

SAFETY GLAZING

Safety Glazing

This Tip Sheet reflects code requirements of the 2021 International Residential Code (IRC)

What is Safety Glazing?

Safety glazing is glass that is less dangerous when it breaks, such as tempered or laminated glass.

R308.1 Identification. Except as indicated in section R308.1.1, each pane of glazing installed in a hazardous location as defined in section R308.4 shall be provided with a manufacturer's designation specifying who applied the designation, the type of glass and the safety glazing standard with which it complies, and that it is visible in the final installation. The designation shall be acid etched, sandblasted, ceramic-fired, laser etched, embossed or be of a type that once applied cannot be removed without being destroyed. A label shall be permitted in lieu of the manufacturers designation.

Exceptions:

1. For other than tempered glass, manufacturer's designations are not required provided that the building official approves the use of a certificate, affidavit or other evidence confirming compliance with this code.
2. Tempered spandrel glass is permitted to be identified by the manufacturer with a removable paper designation.

Required Safety Glazing in Hazardous Locations

R308.4 Hazardous locations. The locations specified in sections R308.4.1 through R308.4.7 shall be considered to be specific hazardous locations for the purpose of glazing.

R308.4.1 Glazing in doors. Glazing in fixed and operable panels of swinging, sliding and bifold doors shall be considered to be a hazardous location.

Exceptions:

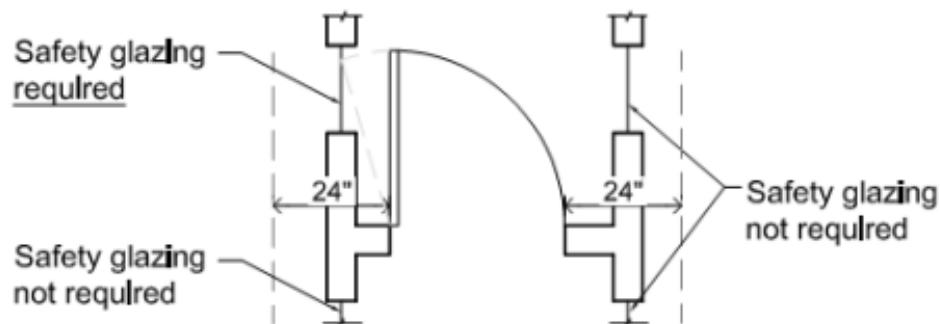
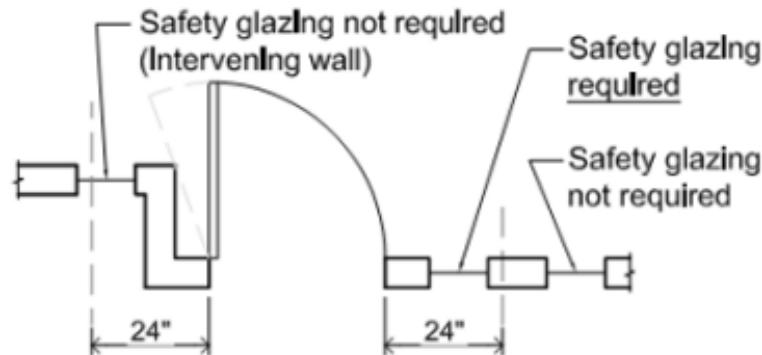
1. Glazed openings of a size through which a 3-inch diameter sphere is unable to pass.
2. Decorative glazing.

R308.4.2 Glazing adjacent to doors. Glazing in a fixed or operable panel adjacent to a door shall be considered to be a hazardous location where the bottom exposed edge is less than 60 inches above the floor or walking surface and it meets either of the following conditions:

1. Where the glazing is within 24 inches of either side of the door in the plane of the door in a closed position.
2. Where the glazing is on a wall less than 180 degrees from the plane of the door in a closed position and within 24 inches of the hinge side of an in-swinging door.

Exceptions:

1. Decorative glazing.
2. Where there is an intervening wall or other permanent barrier between the door and the glazing.
3. Where access through the door is to a closet or storage area less than 3 feet in depth. Glazing in this application shall comply with Section R308.4.3.
4. Glazing that is adjacent to the fixed panel of patio doors.



R308.4.3 Glazing in windows. Glazing in an individual fixed or operable panel that meets all of the following conditions shall be considered to be a hazardous location:

1. The exposed area of an individual pane is larger than 9 square feet.
2. The bottom edge of the glazing is less than 18 inches above the floor.
3. The top edge of the glazing is more than 36 inches above the floor.
4. One or more walking surfaces are within 36 inches, measured horizontally and in a straight line, of the glazing.

Exceptions:

1. Decorative glazing.
2. Where the glazing is adjacent to a walking surface and a horizontal rail is installed 34 to 38 inches above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pound per linear foot without contacting the glass and having a cross sectional height of not less than 1 1/2 inches.
3. Outboard panes in insulating glass units and other multiple glazed panels where the bottom edge of the glass is 25 feet or more above grade, a roof, walking surface or other horizontal [within 45 degrees (0.79 rad) of a horizontal] surface adjacent to the glass exterior.

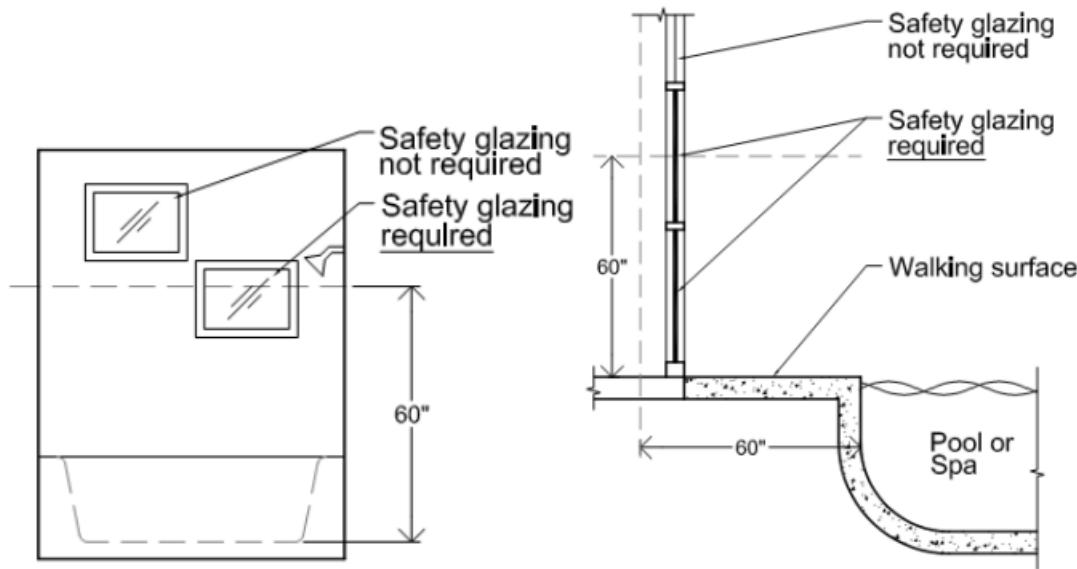
R308.4.4 Glazing in guards and railings. Glazing in guards and railings, including structural balusters panels and non-structural in-fill panels, regardless of the area or height above a walking surface shall be considered to be a hazardous location.

R308.4.4.1 Structural glass baluster panels. Guards with structural glass baluster panels shall be installed with an attached top rail or handrail. The top rail or handrail shall be supported by not less than three glass baluster panels or shall be otherwise supported to remain in place should one glass baluster panel fail.

Exception: An attached top rail or handrail is not required where the glass baluster panels are laminated glass with two or more glass plies of equal thickness and of the same glass type.

R308.4.5 Glazing and wet surfaces. Glazing in walls, enclosures or fences containing or adjacent to hot tuns, 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 shall be considered to be a hazardous location. This shall apply to single glazing and each pane in multiple glazing.

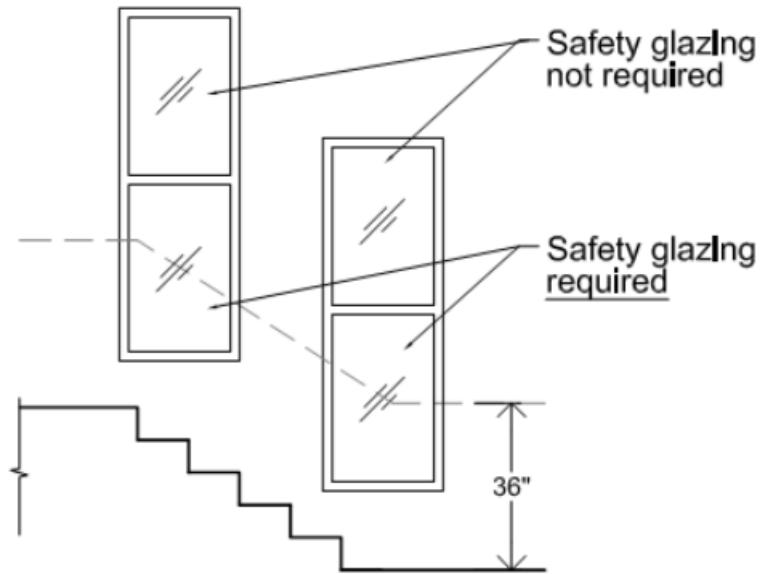
Exception: Glazing that is more than 60 inches measured horizontally, from the water's edge of a bathtub, hot tub, spa, whirlpool, sauna, or steam room.



R308.4.6 Glazing adjacent to stairs and ramps. Glazing where the bottom exposed edge of the glazing is less than 36 inches above the plane of the adjacent walking surface of the stairways, landings between flights of stairs and ramps shall be considered to be a hazardous location.

Exceptions:

1. Where glazing is adjacent to a walking surface and a horizontal rail installed at 34 to 38 inches above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pound per linear foot without contacting the glass and having a cross sectional height of not less than 1 1/2 inches.
2. Glazing 36 inches or more measured horizontally from the walking surface.



R308.4.7 Glazing adjacent to the bottom stair landing. Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within 60 inches horizontally arc les than 180 degrees from the bottom tread nosing shall be considered to be a hazardous location.

Exception: Where the glazing is protected by a guard complying with section R312 and the pane of the glass is more than 18 inches from the guard.

