate level landings that are 1 200 mm long and at least the same width as the ramp are required:
  - at intervals of not more than 9 m, or
  - where there is an abrupt change in the direction of the ramp.
- If a door opens onto a top, bottom or intermediate landing, the level area shall extend not less than 600 mm beyond the latch side of the door. If a door opens away from a top, bottom or intermediate landing, the level area shall extend not less than 300 mm beyond the latch side of the door. (Figures 1 and 3)

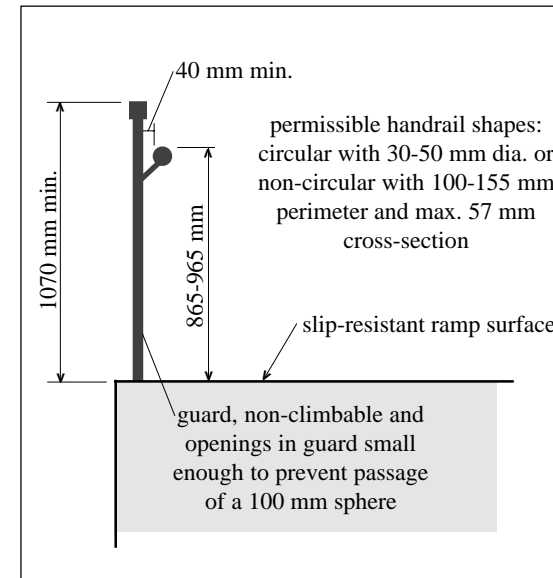
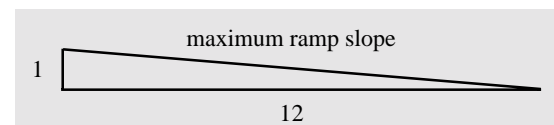


Figure 2

## Guards

- Every ramp shall have a wall or well-secured guard on each side.
- The height of guards shall be not less than 1 070 mm above the surface of the ramp or the landing.
- Openings through a guard shall not permit passage of a sphere whose diameter is more than 100 mm, unless larger openings do not present a hazardous condition.
- No member, attachment or opening located between 140 and 900 mm above the surface of the ramp shall facilitate climbing, unless it can be shown that the location and size of opening do not present a hazard.
- Guards shall be designed to withstand loads as specified in Article 4.1.10.1. of the NBC 1995.

## Handrails

- Handrails are required on all ramps, except where the ramp serves as an aisleway for fixed seating.
- Handrails shall:
  - be located not less than 865 mm and not more than 965 mm above the surface of a ramp,
  - have a clearance of not less than 40 mm to the wall to which they are fastened, (Figure 2)
  - be continuously graspable along their entire length, with a circular cross-section of 30-50 mm outside diameter or any non-circular shape with 100-155 mm perimeter and largest cross-sectional dimension not more than 57 mm,
  - be terminated in a manner, such as a return to the wall or a newel post, which will not obstruct pedestrian travel or create a hazard.
- At least one handrail shall be continuous throughout the length of the ramp including landings, except where interrupted by doorways or newels at changes in direction.
- At least one handrail shall extend not less than 300 mm beyond the top and bottom of the ramp. (Figure 1)
- Where a ramp is more than 1 100 mm wide, it shall have handrails on both sides. Where a ramp is more than 2 200 mm wide, it shall also have intermediate handrails with not more than 1 650 mm between handrails.
- Handrails shall be designed to withstand loads as specified in Clause 3.4.6.4.(9) of the NBC 1995.