

SAFETY GLAZING

Purpose

Section R308 of the 2019 California Residential Code regulates glazing subject to human impact. This handout is intended to clarify the locations where safety glazing is required in order to protect against accidental impact by individuals adjacent to the glazing.

Permits are required when:

- The size of the window is reduced or increased.
- The sill height is altered in a bedroom.
- Removal or replacement of windows “in kind” (e.g., where window opening or rough framing is not altered)

Permits are not required when:

- Only the glazing area is replaced.

Hazardous Locations

The following shall be considered specific hazardous locations for purposes of glazing:

1. Glazing in Doors (R308.4.1)

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

Exceptions:

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

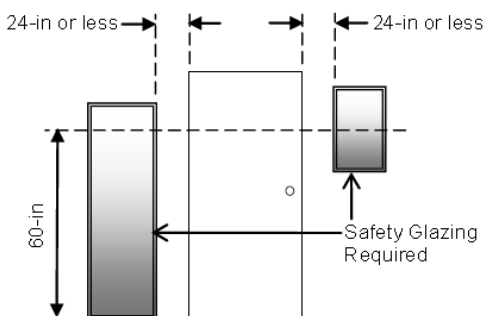


Figure 1: Glazing Panels Adjacent to Doors

2. Glazing Adjacent Doors (R308.4.2)

Glazing in an individual fixed or operable panel adjacent to a door shall be considered to be hazardous location where the bottom edge of the glazing is less than 60 inches above the floor and meets either of the following conditions: (Figure 1).

- Where glazing is within 24 inches of either side of the door in a closed position.
- Where the glazing is perpendicular to the plane of the door in a closed position and within 24 inches of the hinge side of an in-swinging door.

Exceptions:

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

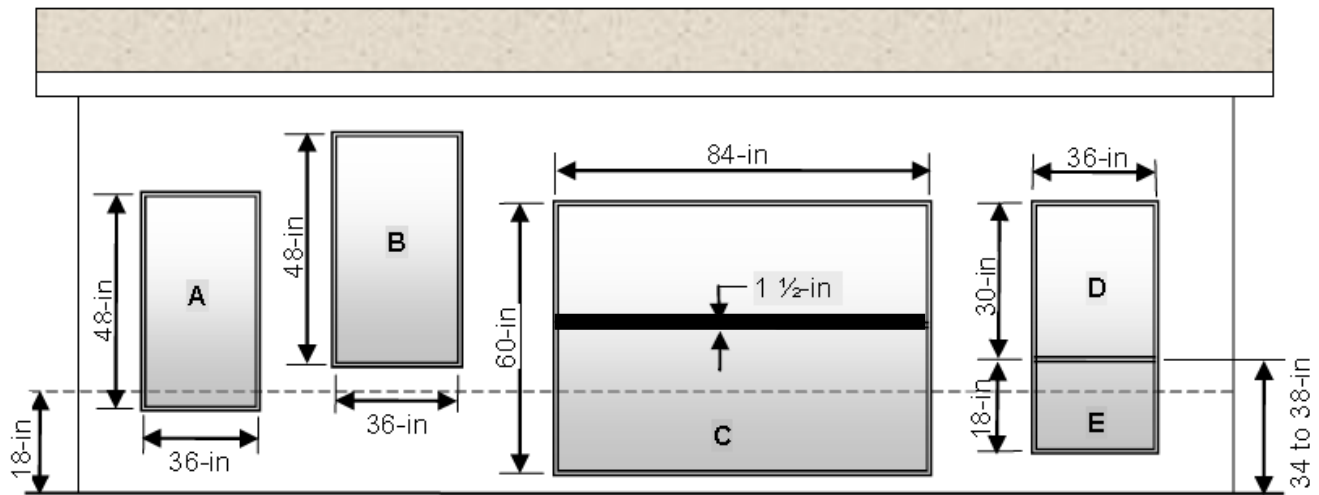
3. Glazing in Windows (R308.4.3)

Glazing in an individual fixed or operable panel that meets all of the following conditions:

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

Exceptions:

- Decorative glazing.
- Where a horizontal rail is installed 34 to 38 inches above walking surface capable of withstanding a horizontal load of 50 pounds per linear foot without contacting the glass, and a cross-sectional height of not less than 1 1/2 inches.
- Outboard panes in insulating glass units and other multiple glazed panels when the bottom edge of the glass is 25 feet or more above grade, a roof, walking surfaces or other horizontal surface adjacent to glass exterior.



Glass Panels Adjacent to Walking Surface

4. Glazing in Guards and Railings (R308.4.4)

Glazing in guards and railing, including structural baluster panels and nonstructural in-fill panels, regardless of area or height above walking surface.

5. Glazing and Wet Surfaces (R308.4.5)

Glazing in walls, enclosures or fences, containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, indoor and outdoor swimming pools where the bottom exposed edge is less than 60 inches measured vertically above any standing or walking surface. This shall apply to single glazing and each pane 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, whirlpool, swimming pool, shower, sauna, or steam room.

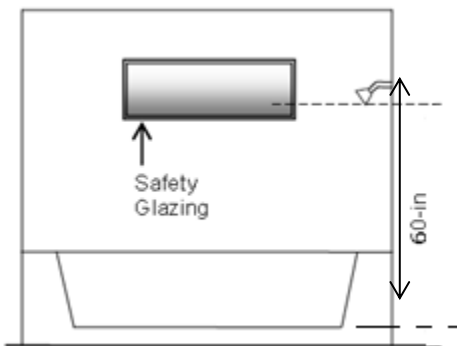


Figure 2: Glass within Shower Walls

6. Glazing Adjacent to Stairs and Ramps (R308.4.6)

Glazing where the bottom exposed edge of the glazing is less than 36 inches above the plane of the adjacent walking surface of stairways, landing between flights of stairs and ramps.

Exceptions:

- When a horizontal rail is installed on the accessible side of the glazing 34 to 38 inches 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 1 1/2 inches in cross sectional height.
- Glazing 36 inches or more measured horizontally from the walking surface.

7. Glazing Adjacent to Bottom Stair Landing (R308.4.7)

Glazing adjacent to the landing at the bottom of a stairways within 60-in horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glazing is less than 36-in above the landing.

Additional Exceptions:

- Where the glazing is protected by a guard complying with CRC R312 and the plane of glass is more than 18-in from the guard.