

## What is an Egress Window?

Have you ever applied for a window permit to change out your old outdated windows with new energy efficient windows for your home only to find out that some of the windows don't meet the window egress requirements?

This is a very common problem. Building codes change over time and what was once acceptable might not be under current code when an alteration occurs. It is best to contact your local authority having jurisdiction to see what these requirements are.

As for a general understanding of these requirements, let us look at 2018 NC Residential Code (NCRC) for what the minimum standards are.

A lot of people will refer to the term "Egress Windows" when in reality the code references "Emergency Escape and Rescue Opening". These requirements can be found in [Section R310](#) of the IRC. Basically the intent is to provide a means of escape and access for rescue in the event of an emergency, for example a fire.

These means of escape and access can be achieved by an operable exterior window, door, or similar device that meet the minimum size and dimensions of [Section R310](#).

## What is the Minimum Size Required for Emergency Escape and Rescue Openings? (R310.2)

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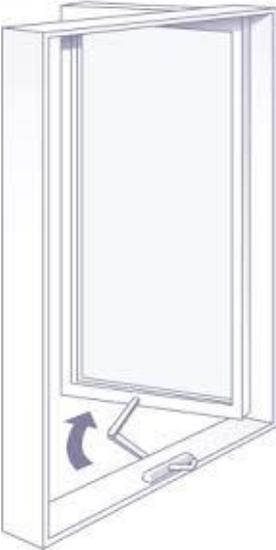
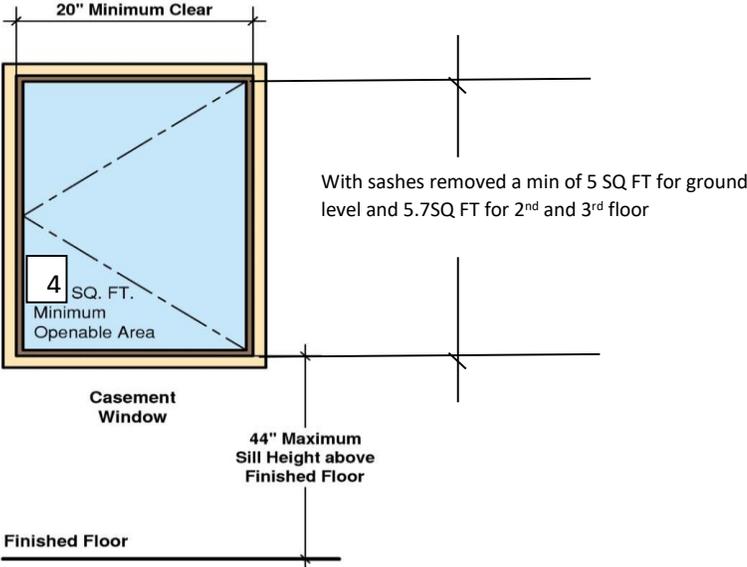
### Egress window size and dimensions

First let's look at the minimum opening area required. This includes compliance with all of the following: the net clear opening area, net clear height opening, and net clear width opening.

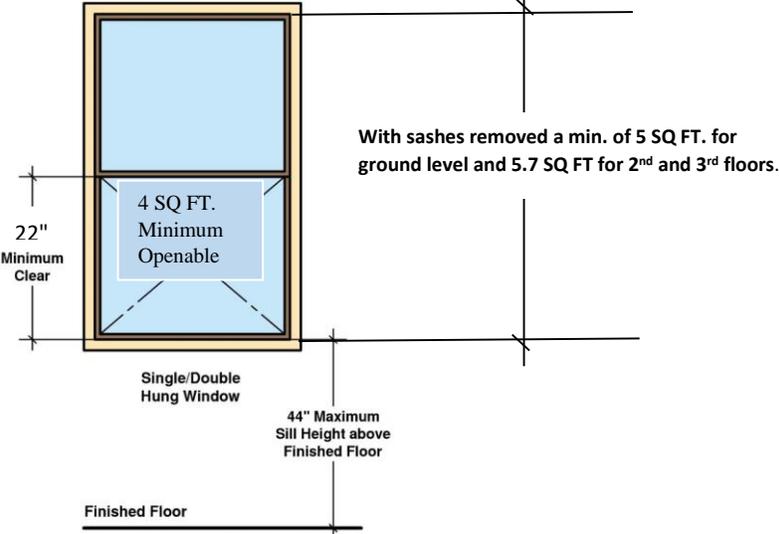
- Minimum 4 square feet of net clear opening area.
- Minimum 22 inches of net clear height opening.
- Minimum 20 inches of net clear width opening.

Here is a visual look at these dimensions and how they apply to the different types of windows:

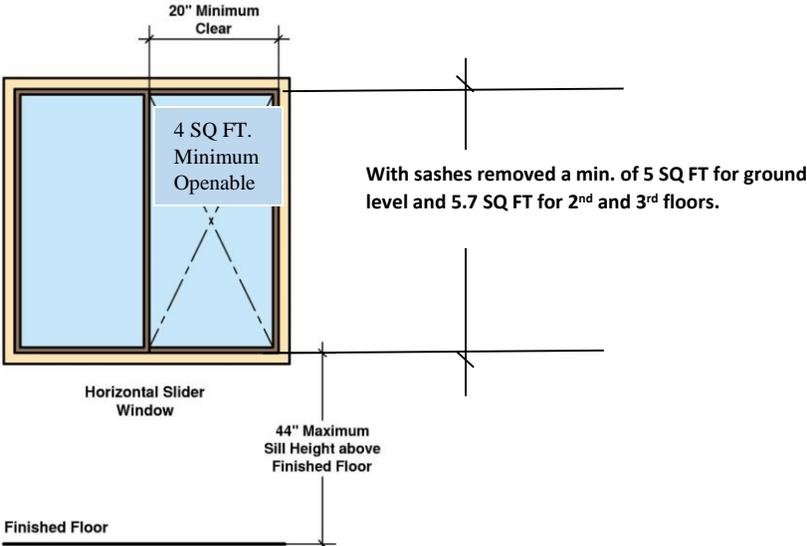
# Casement Egress Window



# Single/Double Hung Egress Window



# Horizontal Slider Egress Window



Also note that if a window is being used to meet the egress requirements, in addition to the above, the sill height of the window shall not be more than 44 inches above the finished floor.

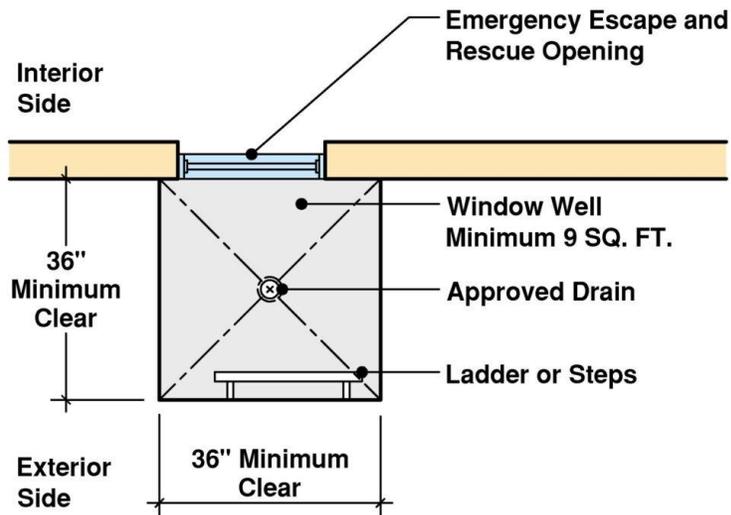
When a door is being used to meet the egress requirements, it must be either a side-hinged door or a slider. It must meet the minimum opening area requirements stated above. If the door is located below the adjacent ground elevation, it must provide a bulkhead enclosure with a minimum headroom height equal to the door when it is in the fully opened position.

## Egress Window Well Code Requirements (R310.2.3)

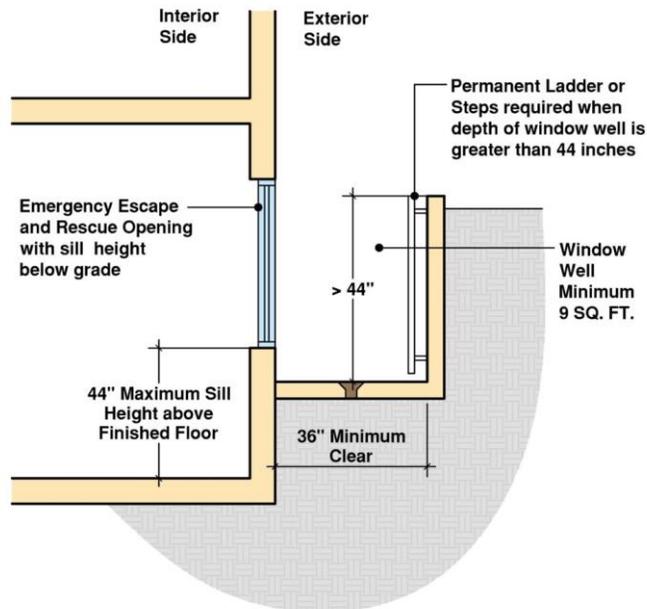
When the sill height of an egress window is located below grade (common for egress windows provided for a basement) a window well must be provided

### Window Well Size

The area of a window well shall not be less than 9 square feet with a horizontal length/width of no less than 36 inches. This is to ensure that there will be a sufficient amount of space to allow occupants to escape or for fire fighters to enter



If the depth of the window well is greater than 44 inches, a ladder or steps are to be provided and permanently fixed to provide access and by no means are allowed to encroach within the required window well dimensions by more than 6 inches.



The inside width dimension of ladders or rungs (a horizontal support on a ladder for a person's foot) shall not be less than 12 inches and must project no less than 3 inches from the wall. The vertical spacing shall not be more than 18 inches on center throughout the entire height of the window well. Although the design of the steps are not mentioned within the code provisions, the design of the ladder is.

## Replacement windows

Replacement windows installed in buildings meeting the scope of this code shall be exempt from the maximum sill height requirements of Sections R310.1 and Sections R310.2.1 and R310.2.2, provided 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.

# Emergency Escape and Rescue Openings in Summary

So this basically sums up the basic code requirements for egress windows and their dimensions. Therefore let us recap on the residential emergency escape and rescue opening requirements:

1. Minimum 4 square feet of net clear opening area.
  - With sashes removed min 5 SQ FT for grade level
  - 5.7 SQ FT for 2<sup>nd</sup> and 3<sup>rd</sup> floors.
2. Minimum 22 inches of net clear height opening.
3. Minimum 20 inches of net clear width opening.
4. Maximum 44 inches to window sill measured from finished floor.
5. Window wells serving an egress window shall not be less than 9 square feet in area with a horizontal length/width of no less than 36 inches.
6. Window wells greater than 44 inches in depth requires a permanently fixed ladder or steps to provide access.
7. Permanent ladder or steps cannot encroach the required window well dimensions by more than 6 inches.
8. The inside width of a ladder serving a window well shall not be less than 12 inches and must project no less than 3 inches from the wall.
9. Vertical spacing of the rungs shall not be more than 18 inches on center.

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**Emergency Escape and Rescue Opening Minimum Size**

**Code:** 2018 Residential Code  
**Section:** R310.2.1

**Date:** April 9, 2019

**Question:**

What is the difference in the 4.0 square feet minimum net clear opening requirement and the minimum glass area requirement for emergency escape and rescue openings?

**Answer:**

The 4.0 square feet minimum net clear opening refers to the opening required when the sash is in the fully open position. This opening is expected to be used by the occupant for emergency escape.

The 5.0 and 5.7 minimum glass area requirement is the size of the window opening when all the sashes are removed. This opening size is based on the minimum required opening for a rescue worker to enter and remove an occupant. Also, it is expected that the rescue worker has the equipment required to knock the sash(s) out for access. The 5.7 square feet opening size for the second and third floors is to account for the additional area needed to dismount a ladder and enter the opening.

**Keywords:**

firemen, glazing