
STANDATA variance 23-BCV-001

Building

Window opening control devices (WOCD)

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Purpose

To provide an alternative solution in meeting the requirements of Sentences 9.8.8.1 (4) and (5) Guards on windows of residential occupancy in the National Building Code – 2023 Alberta Edition (NBC (AE)).

Discussion

The National Building Code - 2023 Alberta Edition introduced a new requirement in Clause 9.8.8.1 (4) (b) and Sentence 9.8.8.1.(5) by requiring a mechanism that can only be released with the use of tools or special knowledge to control the free swinging or sliding operation of all openable windows that are less than 900mm from the finished floor and more than 1800mm from the floor or ground level on the other side of the window. The intention of this requirement is to reduce the probability of young children opening a window greater than 100mm and falling out of that window opening.

The Appendix Note A-9.8.8.1 (4) refers to ASTM F2090 “Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms” as a way of providing the protection required in 9.8.8.1 (4) (b) and (5).

Also, Sentence 9.9.10.1 (1) requires that each bedroom must have at least one outside window or exterior door openable from the inside without the use of keys, tools, or special knowledge. However, there is no reference under Sentence 9.9.10.1.(1) to ASTM F2090 “Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms” as a means of providing the required window (openable with a minimum dimension of 380mm, and a minimum unobstructed area of .35m²).

This variance allows for the installation of a mechanism that complies with ASTM F2090 “Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms” to be installed.

Code References

Sentences 9.8.8.1.(4) & (5)

9.8.8.1. Required Guards

- 4) Except as provided in Sentence (5), openable windows in *buildings of residential occupancy* shall be protected by
- a) a *guard*, or
 - b) a mechanism that can only be released with the use of tools or special knowledge to control the free swinging or sliding operation of the openable part of the window so as to limit any clear unobstructed opening to not more than 100 mm measured either vertically or horizontally.
(See Note A-9.8.8.1.(4).)
- 5) Windows need not be protected in accordance with Sentence (4), where the bottom edge of the openable portion of the window is located
- a) more than 900 mm above the finished floor, or

b) less than 1 800 mm above the floor or ground on the other side of the window.
(See Note A-9.8.8.1.(4).)

A-9.8.8.1.(4) Window Fall Prevention. The primary intent of the requirement is to minimize the likelihood of small children falling significant heights from open windows. Reflecting reported cases, the requirement applies to openable windows in dwelling units and generally those located on the second floor or higher of residential or mixed use buildings.

Once cracked open, some openable windows can be opened further by simply pushing on the openable part of the window. Care must be taken in selecting windows, as some with special operating hardware can still be opened further by simply pushing on the window or by deactivating a spring-loaded button or other mechanism that is not considered a window opening control device (WOCD) that could be inadvertently operated by a young child. A technical description of WOCDs can be found in ASTM F2090, "Standard Specification for Window Fall Prevention Devices With Emergency Escape (Egress) Release Mechanisms."

Examples of WOCDs that can limit window openings to a maximum of 100 mm as required by Clause 9.8.8.1.(4)(b) include, but are not limited to, a fixed-stop lever, a fixed-length cable and a fixed-position stop block. It is important to note that rotary opening mechanisms cannot limit window openings to 100 mm as required by Clause 9.8.8.1.(4)(b) and that windows with such mechanisms cannot act as guards as required by Clause 9.8.8.1.(4)(a), even when the crank handle is removed. Similarly, awning windows with scissor hardware may not keep the window from swinging open once it is unlatched. Hopper windows would be affected only if an opening is created at the bottom as well as at the top of the window. The requirement will impact primarily on the use of sliding windows which do not incorporate devices in their construction that can be used to limit the openable area of the window.

The 100 mm opening limit stated in Sentence 9.8.8.1.(4) is recognized as the maximum opening size required to protect small children from falling through open windows. The minimum 900 mm height of the openable portion of windows required by Sentence 9.8.8.1.(5) corresponds to the minimum height of guards required by Sentence 9.8.8.3.(2) as a means of fall protection in residential occupancies.

Sentence 9.9.10.1.(1)

9.9.10.1. Egress Windows or Doors for Bedrooms

1) Except where the *suite* is *sprinklered*, each bedroom or combination bedroom shall have at least one outside window or exterior door openable from the inside without the use of keys, tools or special knowledge and without the removal of sashes or hardware. (See Article 9.5.1.2. and Note A-9.9.10.1.(1).)

Application

This variance applies to buildings of residential occupancy covered by Part 9 of the National Building Code – 2023 Alberta Edition.

Variance

A WOCD mechanism that complies with ASTM F2090 “Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms” as a means of complying with the requirements of 9.8.8.1 (4) and 9.9.10.1 (1) with the following condition.

1. WOCD mechanisms are not permitted for use in adaptable or barrier-free dwelling units.

This VARIANCE is applicable throughout the Province of Alberta.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the National Building Code - 2023 Alberta Edition

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