

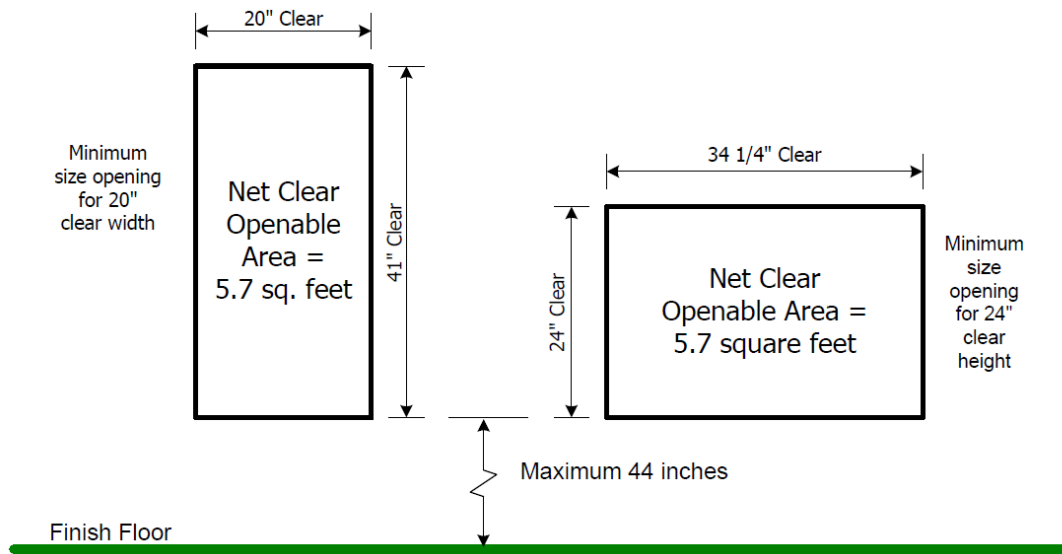


Building Inspections Department  
 City of Waterloo  
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 Waterloo IA 50703  
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# WINDOWS

## Section R308, R310, R312 - 2015 IRC

**Egress.** All replacement doors and windows require a permit. In new construction basements and every sleeping room shall have at least one operable window or door approved for emergency escape and rescue that opens directly to the outside. If you are adding living space to an existing basement, you do not need to add an egress to the basement. If you are adding a sleeping room to an existing basement, an egress must be added to the sleeping room. In general, if you are replacing windows that do not meet egress in an existing sleeping room, you do not have to bring the window up to code unless you are changing the framing of the window opening. In the case of sleeping rooms being gutted and remodeled, such as in the case of repairing damage from fire or flood and the framing is exposed, the window openings shall be modified to meet egress.



- All of the following shall apply to all emergency escape and rescue openings:
- o **Sill height:** the sill height shall not be more than **44 inches** above the floor.
  - o **Minimum opening area.** The minimum net clear opening shall be **5.7 square feet**.  
 Exception: If sill height is not more than 44 inches above or below the adjacent ground level, a minimum net clear opening of 5 square feet is permitted.
  - o **Minimum opening height.** The minimum net clear opening height shall be **24 inches**. \*
  - o **Minimum opening width.** The minimum net clear opening width shall be **20 inches**. \*
  - o **Operation.** The net clear opening dimensions shall be obtained by **normal operation** from the inside. Openings shall also be operational from inside without the use of keys, tools or special knowledge.
  - o **Direct to outside:** Must open directly to a yard or court.  
 Exception: If under a deck, provide clearance not less than **36 inches** in height to yard or court.
  - o **Window Well:** A finished sill height below the adjacent ground elevation requires a window well.  
 \*Note that using both minimum width and minimum height dimensions will not provide the minimum required area. See the chart below for combinations of dimensions to achieve 5.7 square feet.

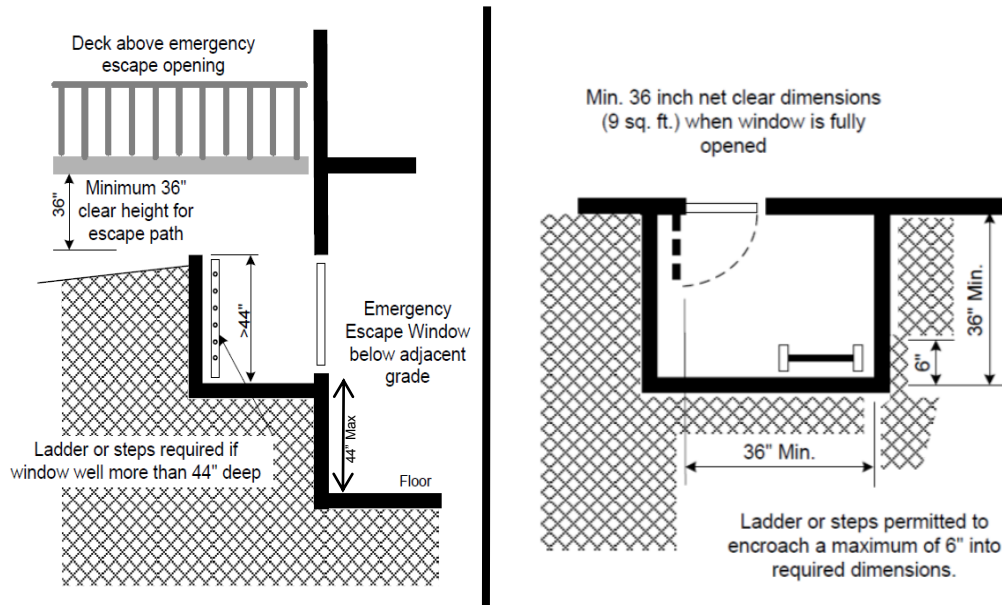
**Minimum Net Clear Width/Height Requirements for Emergency Escape & Rescue Openings (Inches)**

Width	20	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27
Height	41	40	39.1	38.2	37.3	36.5	35.7	34.9	34.2	33.5	32.8	32.2	31.6	31	30.4
Width	27.5	28	28.5	29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.2
Height	29.8	29.3	28.8	28.3	27.8	27.4	26.9	26.5	26.1	25.7	25.3	24.9	24.5	24.1	24

*This brochure is intended to explain some of the requirements for residential windows. If you have further questions, please contact the Building Inspections Department.*

**Window Wells** shall provide a minimum net clear area of 9 square feet with a minimum horizontal projection and width of 36" each. Crank out windows will require a larger well to accommodate the space that the window occupies when fully opened.

Window wells with a vertical depth exceeding 44" below grade shall be equipped with a permanent ladder or steps. This ladder is permitted to encroach a maximum of 6" into the net clear area of the well. Minimum rung width is 12" and shall project at least 3" from the wall that it is mounted on. Placement of ladder shall not be more than 18" on center vertically for the full height of the well.



**Window Fall Protection** shall be provided in windows where the top of any window sill of an operable window opening is located less than 24" above the floor and is also greater than 72" above the surface below the window on the exterior of the building.

To accomplish this, windows can be manufactured with a maximum opening that will not allow a 4" diameter sphere to pass through the opening when the window is in its largest opened position. Or a window fall prevention device that complies with ASTM F 2090 can be installed that prevents a window from opening more than 4".

If the window is an egress window requiring a window opening control device, after the operation of releasing the control device thereby allowing the window to fully open, the device shall not reduce the net clear opening required for emergency egress.

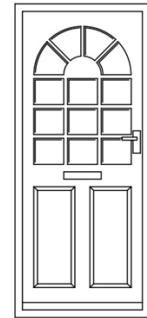


**Glazing.** To prevent serious injury from shards of breaking glass, the following locations are identified as requiring safety glass. These locations can be subjected to impact by people from tripping, slipping or falling. Safety glazing is typically tempered or laminated glass. Tempered glass is permanently etched, typically in an inconspicuous corner, indicating that it is tempered to certain standards. Polished wire glass is not permitted.

**Glazing in Doors.**

All glazing in fixed and operable panels of swinging, sliding and bifold doors shall be safety glass.

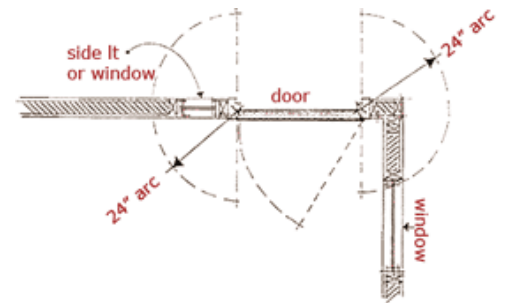
Except if the glazed area is less than 3" in diameter.



**Glazing adjacent to Doors.**

All glazing that is less than 60" from the bottom of the glass to the floor, deck or ground AND is within a 24" arc from either side of the door shall be safety glass.

Not applicable for closet doors and not applicable for the fixed panel of a slider patio door.



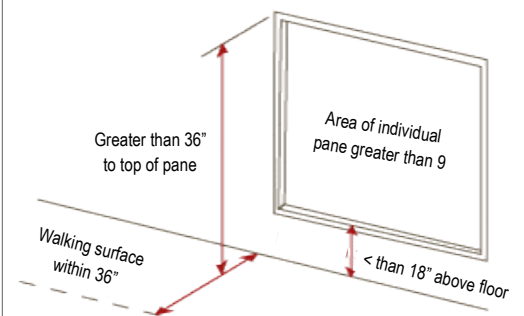
**Glazing in Windows.**

All glazing in fixed or operable windows shall be safety glass if all of the following conditions are present:

1. An individual pane is 9 sq ft or larger.
2. the bottom edge of the glazing is within 18" of the floor, deck or ground.
3. the top edge of the glazing is more than 36" above the floor, deck or ground.
4. There is a walking surface (floor, deck, etc) within a 36" horizontal distance of the window.

Not applicable for decorative glass and not applicable where the window is protected by a guardrail that can withstand a 50 lb. horizontal load.

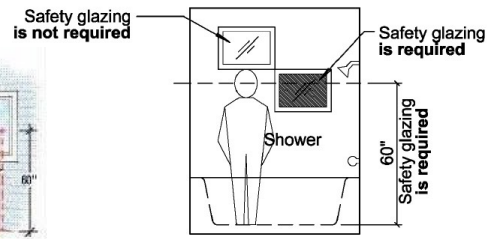
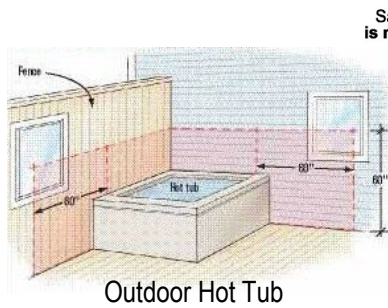
See R308.4.3 for guard requirements.



## Glazing continued...

### Glazing near **Wet Surfaces.**

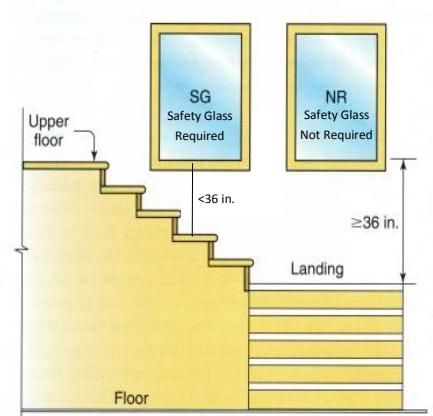
All glazing adjacent to bath tubs, showers, hot tubs, saunas and swimming pools shall be safety glass if the bottom edge of the glass is within 60" vertical of any standing or walking surface or within 60" horizontal of the waters edge.



### Glazing at **Stairs or Ramps.**

All glazing located adjacent to stairs and ramps shall be safety glass if the bottom edge of the glass is within 36" vertical of the plane of the walking surface of the stairway or ramp, or from an intermediate landing of a stairway or ramp.

Not applicable where the window is protected by a guardrail that can withstand a 50 lb. horizontal load. See R308.4.6 for guard requirements.



### Glazing adjacent to **Bottom Stair Landing.**

All glazing located at the bottom of a stairway where the glazing is less than 36" above the landing and is within a 60" horizontal arc measured from the bottom tread nosing.

Not applicable where the window is protected by a guardrail located more than 18" from the glass. See R308.4.7 for guard requirements.

