

EMERGENCY ESCAPES and RESCUE OPENINGS

2020 MINNESOTA RESIDENTIAL CODE

Minnesota Department of Labor and Industry

Emergency escape and rescue openings are required in basements, bedrooms and sleeping rooms

Emergency escape and rescue openings must be installed in accordance with the 2020 Minnesota Residential Code (2020 MNRC) provisions.

Emergency escape and rescue openings are required for all of Minnesota

The Minnesota State Building Code is the standard of construction for all of Minnesota, in areas with or without local code enforcement. The 2020 MNRC adopts the 2018 International Residential Code (IRC) with amendments. [Minnesota Statutes, section 326B.121, MR 1309]

The Minnesota State Building Code, or the code, is adopted under Minnesota Statutes, section [326B.106](#), subdivision 1, and includes the chapters identified in Minnesota Rules, part [1300.0020](#). The 2020 MNRC can be viewed at <https://codes.iccsafe.org/content/MNRC2020P1>.

Background and purpose

Fires occur in thousands of residences each year. Residential fires are especially dangerous because they can happen while occupants are asleep and unaware, which increases the risk of injury. Residential fire fatalities are generally due to asphyxiation caused by smoke inhalation. To reduce these risks, the Minnesota State Building Code requires the installation of smoke alarms in dwellings to alert the occupants of a fire and emergency escape and rescue openings to help them reach safety.



The code requires dwellings to have windows or doors that can be used as emergency escape or rescue openings in sleeping rooms, basements and habitable attics. Where basements contain one or more sleeping rooms, emergency egress and rescue openings are required in each sleeping room, but not required in adjoining areas of the basement.

The 2020 MNRC requires windows and doors that are emergency escape and rescue openings to be readily openable without any special knowledge or effort to allow occupants to escape quickly. The minimum opening requirements for emergency escape and rescue windows are necessary to allow emergency responders wearing protective equipment to enter the dwelling.

To prepare for an emergency, all dwelling occupants should be familiar with what the smoke alarm sounds like and practice an emergency escape plan that includes testing the alarms and meeting at a safe place such as a mailbox or sidewalk.

2020 Minnesota Residential Code requirements

Emergency escape and rescue openings required [R310.1]

Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency egress and rescue opening shall be required in each sleeping room, but not be required in adjoining areas of the basement. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

Exceptions:

1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet.
2. Basements or basement bedrooms when the building is protected with an automatic sprinkler system installed in

accordance with IRC Section P2904 or NFPA 13D.

3. Basements or basement bedrooms where the entire basement area, including all portions of the means of egress to the level of exit discharge, and all areas on the level of exit discharge that are open to the means of egress is protected with an automatic sprinkler system in accordance with IRC Section P2904 or NFPA 13D.

Operational constraints and opening control devices. [R310.1.1]

Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices on windows serving as a required emergency escape and rescue opening shall comply with ASTM F2090.

Emergency escape and rescue openings. [R310.2]

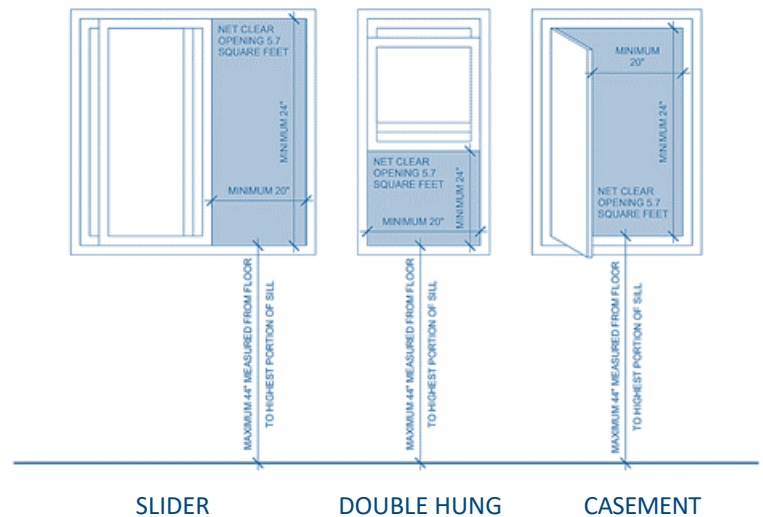
Emergency escape and rescue openings shall have minimum dimensions as specified in this section.

Minimum opening area. [R310.2.1]

Emergency and escape rescue openings shall have a net clear opening of not less than 5.7 square feet. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. The net clear height of the opening shall be not less than 24 inches and the net clear width shall be not less than 20 inches.

Exception: Grade floor openings or below-grade openings shall have a net clear opening area of not less than 5 square feet.

Window types and opening requirements



Window sill height. [R310.2.2]

Where a window is provided as the emergency escape and rescue opening, it shall have a sill height of not more than 44 inches above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with Section R310.2.3.

Window wells. [R310.2.3]

The horizontal area of the window well shall be not less than 9 square feet, with a horizontal projection and width of not less than 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

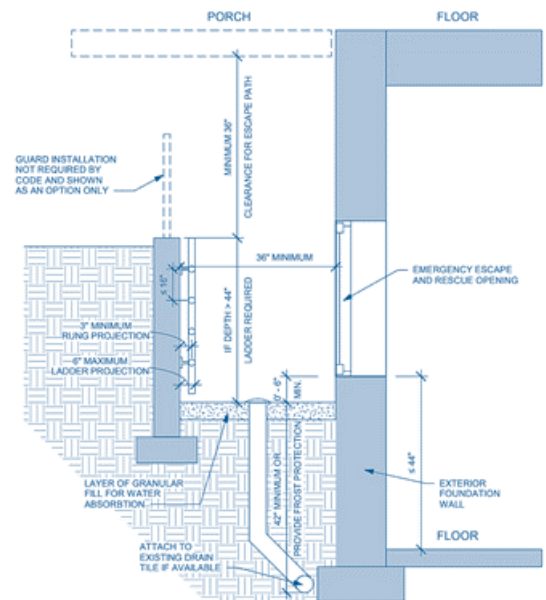
Exception: The ladder or steps required by Section R310.2.3.1 shall be permitted to encroach not more than 6 inches into the required dimensions of the window well.

Ladder and steps. [R310.2.3.1]

Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Section R311.7. Ladders or rungs shall have an inside width of not less than 12 inches, shall project not less than 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well.

Drainage. [R310.2.3.2]

Window wells shall be designed for proper drainage by connecting to the building's foundation drainage system required by Section R405.1 or by an approved alternative method.

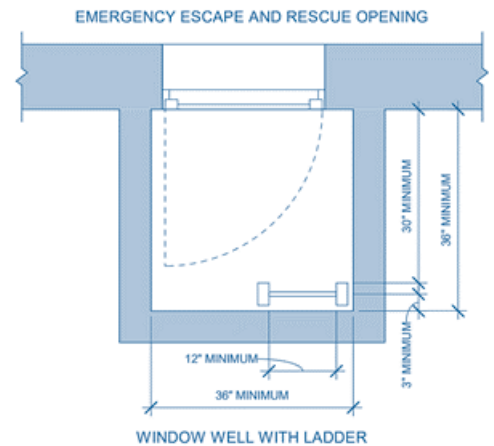


Window well section

Exception: A drainage system for window wells is not required where the foundation is on well-drained soil or sand-gravel mixture soils in accordance with the United Soil Classification System, Group I Soils, as detailed in Table R405.1.

Emergency escape and rescue openings under decks and porches. [R310.2.4]

Emergency escape and rescue openings installed under decks and porches shall be fully openable and provide a path not less than 36 inches in height to a yard or court.

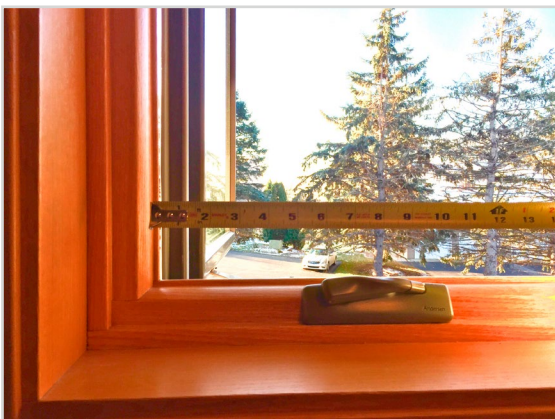


Replacement windows. [R310.2.5]

Replacement windows installed in buildings meeting the scope of this code shall be exempt from the maximum sill height requirements of Section R310.2.2 and the requirements of Section R310.2.1, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement window is not part of a change of occupancy.

Replacement window operating hardware shall be the same operating style as the existing window and permit the window sash to obtain a full open width without further reducing the horizontal opening width from the window jamb.



Licensed facilities. [R310.2.5.1]

Windows in rooms used for foster care or day care licensed or registered by the state of Minnesota shall comply with the provisions of Section R310.2.5, or all of the following conditions, whichever is more restrictive:

1. Minimum of 20 inches in clear opening width;
2. Minimum of 20 inches in clear opening height;
3. Minimum of 648 square inches clear opening; and
4. Maximum of 48 inches from the floor to the sill height.

Emergency escape and rescue doors. [R310.3]

Where a door is provided as the required emergency escape and rescue opening, it shall be a side-hinged door or a slider. (See full code text for door size, area wells, ladders and steps, and drainage)

Bars, grilles, covers and screens. [R310.4]

Where bars, grilles, covers, screens, or similar devices are placed over emergency escape and rescue openings, area wells, or window wells, the minimum net clear opening size shall comply with Sections R310.2.1 through R310.2.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that required for the normal operation of the escape and rescue opening.

Dwelling additions. [R310.5]

Where dwelling additions contain sleeping rooms, an emergency escape and rescue opening shall be provided in each new sleeping room. Where dwelling additions have basements, an emergency escape and rescue opening shall be provided in the new basement.

Exceptions:

1. An emergency escape and rescue opening is not required in a new basement that contains a sleeping room with an emergency escape and rescue opening.
2. An emergency escape and rescue opening is not required in a new basement where there is an emergency escape and rescue opening in an existing basement that is accessed from the new basement.

Alterations or repairs of existing basements. [R310.6]

An emergency escape and rescue opening is not required where existing basements undergo alterations or repairs.

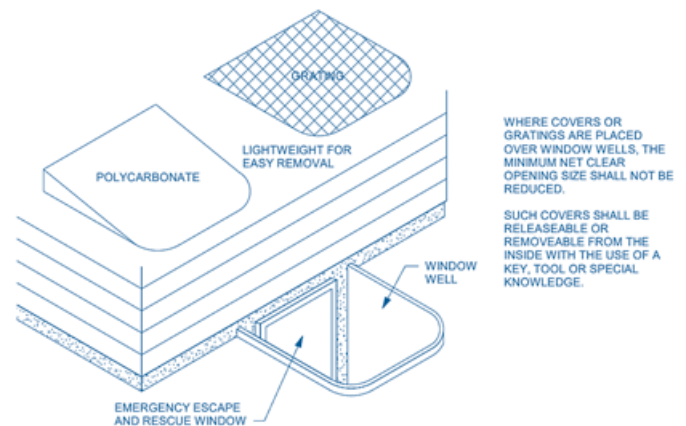
Sleeping rooms in existing basements. [R310.6.1]

New sleeping rooms created in an existing basement shall be provided with emergency escape and rescue openings in accordance with Section R310.1.

Exception: Emergency escape and rescue openings are not required to be provided where the entire basement area, including all portions of the means of egress to the level of exit discharge, and all areas on the level of exit discharge that are open to the means of egress are protected with an automatic sprinkler system in accordance with IRC Section P2904 or NFPA 13D.

Note: guards, covers and security at window wells

The 2020 MNRC does not have requirements for guards over window wells to prevent falls. This is because window wells vary in size, depth and location and a guard could impede escape or rescue. The homeowner should evaluate the potential for falls into a window well and determine if guards or visual barriers are necessary. Any guard must not impede the use of the window for escape and rescue and the effects of snow or the ability to open or remove the cover should be considered.



Window well covers (optional)

There is an increasing demand for security devices such as grilles and bars to be installed in residential buildings. However, if these security devices are improperly designed, they can impede escape and rescue. The code requires any grilles or bars installed over emergency escape and rescue windows to be equipped with a release mechanism that is operable from the inside without the use of a key or special knowledge. Security devices should only be installed when necessary.

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