

SAFETY GLAZING/ TEMPERED GLASS

Code information for one- or two-
family dwellings or townhomes.

Identification

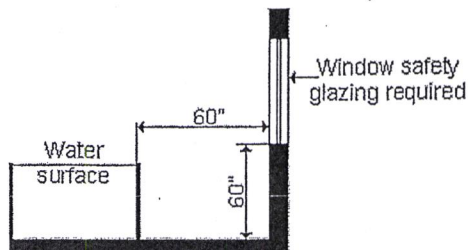
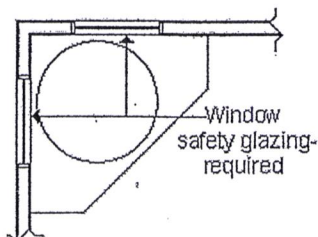
(R308.1)

- Each pane of glazing installed in hazardous locations shall be provided with a manufacturer's designation specifying who applied the designation, designating the type of glass and the safety glazing standard with which it complies. The designation shall be acid etched, sandblasted, ceramic-fired, laser etched, embossed, or be a type which once applied cannot be removed without being destroyed.
 - Exceptions :
 - Tempered spandrel glass is permitted to be identified by the manufacturer with a removable paper designation.
 - Multi-pane assemblies having individual panes not exceeding 1 sq. ft. in exposed area shall have at least one pane in the assembly identified as noted above, all other panes in the assembly shall be labeled " 16 CFR 1201" .

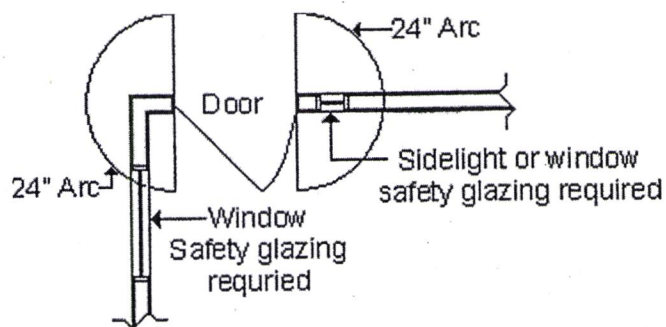
Hazardous Locations

(R308.4)

- Glazing in all fixed and operable panels of swinging, sliding and bi-fold doors.
 - Exceptions :
 - Openings in which a 3" sphere is unable to pass.
 - Decorative glazing. (*Decorative glass is defined as a carved, leaded or Dalle glass or glazing material whose purpose is decorative or artistic, not functional; whose coloring , texture or other design qualities or components cannot be removed without destroying the glazing material; and whose surface, or assembly into which it is incorporated is divided into segments*).
- Glazing in guards and railings, including structural baluster panels and nonstructural in-fill panels, regardless of area or height above a walking surface.
- Glazing in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools where the bottom exposed edge of the glazing is less than 60 inches measured vertically above any standing or walking surface. This shall apply to single glazing and all panes in multiple glazing.
 - Exception:
 - Glazing that is more than 60 inches, measured horizontally and in a straight line, from the water's edge of a bathtub, hot tub, spa, whirlpool, or swimming pool.

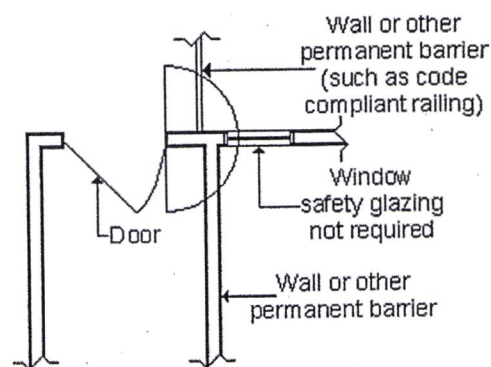


- Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge is within a 24" arc of the door in a closed position and whose bottom edge is less than 60" above the floor or walking surface.

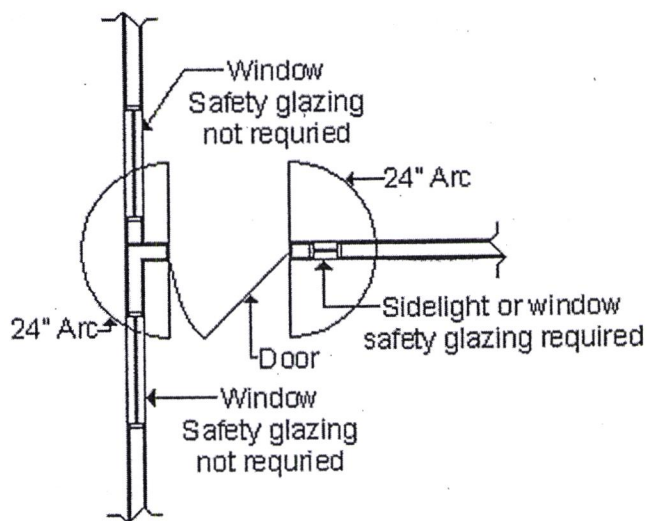
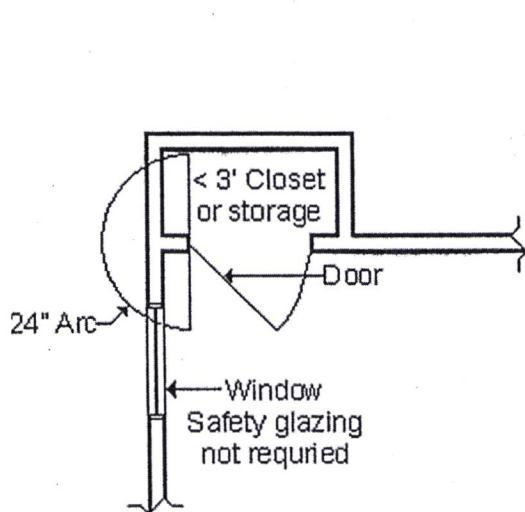


○ Exceptions:

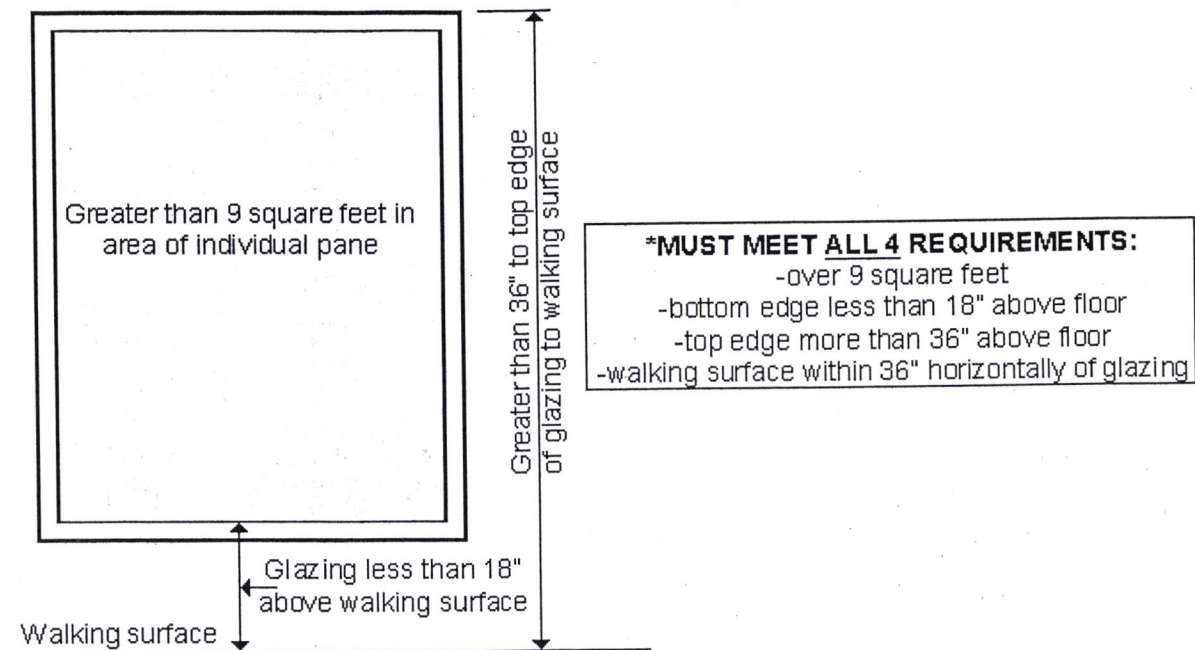
- Decorative glazing.
- When there is an intervening wall or other permanent barrier between the door and glazing.



- Glazing in walls on the latch side of and perpendicular to the plane of the door in a closed position, or where access through the door is to a closet or storage area 3' or less in depth.

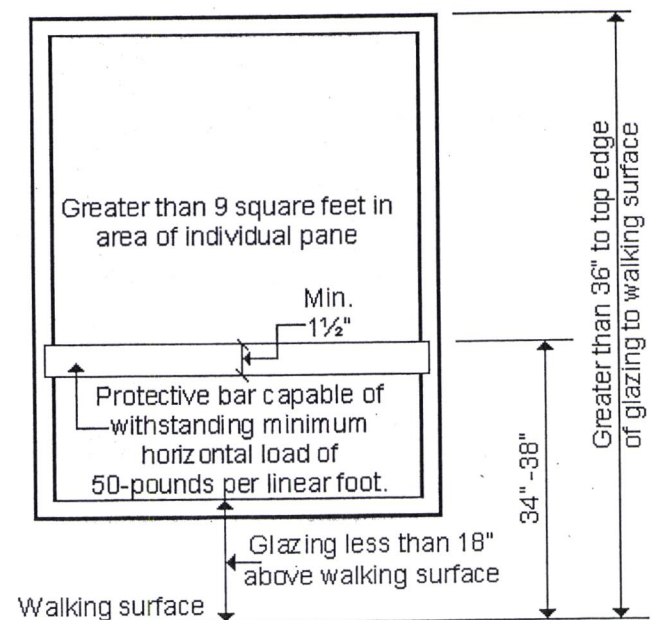


- Glazing in an individual fixed or operable panel where the exposed area of an individual pane is larger than 9 sq. ft.; the bottom edge is less than 18" above the floor; the top edge is more than 36" above the floor; and one or more walking surfaces within 36" horizontally of the glazing*.

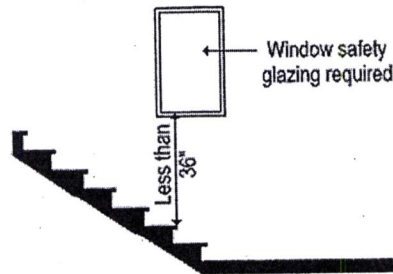


○ Exceptions:

- Where a protective bar is installed on the accessible side(s) of the glazing 34"-38" above the walking surface. The bar shall be capable of withstanding a horizontal load of 50 pounds per linear foot without contacting the glass and be a minimum of 1½" in height.
- Decorative glazing.
- Outboard panels in insulation glass units and other multiple glazed panels when the bottom edge of the glass is 25' or more above grade, a roof, walking surfaces, or other horizontal surface adjacent to the glass exterior.



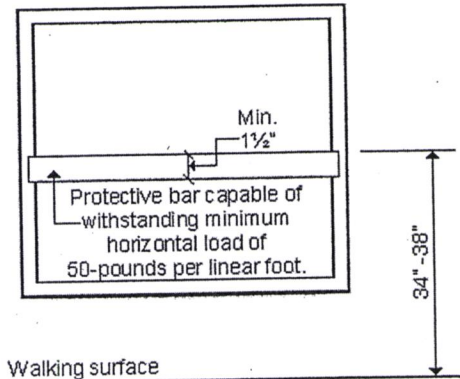
- Glazing where the bottom edge of the glazing is less than 36" above the plane of the adjacent



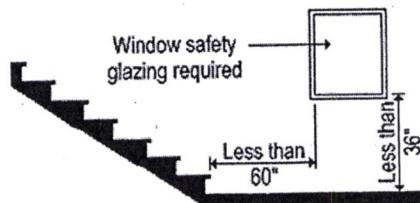
walking surface of stairways, landings between flights of stairs and ramps.

- Exceptions:

- Where a rail is installed on the accessible side(s) of the glazing 34"-38" above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot without contacting the glass and be a minimum of 1½" in height.
- Glazing 36" or more measured horizontally from the walking surface.

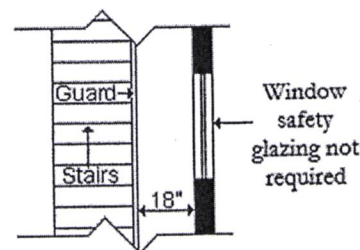
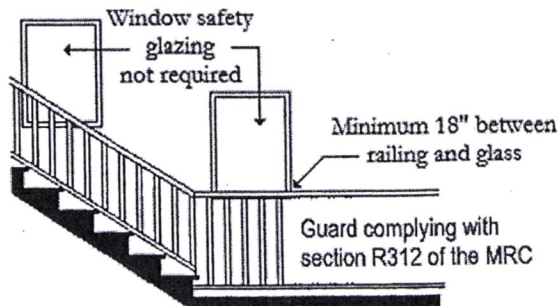


- Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36" above the landing and within 60" horizontally of the bottom tread.



- Exception:

- The glazing is protected by a guard complying with section R312 of the 2015 Minnesota Residential Code and the plane of the glass is more than 18" from the guard.



The information in this handout is just an overview. See the 2015 Minnesota Residential Code for complete information.

EMERGENCY ESCAPE AND RESCUE OPENINGS (EGRESS WINDOWS)

Code information for one- or two-
family dwellings or townhomes.

Locations

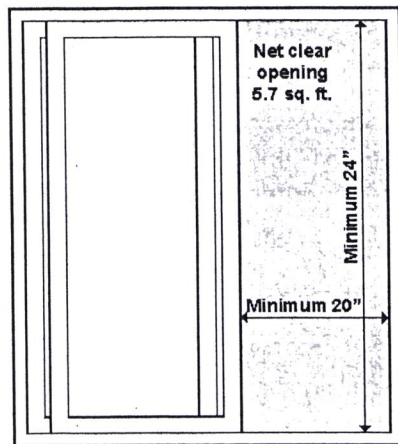
(R310.1)

- Basements and every sleeping room shall have at least one operable emergency and rescue opening (egress window / door) which opens directly from the room into a public street, public alley, yard or court.
 - Where basements contain one or more sleeping rooms an egress window/door shall be required in each sleeping room but shall not be required in adjoining areas of the basement.
 - Basements used only to house mechanical equipment and not exceeding a total floor area of 200 sq. ft. are not required to have an egress window/door.

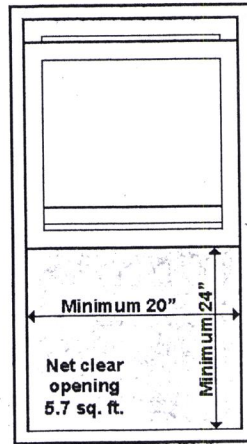
Minimum Net Clear Opening Area

(R310.1.1 – R310.1.3)

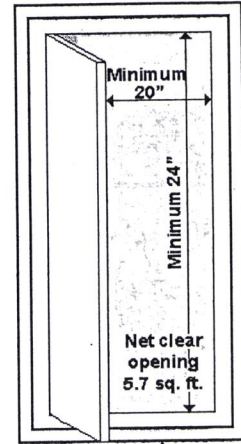
- All egress windows shall have a minimum net clear opening of 5.7 sq. ft.
 - Grade floor openings shall have a minimum net clear opening of 5.0 sq. ft.
- Minimum net clear opening height shall be 24".
- Minimum net clear opening width shall be 20".
- Minimum width or height must be larger to meet 5.7 sq. ft. clear opening.
- Maximum 44" height from floor to the bottom of the clear opening.



Maximum 44" measured from floor
to highest portion of sill



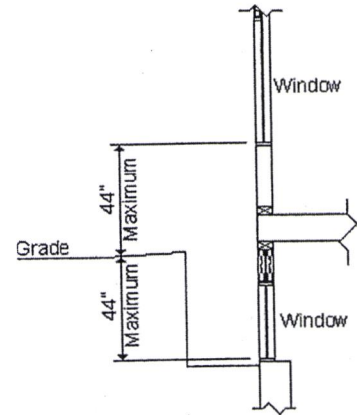
Maximum 44" measured from floor
to highest portion of sill



Maximum 44" measured from floor
to highest portion of sill

Grade Floor Openings

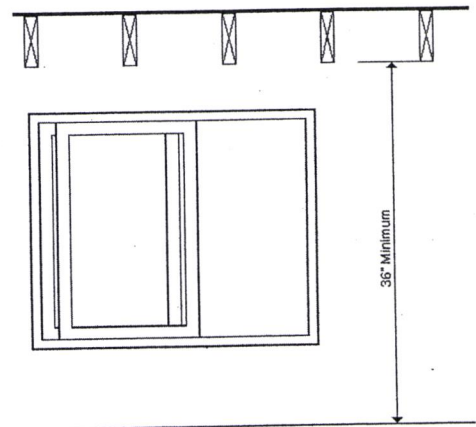
- Grade floor openings are openings with the sill height of the opening is not more than 44" above or below the finished ground level adjacent to the opening.



Egress Windows under Decks and Porches

(R310.5)

- Egress windows located under decks and porches must allow the egress window to be fully open and provide a path not less than 36" in height to a yard or court.



Window Operations

(R310.1.4)

- Egress windows shall be operational from the inside of the room without the use of keys, tools or special knowledge.

Replacement windows

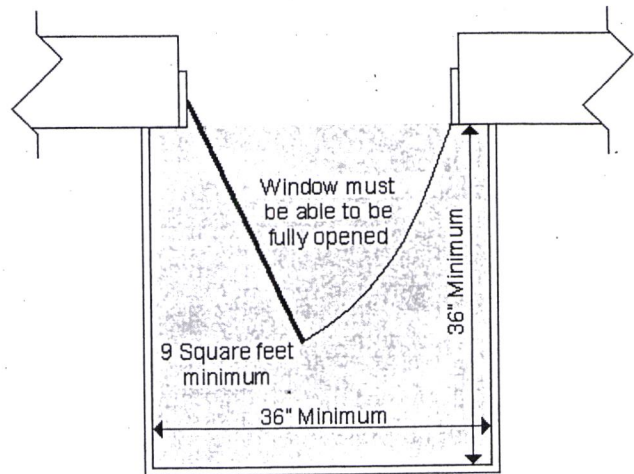
(R310.1.5)

- Replacement windows do not need to meet egress requirements if the replacement window meets the following requirements :
 - The replacement window is the manufacturer's largest standard window that will fit within the existing window frame or existing rough opening. The replacement window shall either be of the same operating style as the existing window or a style that provides for a greater window opening area than the existing window. The replacement window must have the same type of operating hardware permitting the maximum window opening.
 - The rooms or areas are not used for any Minnesota state licensed purpose requiring an egress window.

Window Wells

(R310.2)

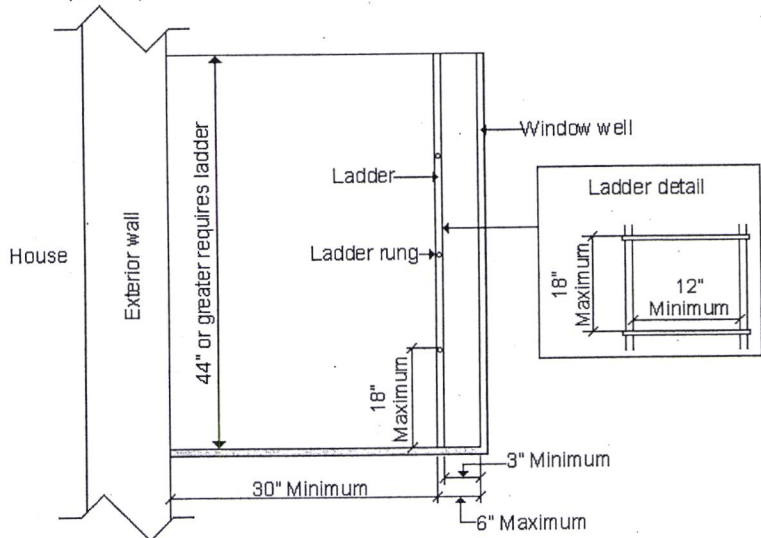
- The minimum horizontal area of the window well shall be 9 sq. ft. with a minimum horizontal projection and width of 36". The area of the window well shall allow the emergency escape and rescue opening to be fully opened.



Ladders and Steps

(R310.2.1)

- Window wells with a vertical depth greater than 44" shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position.
- Ladders or steps are allowed to encroach into the required dimension of the window well a maximum of 6".
- Ladders or rungs shall have an inside width of at least 12", shall project at least 3" from the wall and shall be spaced not more than 18" on center vertically for the full height of the Window well.



Bars, Grilles, Covers and Screens

(R310.4)

- Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided that:
 - The device doesn't affect the required net clear opening size.
 - Such devices shall be reasonable 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.

(For the purpose of this handout: ' = foot/ feet; " = inch(es))

The information in this handout is just an overview. See the 2015 Minnesota Residential Code for complete information.

Safety Glazing 308.4.2

Basic zone for sidelites:
 within 24 in. radius of door
 edge in closed position &
 <60 in. above walking surface

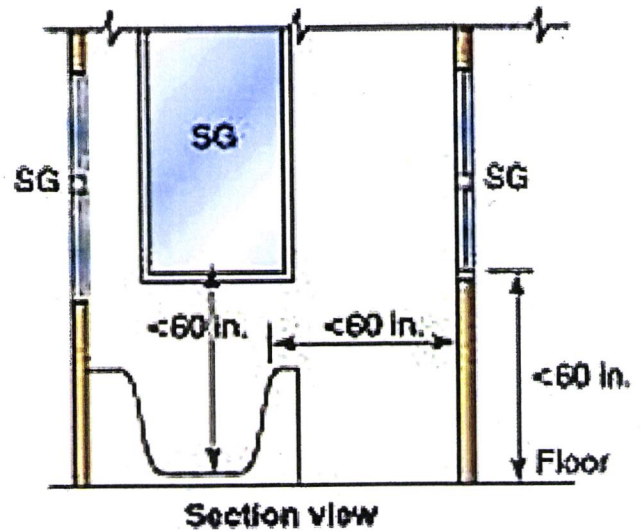
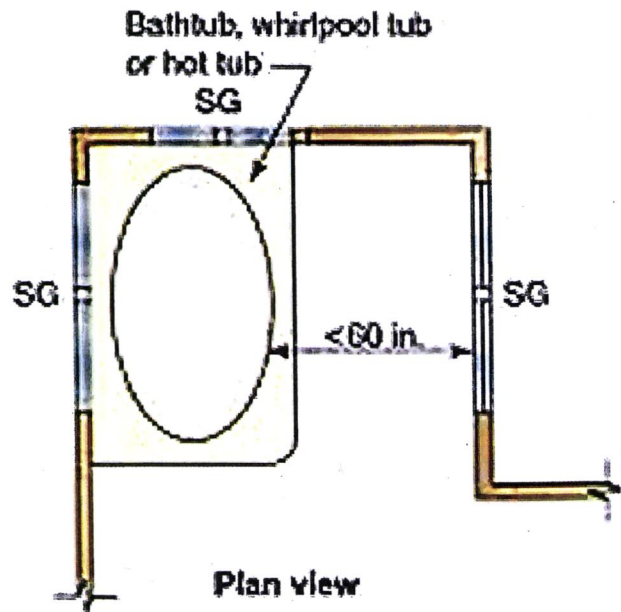
Exempt if a
 3 in. sphere
 cannot pass

Sidelite
 exempt when
 perpendicular to door
 & on latch side



Safety glass when walk-through hazard exists: all four of (1) >9 sq. ft.,
 (2) lower edge <18 in. above walking surface, (3) upper edge >36 in.
 above walking surface & (4) within 36 in. horizontal of walking surface.

Safety Glazing 308.4.5



Required at:

- Bathtub
- Hot tub
- Whirlpool
- Swimming pool
- Shower
- Sauna
- Steam room