

SUMMIT COUNTY BUILDING DEPARTMENT
REQUIREMENTS FOR WINDOW REPLACEMENT
R-1, R-2, R-3 AND R-4 OCCUPANCY

The window installer is responsible for assuring that all of the code requirements below are met.

Inspection Process: Most window replacements only need a final inspection. If any structural modifications are needed, then details shall be submitted and approved and a framing inspection is required. Otherwise, only a final inspection is needed and the following is required.

- The inspection **shall be** called in **prior** to installing the window trim; the inspector will verify that **all windows** are properly sealed. Note 8.
- **The U-Factor label must be on the glazing at inspection.** Do not remove until inspection has been approved. Note 5.
- Carbon Monoxide alarms **must be installed** in the required locations for the inspection. Note 3.
- Egress, tempered glazing and all other applicable codes that are listed below will be checked for compliance at the final inspection. **PLEASE READ BELOW FOR DETAILS.**

THESE REQUIREMENTS ARE TO REMAIN ON THE JOB SITE AND SERVE AS AN INTEGRAL PART OF THE APPROVED PLANS FOR THIS INSTALLATION.

1. Basements and every sleeping room below the fourth story **in Group R-2 and Group R-3 Occupancy** shall have at least one openable window or exterior door for **emergency escape or rescue (egress)** which opens directly into a public street, public alley, yard or exit court. Windows shall provide a clear open area, measured during normal operation of the window, of **5.7 square feet** (5 square feet at grade floor openings) with a minimum width of **20 inches** and a minimum height of **24 inches**. *Egress openings shall have a sill height not more than 44 inches measured from the finished floor to the bottom of the clear opening.* Skylights are not acceptable for the purpose of egress. Egress windows installed with the sill below the adjacent finished grade shall open into a window well. The clear horizontal dimension shall allow the window to be fully opened and provide a net clear opening of 9 square feet, with a minimum dimension of 36 inches. Window wells with a vertical depth of more than 44 inches shall be equipped with a permanently affixed ladder or stair approved by the building official. This ladder or stair shall be fully accessible with the window in the open position and shall not encroach into the required dimensions of the window well by more than 6 inches. Egress windows are allowed to be installed under decks and porches provided the window may be fully opened and a path not less than 36 inches in height to a yard is provided. IBC section 1030.

Exceptions:

- 1) Basements with a ceiling height of less than 80 inches shall not be required to have emergency escape and rescue openings.
- 2) Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.
- 3) Basements without habitable spaces and having no more than 200 square feet in floor area shall not be required to have emergency escape and rescue openings.

Replacement windows are exempt from emergency escape and rescue requirements provided the replacement window meets the following:

- a) 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 shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
- b) The replacement of the window is not part of a change of occupancy.

Sleeping Room Definition: Please contact the Building Department if further clarification is needed; 970-668-3170.

A room or space within a dwelling unit having a floor area, with 5 feet or more of ceiling height of at least 70 square feet will be considered a sleeping room in accordance with the following:

In a building defined as a *dwelling or lodging* house, any space or room having two of the following factors shall be considered a sleeping room. In a building defined as an *apartment house or hotel*, any room or space having one of the following factors shall be considered a sleeping room:

- Have **walls and doors** to separate it from other habitable spaces.
- Meets the definition of a loft as amended by Summit County. **Loft:** A habitable room or floor in a building that is open to the room or floor directly below, which may or may not qualify as a mezzanine.
- Has a **closet** or similar provision for clothes storage.
- Has a full or partial **bathroom** connected to the space or room, or has a path of travel to a full or partial bathroom which does not first pass through a living space.

2. In **Occupancy Groups R-2 and R-3** where an operable window is located more than 72 inches above finish grade, the lowest part of the clear opening shall be a minimum of **36 inches** above the finished floor. Glazing between the floor and **36 inches** shall be fixed or have openings through which a 4 inch sphere cannot pass. IBC section 1015.8.
3. **All Group R Occupancies** that include either fuel fired appliances or an attached garage where interior alterations, repairs, fuel fired appliance replacements, or additions, any of which require a building permit, occurs or where one or more rooms used for sleeping purposes are added shall have an operational **carbon monoxide alarm** installed within fifteen feet **outside** of the entrance to each sleeping room. The listed carbon monoxide alarm may be powered by the building wiring, directly plugged into an electrical outlet without a switch (other than a circuit breaker), or is battery powered. Colorado House Bill 09-1091 and IBC section 915.

Exceptions:

- 1) The sleeping unit or dwelling unit is located more than one story above or below any story which contains a fuel-burning appliance or an attached garage.
 - 2) The sleeping unit or dwelling unit is not connected by duct work or ventilation shafts to any room containing a fuel-burning appliance or to an attached garage; and
 - 3) The building is equipped with a common area carbon monoxide alarm system. Ref IBC section 915.
4. **Exterior walls** shall provide the building with a weather-resistive exterior wall envelope. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer. IBC section 1403.2.
5. **Glazing Requirements;** Glazing installed in hazardous locations as defined in Section R308.4 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, which is visible in the final installation.

Glazing in doors, all fixed and operable panels of swinging, sliding and bifold doors shall be considered a hazardous location. IBC section 2406.4.1.

Glazing in panels adjacent to doors fixed or operable where the nearest vertical edge of the glazing is within a 24 inch arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches above the floor or walking surface shall be considered a hazardous location. IBC section 2406.4.2.

Glazing in panels which have an area in excess of **9 square feet**, the lowest edge is less than 18 inches above the finished floor level or walking surface, and the highest edge is greater than 36 inches and one or more walking surfaces are within 36 inches measured horizontally and in a straight line of the glazing shall be considered hazardous locations. IBC section 2406.4.3.

Glazing and wet surfaces, in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and swimming pools where the glazing is less than 60 inches measured vertically above the walking or standing surface and less than or equal to 60 inches measured horizontally from the water's edge shall be considered a hazardous location. IBC section 2406.4.5.

Glazing adjacent to stairways and ramps where the bottom exposed edge of the glazing is less than **60** inches above the plane of the adjacent walking surface of stairways, landings between flights ($\leq 36''$ horizontally) of stairs and ramps shall be considered hazardous locations. IBC section 2406.4.6.

Glazing adjacent to the bottom stair landing Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 60 inches (1524 mm) above the landing and within a 60-inch (1524 mm) horizontal arc that is less than 180 degrees (3.14 rad) from the bottom tread nosing shall be considered to be a hazardous location.

Exception: Glazing that is protected by a guard complying with Sections 1015 and 1607.8 where the plane of the glass is greater than 18 inches (457 mm) from the guard.

6. All structural and architectural changes shall be stamped by the engineer or architect and approved by the Building Inspection Department prior to construction. **Architects and/or engineers** licensed in Colorado are required by state law to stamp their work. Colorado Revised Statutes (architects statute Section 12-2-116 & Rule 100.704 and engineers statute Section 12-25-117 & Rule 5.1)
7. **Glazing in Group R-2, R-3 and R-4 buildings** three stories or less in height above grade plane meet the definition of residential and shall have a maximum U factor of .32. Skylights and other fenestrations (opaque doors) shall have a maximum U factor of .55. An area weighted average shall be permitted to satisfy the U factor requirements. Up to 15 sf of glazed fenestration per dwelling unit shall be permitted to be exempt from the U factor requirements. Compliance shall be verified by the manufacturer's labels (left on the glazing) at the insulation or framing inspection. IECC sections R402.1.2, and Table N1102.12.

Commercial buildings, exterior windows and glazed doors shall have a maximum U factors as follows:

Fixed Fenestrations	0.29
Operable Fenestrations	0.37
Entrance Doors	0.77

Skylights shall have a maximum U factor of **.75**. An area weighted average shall be permitted to satisfy the U factor requirements. Compliance shall be verified by the manufacturer's labels (left on the glazing) at the insulation or framing inspection. IECC sections C402.3 and Table 402.4.

8. The thermal envelope shall be durably sealed to limit infiltration and **air leakage** at:
- all joints, seams and penetrations
 - site built windows, doors and skylights
 - opening between window and door assemblies and their framing
- DO NOT INSTALL TRIM UNTIL AFTER INSPECTION/APPROVAL.**
IBC section 402.5.