



Building Code Clarification Handout, #2008.008, February 2008

Egress Windows and Window Wells

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2008.008, BCCH, EGRESS WINDOWS and WINDOW WELLS.doc

The following building code requirements are the current minimum code standards, as taken from the IRC Code & Commentary 2006, required for Egress Windows in One and Two family dwellings, and based on Kentucky Amendments to the 2007 Kentucky Residential Code, Second Edition, May 15, 2007 Chapter 11, Energy Efficiency.

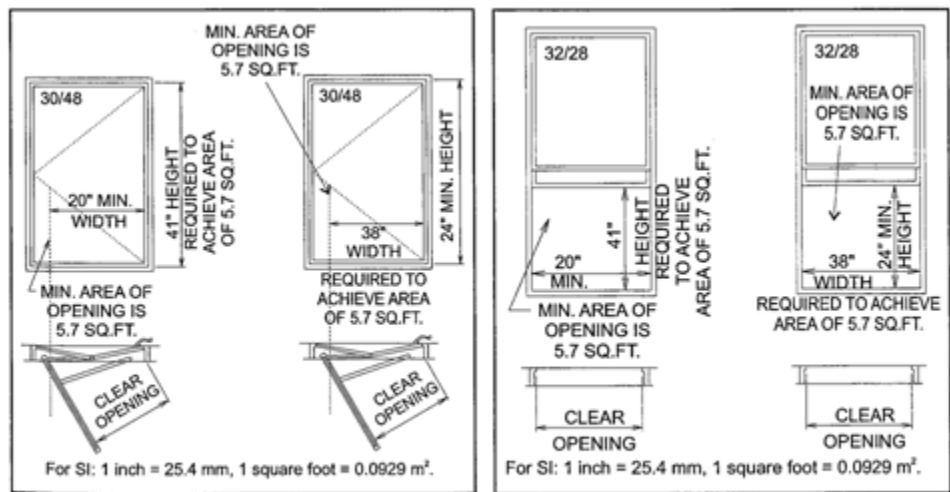
Disclaimer: This is not a listing of all code sections involving building or utilities which involve this subject, but only the sections most often questioned. Refer to the 2007 Kentucky Residential Code book for information not listed in this handout and for other requirements of the building code.

A. Emergency Escape and Rescue Openings. (R310.1). Every sleeping room shall have at least one operable emergency and rescue opening. Such opening shall open directly into a public street, public alley, yard or court. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement.

1. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches above the floor.

Example of Clear Opening Dimensions

2. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3.



Casement

Double Hung

3. 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.

4. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2.

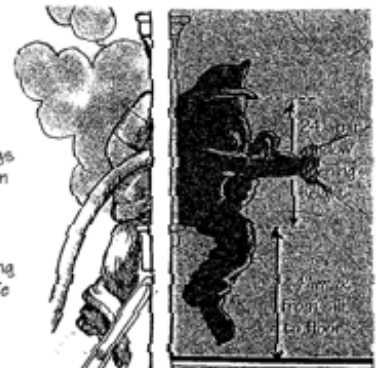
5. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

6. **Minimum opening area.** All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet. **Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet. (R310.1.1)**

7. **Minimum opening height.** The minimum net clear opening height shall be 24 inches. **(R310.1.2)** The minimum height is based on the height necessary to admit a firefighter with full rescue equipment including breathing apparatus.

**Fig. b12
 Bedroom Window
 Egress**

The second exit required in a bedroom is usually a window. The dimensions of the openings are to ensure the residents an escape route, but equally important, they are designed to allow a firefighter with a backpack to enter. This opening must be 24" high and 20" wide min. (bt-5). The window sill must not be higher than 44" from the floor.



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8. **Minimum opening width.** The minimum net clear opening width shall be 20 inches. (R310.1.3) *The minimum width is based on 2 criteria: the width necessary to place a ladder within the window opening and the width necessary to admit a firefighter with full rescue equipment including breathing apparatus.*

Bedroom Egress Window: Minimum width and height requirements [in inches]

<i>width</i>	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
<i>height</i>	41	39.25	37.5	35.25	34.25	33	31.75	30.50	29.5	28.5	27.5	26.5	25.75	25	24

9. **Operational constraints.** These egress window openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. (R310.1.4)

10. **Flashing Required. (R703.8).** Approved corrosion resistant flashing shall be applied shingle-fashion in such a manner to prevent entry of water into a wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish. *Approved corrosion-resistant flashings shall be installed at all of the following locations:*

1. Exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage.
2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.
3. Under and at the ends of masonry, wood, or metal copings and sills.
4. Continuously above all projecting wood trim.
5. Where exterior porches, decks or stairs attach to a wall or floor assembly of wood frame construction.
6. At wall and roof intersections.
7. At built-in gutters.

11. **Emergency escape windows under decks and porches (R310.5)** are allowed provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36 inches in height to yard or court.

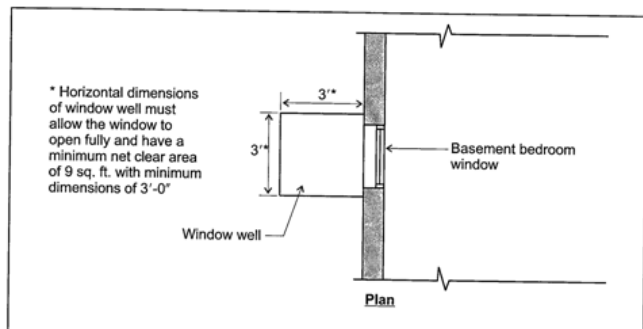
Sections R310.1 through R310.1.4 Emergency Escape and Rescue Openings

Item	Requirement
Nongrade floor windows	<ul style="list-style-type: none"> • Maximum 44 inches from the floor to top of sill. • Minimum net clear height equals 24 inches and minimum net clear width equals 20 inches. • Minimum net clear opening equals 5.7 square feet. • Operable from inside to the required full clear opening without use of a key or tool.
Grade floor windows	<ul style="list-style-type: none"> • Maximum top of 44 inches above the finished grade to top of sill. • Minimum net clear height equals 24 inches and minimum net clear width equals 20 inches. • Minimum net clear opening equals 5 square feet. • Operable from inside to the required full clear opening without use of a key or tool. • Window openings with a finished sill height below the adjacent grade shall be provided with a window well in accordance with Section R310.2.
Doors may be used as the emergency egress if	<ul style="list-style-type: none"> • Occupants can exit to the exterior. • Operable from inside to the required full clear opening without use of a key or tool.

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929m².

B. Window Wells.

1. **Window wells. (R310.2).** The minimum horizontal area of the window well shall be 9 square feet, with a minimum horizontal projection and width of 36 inches. The area of the window well shall allow the

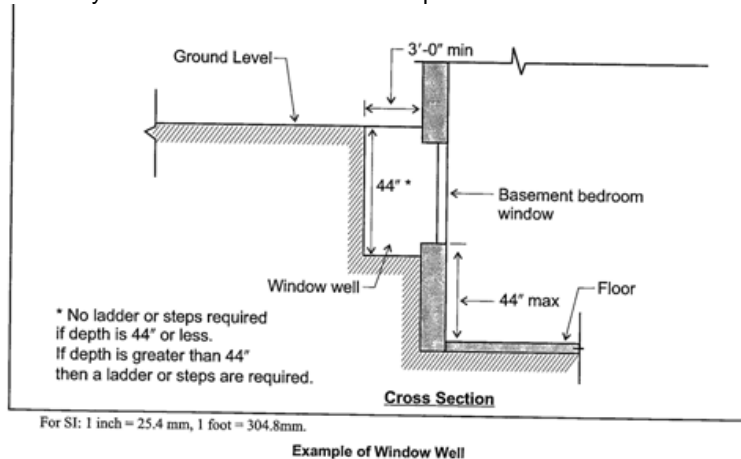


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emergency escape and rescue opening to be fully opened. Exception: The ladder or steps required by Section R310.2.1 shall be permitted to encroach a maximum of 6 inches into the required dimensions of the window well. **(Note: Window wells are required when the emergency rescue opening window is in a basement wall that is not a walkout basement wall.)**

2. **Ladders and steps. (R310.2.1)** 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.



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Ladders or rungs shall have an inside width of at least 12 inches shall project at least 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.

C. ENERGY CODE REQUIREMENTS, Windows and Doors

1. **Location by Climate Zone:** Hardin County per Table N1101.2, and the entire state of Kentucky, is located in Climate Zone 4, the HDD is 4,000 to 4,999.
2. **Chapter 11, Energy Efficiency.** Per N1101.2.1, The energy efficiency for the design and construction of buildings shall comply by either meeting the requirements of the *International Energy Conservation Code* or meeting the requirements of this chapter.
3. **Insulation and fenestration criteria. (N1102.1)** The building thermal envelope shall meet the requirements based on Climate Zone 4 as specified in Table N1101.2. **The term fenestration refers to** opaque doors and the light-transmitting areas of a residential building's wall, floor or roof, generally window, skylight, and non-opaque door products.
4. **Fenestration U-Factor. (Table N1102.1) (For glass in Windows & Doors.)** Provide Fenestration not exceeding a Maximum U-Factor 0.40.

Bibliography.

The code references and graphics pictured are found in the following resources.

1. [Figure 41, Example of Clear Opening Dimensions, 2003 IRC Performing Residential Building Inspections, this handout pg. 1 of 3.](#)
2. [Figure b12, Bedroom Window Egress \(firefighter pictured\), Code Check Building, The Taunton Press, this handout pg. 1 of 3](#)
3. [Figure, Emergency Escape and Rescue Openings Chart, 2003 IRC Performing Residential Building Inspections, this handout pg. 2 of 3.](#)
4. [Figure 42, Example of Window Well, Plan, 2003 IRC Performing Residential Building Inspections, this handout pg. 2 of 3.](#)
5. [Figure 42, Example of Window Well, Cross Section, 2003 IRC Performing Residential Building Inspections, this handout pg. 3 of 3.](#)

Building Code Clarification Handouts Available Listing, 03-25-08

2008.001, Crawlspace & Basement Requirements	2008.008, Egress Windows and Window Wells
2008.002, Energy Efficiency Requirements	2008.009, 2007 Top Residential Code Requirements (Booklet)
2008.003, Accessory Structure on Residential Lots	2008.010, Inspection Checklist
2008.004, Dryer Vent Requirements	2008.011, Ramps, Landings, etc. for the Physically Challenged
2008.005, Footing Inspection Checklist	2008.012, Swimming Pools
2008.006, Deck and Stair Guide	2008.013, Floodplain Requirements
2008.007, Windows & Doors- Safety Glazing	