

Building Guide

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Guard Climbability

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Guide to Climbable Features Adjacent to Guards

This document is intended as a general guideline to address the hazard of permanently fixed objects, such as equipment or building elements, adjacent to required guards which may aid in the climbability of the guard.

BACKGROUND

The Ontario Building Code (OBC) prescribes specific locations where a *guard* must be installed.

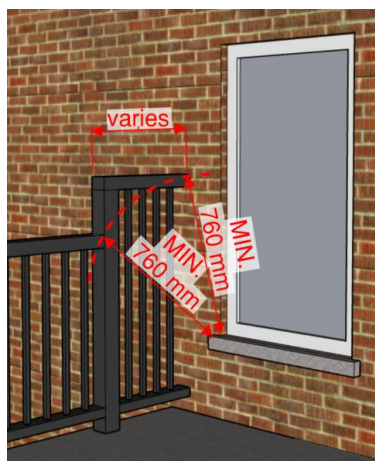
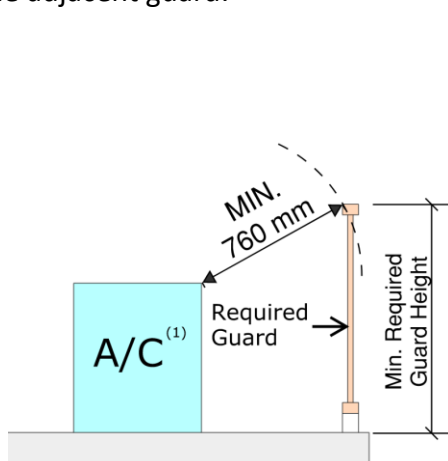
Guard means a protective barrier, with or without openings through it, that is around openings in floors or at the open sides of stairs, landings, balconies, *mezzanines*, galleries, raised *walkways* or other locations to prevent accidental falls from one level to another.

When a guard is required, the OBC further prescribes that the guard be designed not to facilitate climbing by restricting elements of the guard that are located between 140 mm and 900 mm above the floor or walking surface. The intent of these climbability restrictions is to limit the probability that preschool aged children will climb the guard and fall. To meet the intent of the code and for safety reasons, **permanently fixed** objects that are near a guard (such as air conditioners, windowsills, surface mounted electrical boxes, etc.) must be considered.

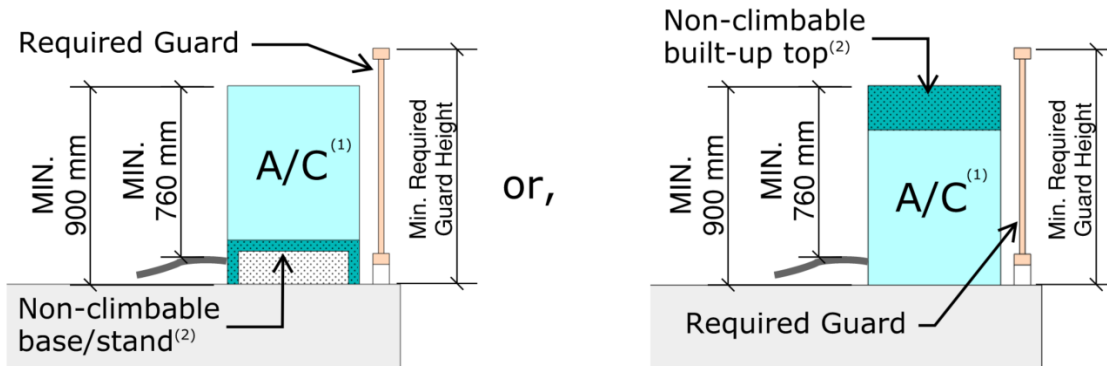
DESIGN CONSIDERATIONS

When permanently fixed equipment or features are located adjacent to a required guard, the following options⁽³⁾ may be considered;

Option 1: Locate the equipment or feature at least 760 mm, in all directions, away from climbable features of the adjacent guard.



Option 2: Raise the height of the equipment or feature so the top is at least 900 mm above the adjacent walking surface and has a non-climbable zone of 760 mm with consideration to elements which may aid in the climbability (e.g. condenser lines, electrical, the stand itself, etc.),

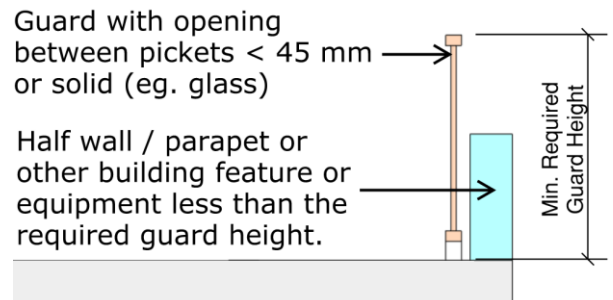
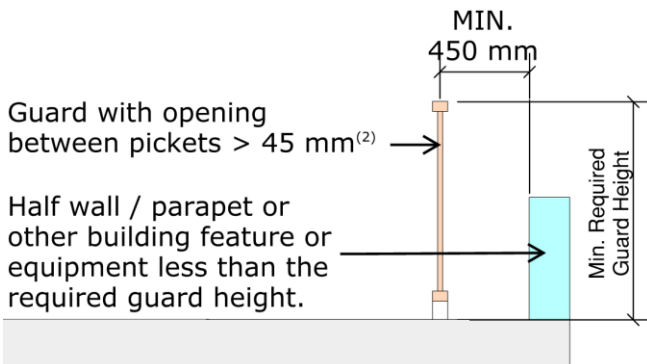
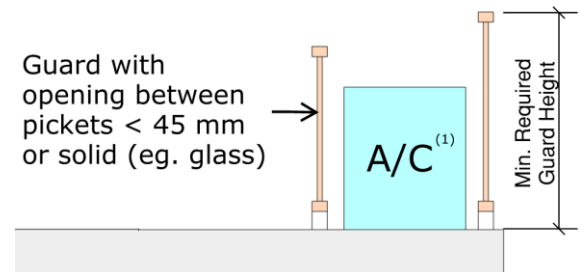
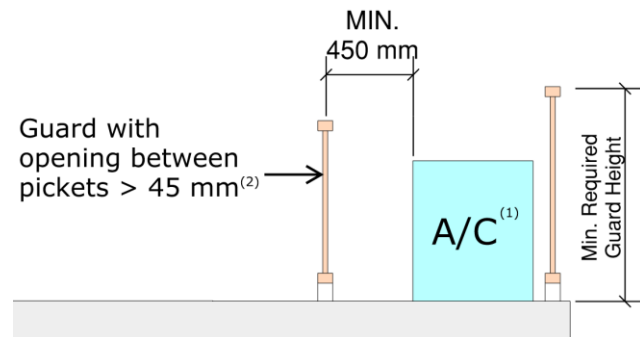


Option 3: Install additional non-climbable guard(s) around the equipment or feature.

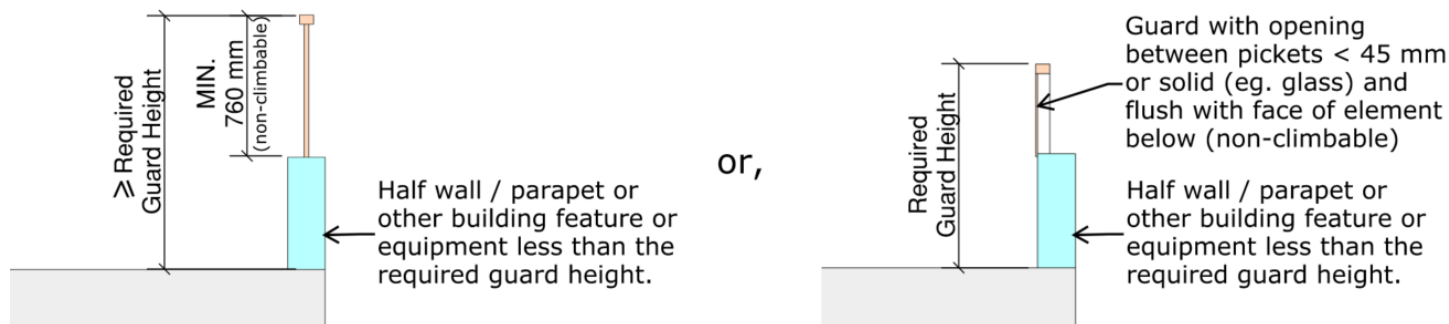
Where the guard has openings between pickets (or other similar elements) greater than 45 mm, it shall be located at least 450 mm away from the climbable feature.

Where the additional guard is solid or has openings between the pickets not more than 45 mm or is solid, no clearance is required⁽⁴⁾.

or,



Option 4: Install a non-climbable guard on top of the climbable feature and constructed in a manner that achieves the minimum required guard height and has a minimum 760 mm between any climbable elements.



Notes:

- (1) Diagrams show an air conditioner unit (A/C) for illustrative purposes, however these principals apply to any equipment or fixed feature that may pose the same risk of climbability adjacent to a required guard.
- (2) Openings through guards must be of a size that will prevent the passage of a sphere having a diameter more than 100 mm.
- (3) The principals of [Appendix Note A-9.8.8.6.\(1\) from the 2020 National Building Code of Canada](#) may be considered where scenarios fall outside the scope of the options outlined in this policy, and for further guidance regarding climbability (i.e. maximum size of toeholds, maximum horizontal offsets of protrusions, minimum sloped protrusions, permissible to be considered to not facilitate climbing).

Example: Protrusions that present more than a 2-in-1 slope on the offset are considered to not facilitate climbing because such a slope is considered too steep to provide adequate footing.



- (4) Refer to equipment manufactures specifications for additional clearance requirements.

The information provided in this guide is general in nature, is not intended as legal or technical advice, and should not be relied on as such.

If and when any building permit is applied for a project, all pertinent Code requirements will be reviewed at that time.

Under the Building Code Act, the local municipality is the authority having jurisdiction (AHJ) for enforcing the Act and its Regulations, and permit applicants should contact the appropriate official/AHJ with respect to any specific proposal.

Appendix Note A-9.8.8.6.(1)

Excerpt from the 2020 National Building Code of Canada

A-9.8.8.6.(1) Configuration of Members, Attachments or Openings in Guards so as to not Facilitate Climbing. Some configurations of members, attachments or openings may be part of a guard design and still comply with Sentence 9.8.8.6.(1). Figures A-9.8.8.6.(1)-A to A-9.8.8.6.(1)-D present a few examples of designs that are considered to not facilitate climbing.

Protrusions that are greater than 450mm apart horizontally and vertically are considered sufficiently far apart to reduce the likelihood that young children will be able to get a handhold or toehold on the protrusions and climb the guard.

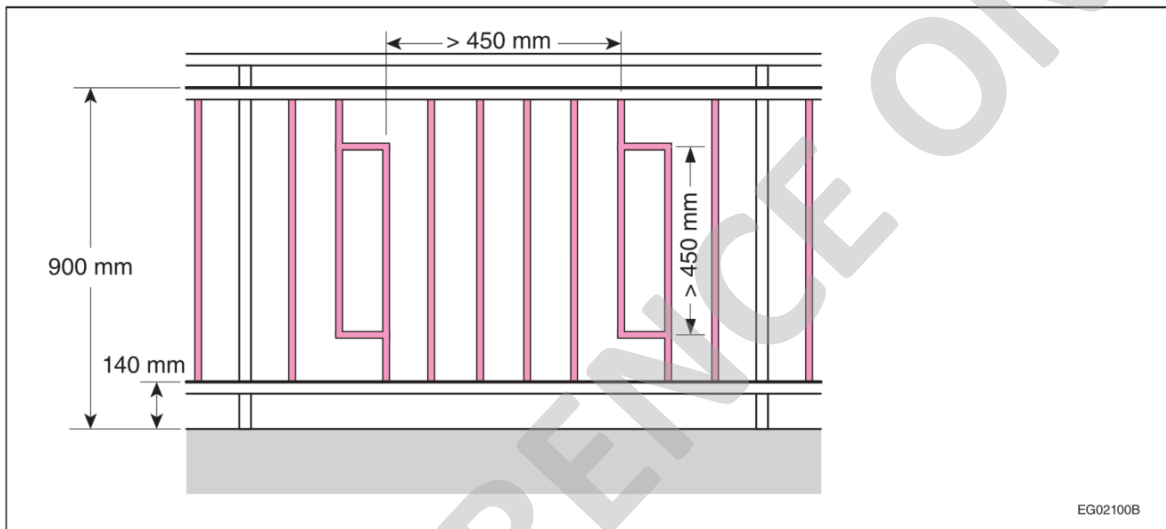


Figure A-9.8.8.6.(1)-A

Example of minimum horizontal and vertical clearances between protrusions in guards

Protrusions that present a horizontal offset of 15mm or less are considered to not provide a sufficient foot purchase to facilitate climbing.

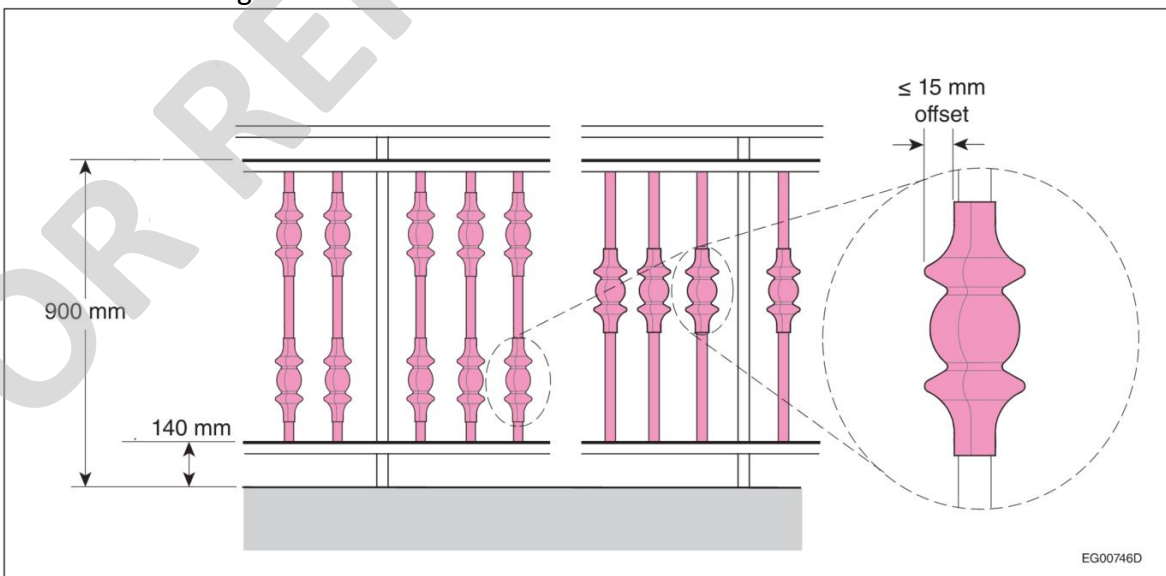


Figure A-9.8.8.6.(1)-B

Examples of maximum horizontal offset of protrusions in guards

A guard incorporating spaces that are not more than 45 mm wide by 20 mm high is considered to not facilitate climbing because the spaces are too small to provide a foothold.

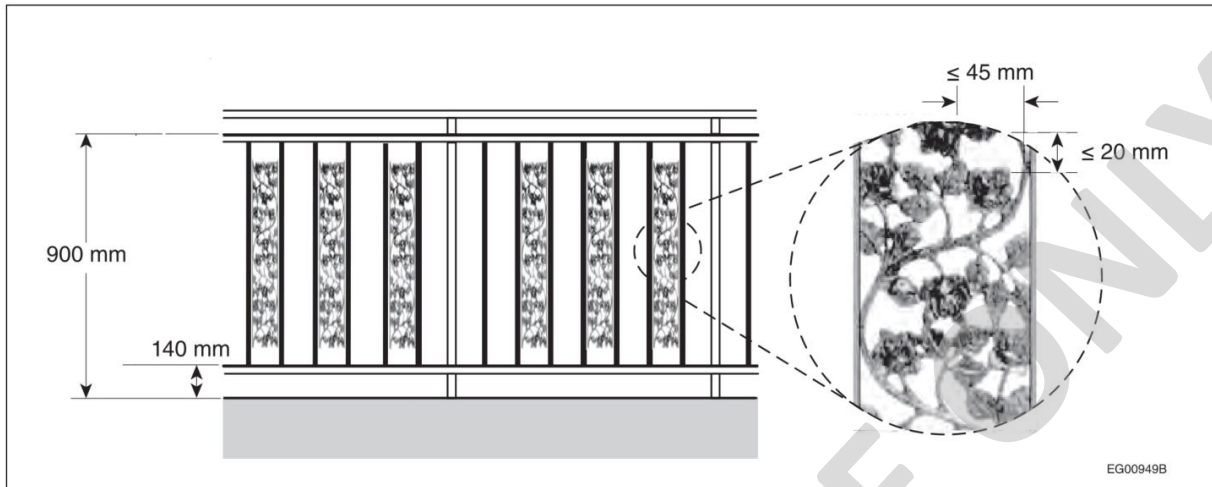


Figure A-9.8.8.6.(1)-C

Example of a guard with spaces that are not more than 45 mm wide and 20 mm high

Protrusions that present more than a 2-in-1 slope on the offset are considered to not facilitate climbing because such a slope is considered too steep to provide adequate footing.

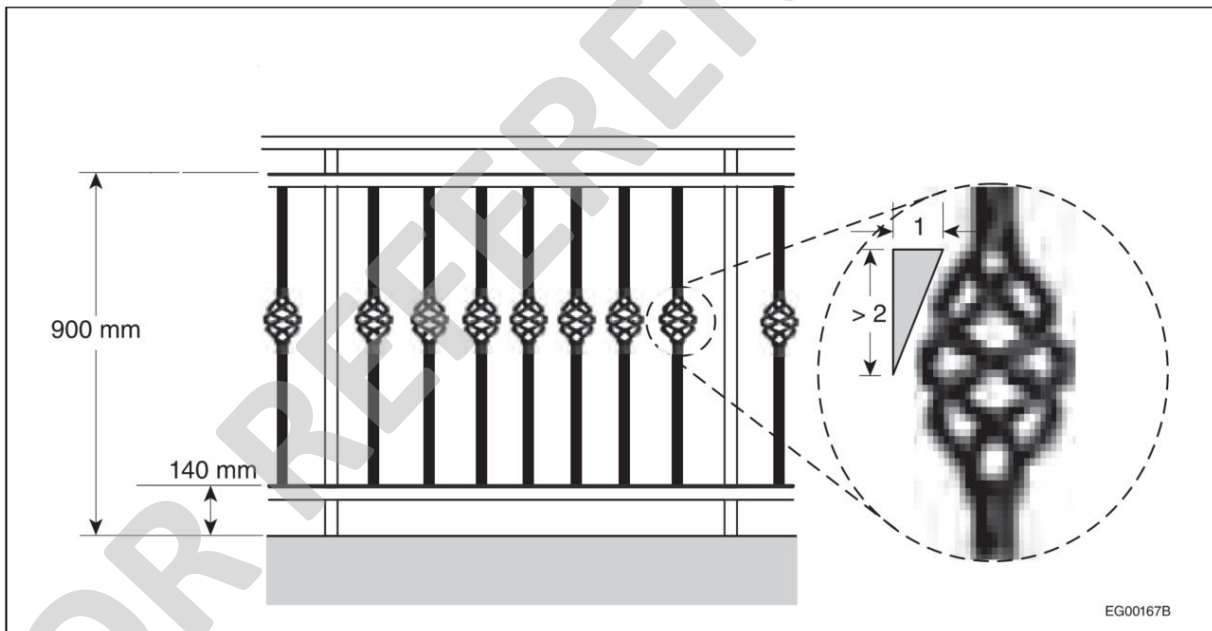


Figure A-9.8.8.6.(1)-D

Example of guard protrusions with a slope greater than 2 in 1