



INSPECTION REQUIREMENTS: WINDOW REPLACEMENT

INSPECTION CODE: 228, 218, 101

SCOPE: RESIDENTIAL

APPLICABLE CODES: 2016 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, and PAMC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

BUILDING PERMIT IS REQUIRED WHEN

- The size or shape of the window frame is altered (note that the window frame consists of: the header, king stud, cripple stud, sill and associated supports).
- The existing flashing is altered (e.g., when removing the nailing fins of an existing window or when stucco is removed in order to remove an existing window) or when the window replacement is part of a project at the house that requires a Building Permit.
- If a retrofit bedroom window is installed (e.g., the existing framing is left in place) and the existing window is to be changed in size, type and/or location, then all egress requirements must be met.
 - Exception: Glass only (like for like) does not require a permit.
- If a bedroom window is to be replaced, it may be replaced with a window of the same size type that was required by the building code when the existing window was installed.

SEQUENCE OF INSPECTIONS

- If applicable, schedule a rough framing inspection (Inspection 228) to verify new framing; see the "All Trades" inspection checklist for additional information.
- After rough framing, schedule an exterior lath inspection (Inspection 218) to verify the paper and flashing; see the "Exterior Lath" inspection checklist for additional information.

- At final inspection (Inspection 101), the inspector will verify smoke and carbon monoxide alarms, egress, lighting, ventilation, safety glazing, and Energy requirements (so the contractor needs to make sure to keep stickers attached to windows until Final Inspection). All work must be complete.
 - Smoke alarms shall be installed at the following locations (CRC R314.3):
 - In each sleeping room, outside each sleeping area in the immediate vicinity of bedrooms, on each additional story (including basements and habitable attics), and a minimum of 3' horizontally from a door or opening of a bathroom that contains a bathtub or shower
 - Carbon monoxide alarms shall be installed where there are fuel-fire appliances, fireplaces, or the dwelling unit has an attached garage. Carbon monoxide alarms shall be installed at the following locations:
 - Outside of each separate sleeping area in the immediate vicinity of bedrooms, on every occupiable level of a dwelling unit, including basements, and where a fuel-burning appliance is located within a bedroom or its attached bathroom (CRC R315.2.1)

INSPECTIONS

EGRESS

EMERGENCY ESCAPE AND RESCUE OPENING

- Basements, habitable attics, and every sleeping rooms shall have not less than one operable emergency escape and rescue opening; they shall open directly into a public way, or to a yard that opens to a public way. (CRC R310.1)

MINIMUM OPENING AREA

- Emergency escape and rescue openings shall have a net clear opening of 5.7 square feet; the net clear height shall not be less than 24" and the net clear width shall not be less than 20". A maximum sill height of 44" above finish floor. (CRC R310.2.1)
 - Exception: Openings at grade level shall have a net clear opening of not less than 5 square feet.

WINDOW WELL HEIGHT

- Where a window is provided as the emergency escape and rescue opening, it shall have the bottom of the clear opening not greater than 44" measure from the floor. (CRC R310.2.2)
- If the existing framing is not altered, the new window must comply with current requirements for new construction as much as possible (including the size necessary or any required egress) within the existing opening. It is possible, therefore, that the style of window needs to be changed, (for example, a non-complying single hung style would need to be changed to a complying casement style).
- If framing is altered, all aspects of the window must comply with the all applicable codes.

EXEMPTIONS TO SILL HEIGHT REQUIREMENTS

- Replacement windows are exempt from the maximum sill height requirement provided the replacement window meets the following conditions (CRC R310.2.5):
 - The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening.
 - The replacement window is of the same operating style or a style that provides for an equal or greater window opening area that the existing window.
 - The replacement window is not part of a change of occupancy.

WINDOW WELLS

- The horizontal area of the window well shall not be less than 9 square feet, with a horizontal projection and width of not less than 36". The area of the window well shall allow the emergency escape and rescue opening to be fully opened. (CRC R310.2.3)

SAFETY GLAZING IN HAZARDOUS LOCATIONS

- Whether a permit is required or not, new glazing in existing openings must be tempered or safety glass if:
 - Glazing adjacent to a door where the bottom exposed edge of the glazing is less than 60" above the floor or walking surface and it meets either of the following (CRC R308.4.2):
 - Where the glazing is within 24" of either side of the door in the plan of the door in a closed position
 - Where the glazing is on a wall perpendicular to the plane of the door in a closed position and within 24" of the hinge side of an in-swinging door
 - When the following conditions are present (CRC R308.4.3):
 - An individual pane is larger than 9 square feet
 - The bottom edge of the glazing is less than 18" above the floor
 - The top edge of the glazing is more than 36" above the floor
 - One or more walking surfaces are within 36", measure horizontally and in a straight line, of the glazing
 - Glazing in hot tubs, spas, whirlpools, steam rooms, bathtubs, shows, and swimming pools where the bottom exposed edge of the glazing is less than 60" measured vertically above any standing water. (CRC R308.4.5)
 - Glazing where the bottom exposed 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. (CRC R308.4.6)
 - Glazing adjacent to the bottom stair landing as shown in Figure 308.4.7. (CRC R308.4.7)

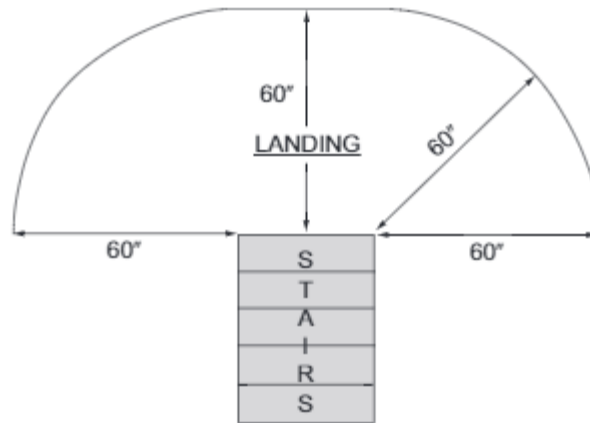


FIGURE R308.4.7
PROHIBITED GLAZING LOCATIONS AT BOTTOM STAIR LANDINGS

- Glazing in hazardous locations shall comply in accordance with Table R308.3.1(1). Glazing in doors and hot tubs, spas, whirlpools, steam rooms, bathtubs, shows, and swimming pools shall be allowed to be tested per Table R308.3.1(2). (CRC R308.3.1)
- Safety glazing shall be identified by a manufacturer’s designation that shows type and thickness of glass or glazing material. The designation shall be acid etched, sand blasted, ceramic fired, laser etched, embossed, or of a type that once applied, cannot be removed without being destroyed. The designation shall state “CPSC 16 CFR 1201” or “ANSI Z97.1” depending on location. (CBC 2406.3)

Table R308.3.1(1) Minimum Category Classification of Glazing Using CPSC 16 CFR 1201

| Exposed Surface Area of One Side of One Lite | Glazing in Storm of Combination Doors (Category Class) | Glazing in Doors (Category Class) | Glazed Panels in Windows (Category Class) | Glazing Adjacent to Doors (Category Class) | Glazing in Wet Surfaces (Category Class) | Sliding Glass Doors Patio Type (Category Class) |
|--|--|-----------------------------------|---|--|--|---|
| 9 square feet or less | I | I | No Requirement | I | II | II |
| More than 9 square feet | II | II | II | II | II | II |

Table R308.3.1(2) Minimum Category Classification of Glazing Using ANSI Z97.1

| Exposed Surface Area of One Side of One Lite | Glazing in Windows (Category Class) | Glazing Adjacent to Doors (Category Class) | Glazing in Wet Surfaces (Category Class) |
|--|-------------------------------------|--|--|
| 9 square feet or less | No Requirement | B | A |
| More than 9 square feet | A | A | A |

LIGHTING

- Habitable rooms shall have an aggregate glazing area of not less than 8% of the floor area of rooms. (CRC R303.1)
- Bathrooms, water closet compartments, and other similar rooms shall have not less than 3 square feet of aggregate glazing, of which half shall be operable. (CRC R303.3)

VENTILATION

- Habitable rooms shall natural ventilation through windows, skylights, doors, louvers, or other approved openings to the outdoor air; the openable area shall not be less than 4% of the floor area being ventilated. (CRC R303.1)
 - Exception: Glazed areas are not required where a whole-house mechanical ventilation system is installed.

ENERGY

- Alterations and replacements shall meet the U-factor and SHGC from Table 150.1-A (CEnc 150.2(b)1.A, CEnc 150.2(b)1.B)

Table 150.1-A Component Package A-Standard Building Design

| | |
|--|------|
| Maximum U-factor | 0.32 |
| Maximum Solar Heat Gain Coefficient (SHGC) | 0.25 |