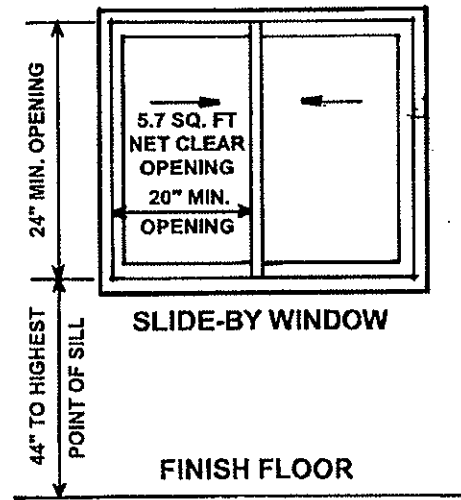
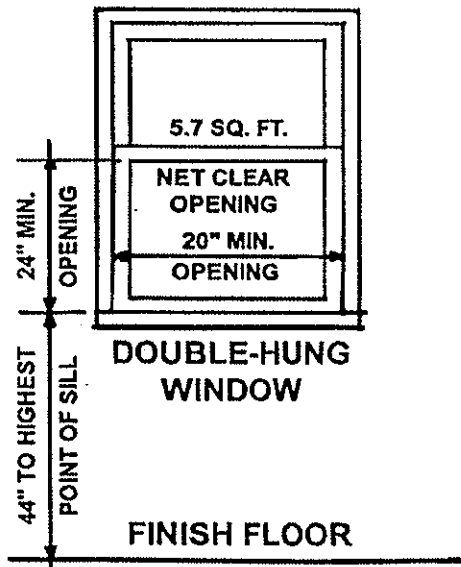


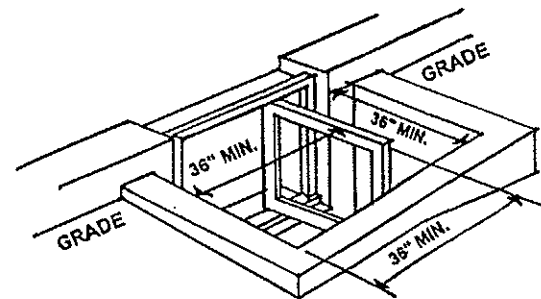
Code Requirements.

1997 Uniform Building Code 310.4. Access and Means of Egress Facilities and Emergency Escapes. Basements in dwelling units and every sleeping room below the fourth story shall have at least one operable window or door approved for emergency escape or rescue that shall open directly into a public street, public alley, yard or exit court. The emergency door or window shall be operable from the inside to provide a full, clear opening without the use of separate tools. Escape or rescue windows shall have a minimum net clear openable area of 5.7 square feet. The minimum net clear openable height dimension shall be 24 inches. The minimum net clear openable width dimension shall be 20 inches. When windows are provided as a means of escape or rescue, they shall have a finished sill height not more than 44 inches above the Floor.

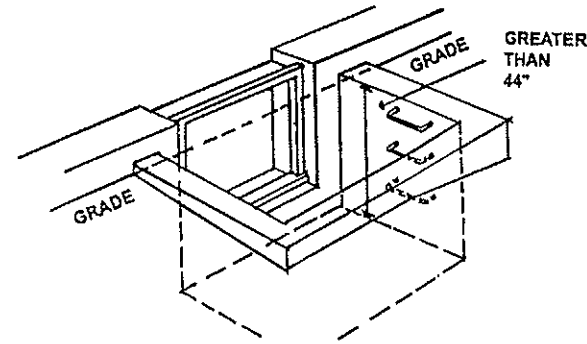


Escape and rescue windows with a finished sill height below the adjacent ground elevation shall have a window well. Window wells at escape or rescue windows shall comply with the following:

1. The clear horizontal dimensions shall allow the window to be fully opened and provide a minimum accessible net clear opening of 9 square feet, with a minimum dimension of 36 inches.



2. Window well with a vertical depth of more than 44 inches shall be equipped with an approved permanently affixed ladder or stairs that are accessible with the window in the fully open position. The ladder or stairs shall not encroach into the required dimension of the window well by more than 6 inches.



Bars, grilles, grates or similar devices may be installed on emergency escape or rescue windows, doors or window wells, provided:

1. The devices are equipped with approved release mechanisms that are operable from the inside without the use of a key or special knowledge or effort; and
2. The building is equipped with smoke detectors.

Emergency Escape Windows and Window Wells Made Easy



Buffalo

CITY OF BUFFALO, MINNESOTA

METRO WEST INSPECTION SERVICES, INC



Thousands of fires occur in residences each year. Many of these fires occur at night when the occupants are asleep. Severe injuries or death can be the result of these fires if the occupants are asleep and unaware the fire is in progress. Death usually results from asphyxiation long before the fire reaches the bedroom.

In order to prevent the tragic loss of life the Minnesota State Building Code requires smoke detectors be installed in dwellings to alert the occupants of a fire. The code also requires that sleeping rooms and basements in dwelling units have windows or doors, which may be used for emergency escape or rescue if the fire has blocked the normal, escape routes in the home.



Basements pose a special danger since they usually have only one stairway to act as a means of escape. This stairway can be easily blocked by fire making escape from the basement impossible. For this reason the Building Code requires basements to have at least one emergency egress window or door to provide for a second means of escape from the basement in case of emergency. This window or door is required regardless of whether the basement is to be used for sleeping.

The size of windows and doors required in the code is based on extensive research to determine the proper relationships of height and width of window openings to adequately serve for both rescue and escape.

People come in all sizes and windows come in all shapes. A fireman attempting a rescue will likely be wearing full rescue gear, which may include a breathing apparatus. Windows above the first story need to be sized to accommodate use of a rescue ladder.

The optimum size determined as a minimum for escape and rescue is 5.7 square feet of clear openable area. Since windows come in all shapes, a minimum width dimension was needed to accommodate tall window shapes and a minimum height dimension for wide window shapes. The studies determined the minimum width needed is 20 inches for tall windows and 24 inches for wide window shapes. These three window dimensions are part of the code requirements and assure the window or door will provide for a safe exit or rescue.

Emergency escape windows and doors must be located on the exterior of the building and open directly to a yard, street or alley so that the occupants may escape or be rescued directly from the room to the outside without having to travel through the building itself.

In a fire, time is critical to survival. You may not have time to instruct family members and guests on the proper window operation or to perform complex operations to get the window open. The code requires windows and doors used for emergency escape or rescue to be readily openable without any special knowledge or effort. The intent is that windows be of the common double-hung, horizontal sliding or casement type. Your local building inspector will need to be consulted to assist you in evaluating special types of windows.

Special windows need to be evaluated based on the difficulty and knowledge needed for operating or removing the windows. If no more effort or knowledge is required than that required for the common window types, they could be approved as meeting the intent of the code.



Windows installed in basement walls below grade will need properly sized window wells so that escape and rescue can occur unimpeded. Just like the windows, studies were done to determine the minimum size and safety equipment needed for a safe escape or rescue from the window through the window well.

The minimum size requirements in cross section are similar in intent to the emergency escape window criteria: that is, to provide a nominal size to allow for the escape of occupants or ingress of firefighters. The ladder or stair requirement is the main difference.

Window wells need to allow the window to open fully. When the window is open, the well must be large enough to give access to an area of 9 square feet. Window wells must extend at least three feet out from the wall of the basement. When the depth of a window well exceeds 44 inches, a ladder or stair from that window well is required. The type of ladder or stair is not identified but the intent is to have a permanently fixed ladder or device to allow a person to climb out of the well.

Remember, the ladders or stairs are provided for emergency use and need not fully comply with the code for stairs.

Although the code does not specify requirements for guardrails around window wells to keep persons from falling into them, falls can and do occur. Because of the variations in size, location, and depth of window wells and since a guardrail could present an impediment to escape or rescue, the code is silent. The potential for falls into a window well should be evaluated by the homeowner and suitable guards or visual barriers provide based on the location, depth and size of the well. Barriers, guards or covers installed to prevent falls must be placed in such a way that does not impede use of the window well for escape and rescue. If covers are used the effects of snow on the ability to open or remove them in an emergency must also be evaluated.

The ever-increasing concern for security, particularly in residential buildings, has created a fairly large demand for security devices such as grilles, bars and steel shutters. Unless properly designed and constructed, these security devices over emergency windows can completely defeat the purpose of the emergency escape and rescue window. The code makes provisions for use of security devices, provided the release mechanism has been approved by the building official and it is operable from the inside without the use of a key or special knowledge.



Fire deaths have been attributed to the inability of the individual to escape from the building because the security bars prevented emergency escape. Security devices should only be installed where absolutely necessary and only with a permit after an evaluation by your local building and fire official.