

DIMENSIONS FOR EMERGENCY ESCAPE AND RESCUE OPENINGS

The IRC prescribes minimum opening dimensions and a maximum sill height for emergency escape and rescue openings to effectively serve their intended purpose. The minimum opening size accommodates a fully equipped fire fighter or other rescuer as well as providing an adequate escape route for the occupant. The limitation on sill height allows a child or adult access to the escape opening. Width and height may be any number of combinations to achieve the minimum required opening area provided the minimum net dimensions are maintained (Table 1). The emergency escape and rescue opening may be a swinging or sliding door, a window or any other device that provides the required dimensions.

Minimum net clear opening dimensions (Figures 3 and 4)

- Minimum opening area - 5.7 square feet
- Minimum opening width - 20 inches
- Minimum opening height - 24 inches

The following combinations of width and height will provide a net clear opening of 5.7 square feet (820.8 square inches):

width (in.)	height (in.)	width (in.)	height (in.)	
20	X	27.5	X	29.8
20.5	X	28	X	29.3
21	X	28.6	X	28.8
21.5	X	29	X	28.3
22	X	29.5	X	27.8
22.5	X	30	X	27.4
23	X	30.5	X	26.9
23.5	X	31	X	26.5
24	X	31.5	X	26.1
24.5	X	32	X	25.7
25	X	32.5	X	25.3
25.5	X	33	X	24.9
26	X	33.5	X	24.5
26.5	X	34	X	24.1
27	X	34.5	X	24

Maximum sill height above floor (Figures 3 to 5)

- Maximum sill height - 44 inches

Table 1

Exception for grade floor openings (Figure 5)

GRADE FLOOR OPENING. A window or other opening located such that the sill height of the opening is not more than 44 inches above or below the finished ground level adjacent to the opening.

Minimum net clear opening dimensions for grade floor openings

Minimum opening area - 5.0 square feet

Note: Minimum opening width and height are the same as above—20 inches and 24 inches, respectively.

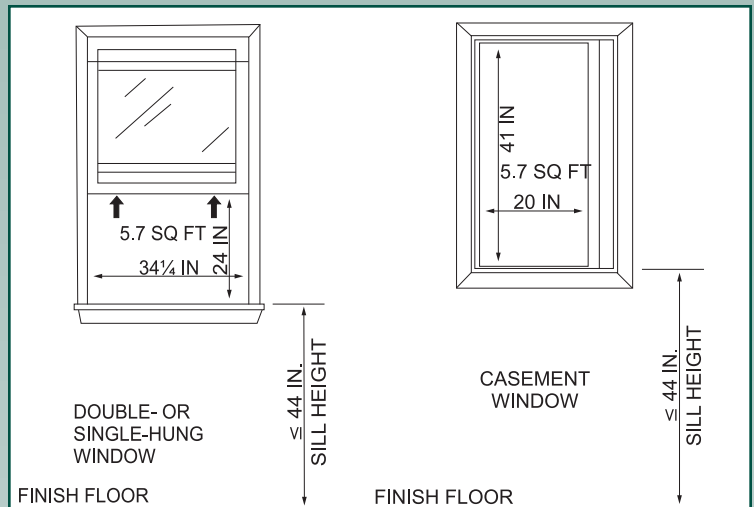


Figure 3 Single- or double-hung or casement window

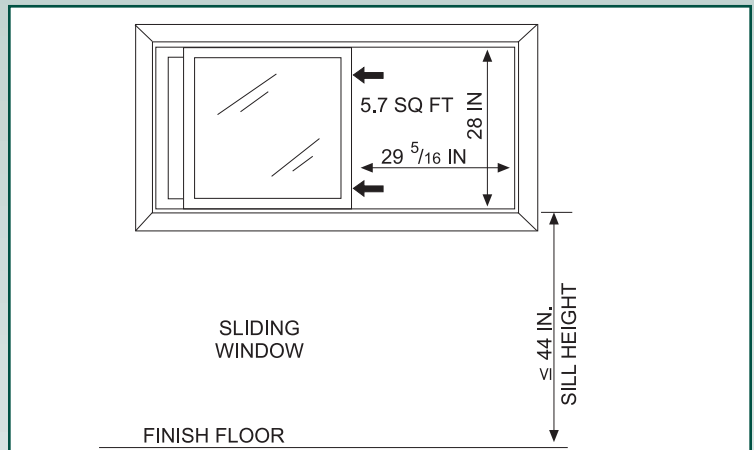


Figure 4 Sliding window

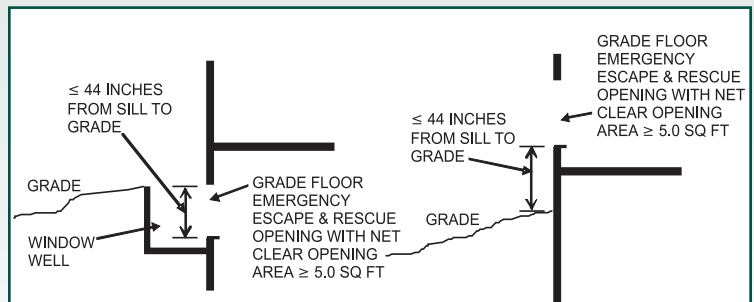


Figure 5 Grade floor opening – minimum net clear opening area

WINDOW WELLS FOR EMERGENCY ESCAPE AND RESCUE OPENINGS

The IRC requires a window well when the sill of the emergency escape and rescue opening is below the adjacent ground elevation. Window wells with a depth greater than 44 inches require a permanent ladder or steps to provide access to grade. The IRC prescribes minimum clearances when an emergency escape and rescue window is installed below a deck or porch.

Window well dimensions (Figures 6 to 8):

Minimum horizontal dimension 36 inches
 Minimum horizontal area 9 square feet

Note: the size of the window well must also be sufficient for the full opening of the emergency escape and rescue window.

Ladder or steps (Figures 6 to 8)

- Required for window wells deeper than 44 inches
- May encroach a maximum of 6 inches into the required window well area
- Must be usable with the window in the full open position
- Must be permanently secured in place

Ladder rung dimensions:

Minimum projection from wall 3 inches
 Minimum width 12 inches
 Maximum vertical spacing 18 inches on center

Note: The stair and railing requirements for dwellings do not apply to window well steps. The IRC does not prescribe minimum width or depth of treads or a maximum riser height for these steps. They must simply provide a means for climbing from the window well to grade.

Guards not required

The IRC does not require guards or barriers to protect against falls into window wells.

Clearance under decks and porches (Figures 7 and 8)

An emergency escape and rescue window may be installed under a deck or porch when:

- The deck structure does not interfere with operation of the window and
- A clear path with a minimum height of 36 inches is provided to a yard or court

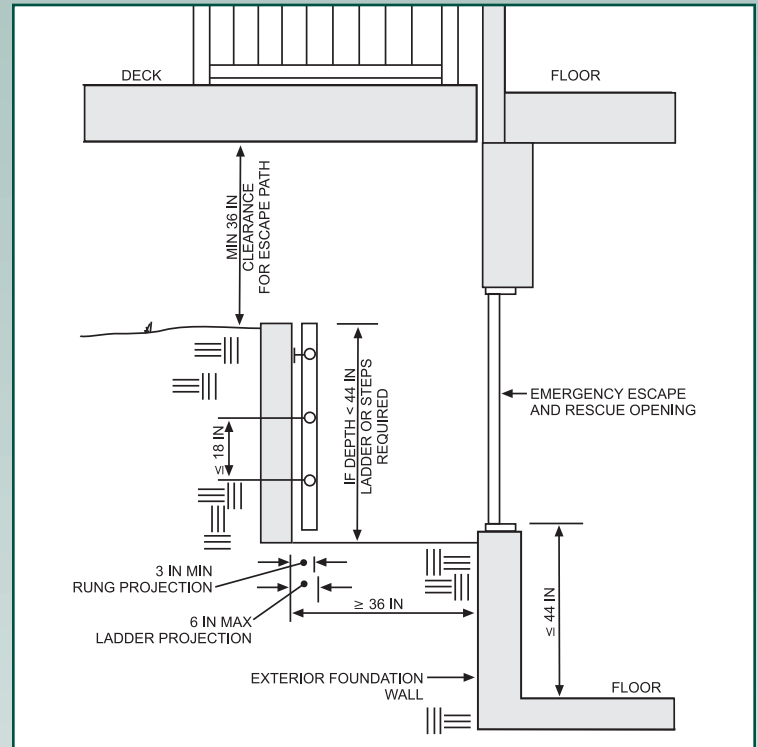


Figure 7 Window well and ladder below deck

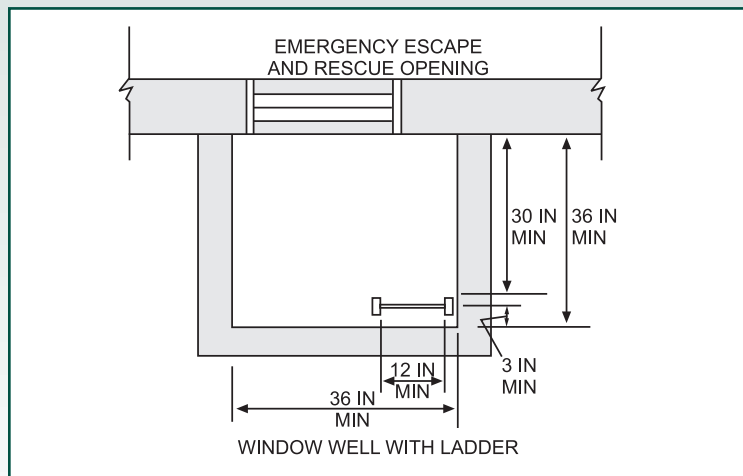


Figure 6 Window well dimensions

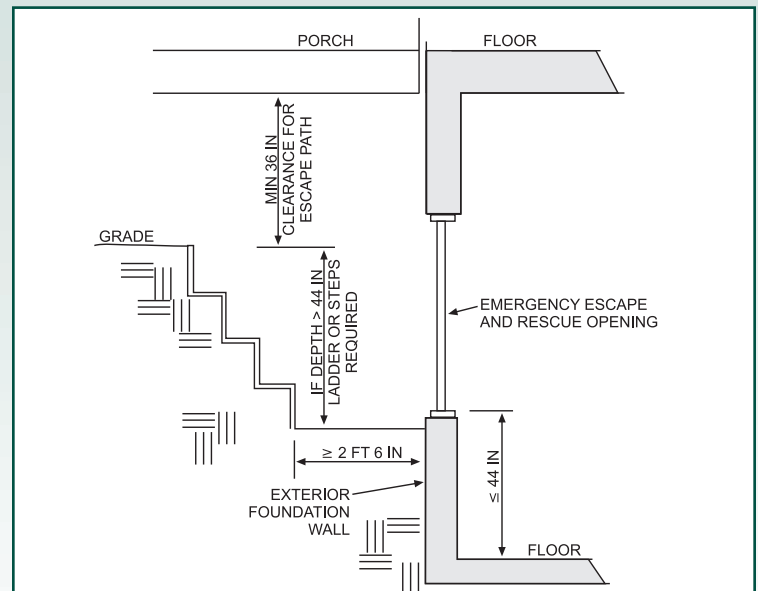


Figure 8 Window well and steps below porch

OPERATION OF EMERGENCY ESCAPE AND RESCUE OPENINGS

In an emergency, occupants need to move quickly and easily to an outside space. Therefore, the code requires that the prescribed opening dimensions be obtained by the normal operation of the emergency escape and rescue opening, usually a window or door, without the need for a key, tool or any special knowledge. This provision does not allow, for example, the removal of a window sash to obtain the required opening dimensions. Security devices such as grilles or bars may be placed over the escape openings provided they are releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape and rescue opening. The same limitations apply to covers placed over the window wells of escape openings. These provisions preclude the use of mechanical fasteners such as screws or bolts for securing windows, doors, security devices or covers related to emergency escape and rescue openings.

Operational constraints at emergency escape and rescue openings

Doors and windows (Figure 9)

- Open by normal operation from the inside
- No keys
- No tools
- No special knowledge

Security bars and grilles (Figure 10)

- Same operational constraints as doors and windows
- No more force to open or remove as that required for doors or windows
- Maintain prescribed escape opening dimensions

Covers on window wells (Figure 11)

- Same operational constraints as doors and windows
- No more force to open or remove as that required for doors or windows
- Maintain prescribed escape opening dimensions

Copyright © ICC, 2009.

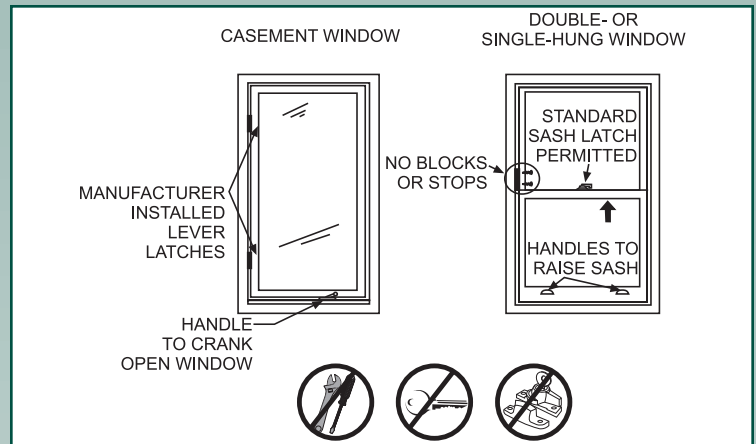


Figure 9 Normal operation of emergency escape and rescue windows

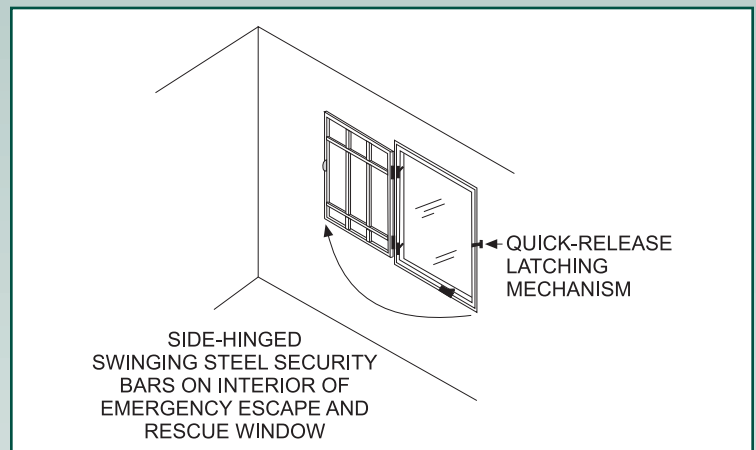


Figure 10 Security bars

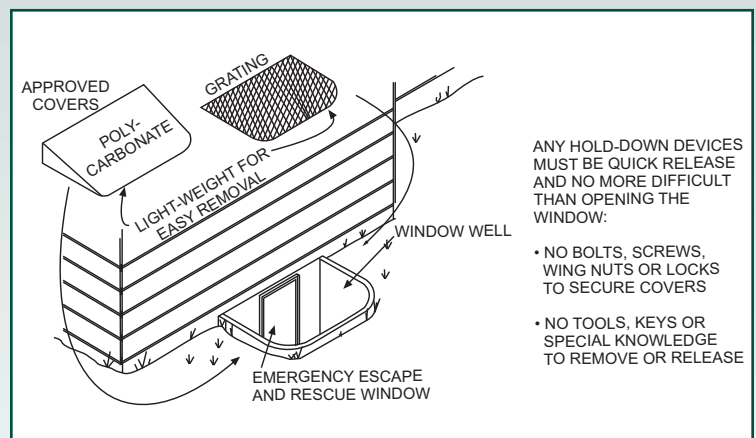


Figure 11 Covers on window wells