



## WINDOW, DOOR, AND SKYLIGHT INSTALLATION OR REPLACEMENT

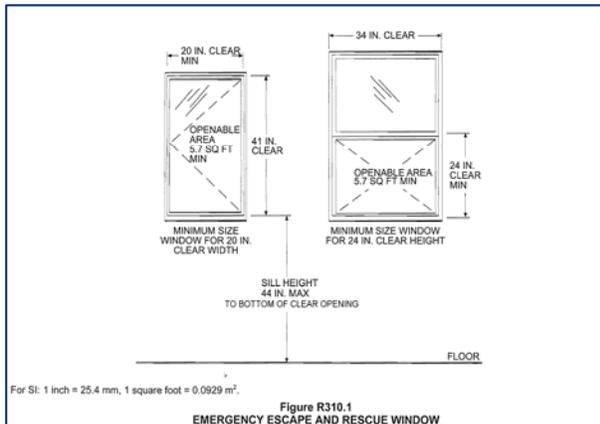
Permits are required for the replacement or installation of skylights, windows, window wells, and doors.

Provide a floor plan indicating the location of all new or replacement windows, including identification of each room. Provide a window schedule showing the size, type, and net clear opening of each window; show U-values for all windows - maximum shall be 0.32. For new installations or any change in opening size, plans shall include a sketch indicating the framing for the floor and roof above, the size of the opening, and any framing changes and headers to be installed. New or enlarged window openings in basement walls require a stamped engineered plan for the proper support of the foundation.

Non-complying windows in basements and in sleeping rooms shall be modified to meet the current egress window requirements. Individual hardship situations will be evaluated on a case by case basis. Replacement windows in sleeping rooms or basements without sleeping rooms shall comply with the required openable egress area, width, height, and distance from the floor to the bottom of the clear opening of the window.

Every sleeping room (or basement without sleeping room) shall have one exterior door or escape and rescue window with a minimum of 5.7 sq. ft. of net clear opening. The minimum height of this clear opening shall be at least 24". The minimum width of the clear opening shall be at least 20". Note that a window with both minimum width and minimum height cannot be used to achieve the 5.7 square foot net clear opening required. All escape and rescue windows shall have a height not more than 44 inches measured from the finished floor to the bottom of the clear opening. IRC Section R310.1.

Egress window wells are required for all emergency escape and rescue windows below grade. Existing window wells need not be expanded to compliant dimensions when existing basement windows are replaced or enlarged. If window wells are replaced, they shall comply with the current code. Egress window wells shall have a minimum accessible net clear opening of 9 sq. ft. (minimum dimension of 36" in both directions) with the window in the fully open position. Window wells with a vertical depth of more than 44" shall be equipped with an approved, permanently affixed ladder or stairs that are accessible with the window in the fully open position.



New doors, windows, and skylights are required to meet the current standards for energy conservation (IECC Section R402 for residential and Section C402.3 for commercial applications) and shall be labeled to indicate compliance with AAMA/WDMA/CSA 101/I.S.2/A440.

### Thermal Transmittance

- Doors and windows maximum U-value: 0.32
- Skylight maximum U-value: 0.55

### Air Infiltration Rate

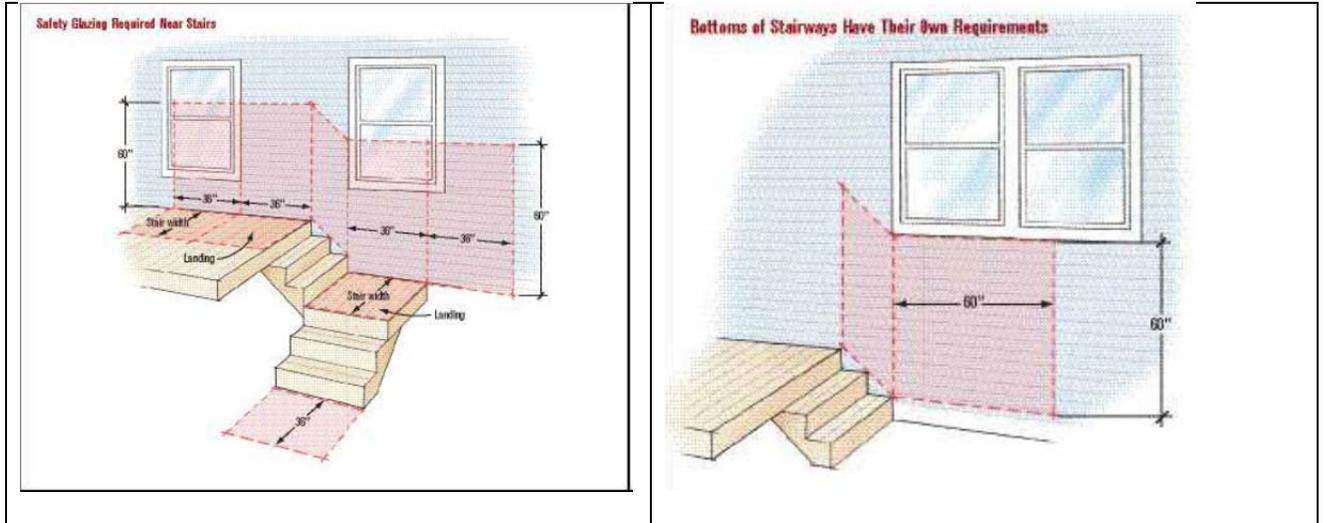
- Windows, skylights, and sliding doors: 0.3 cfm/ft<sup>2</sup>
- Swinging doors: 0.5 cfm/ft<sup>2</sup>

Colorado State law and currently adopted codes require carbon monoxide and smoke alarms to be installed per the manufacturer's written installation instructions when alterations or repairs requiring a building permit occur within in homes having fuel fired appliances or an attached garage. CO alarms shall be located within 15 feet of the entry to each sleeping room and smoke alarms shall be on each level of the home, in each sleeping room, and outside each sleeping area in the immediate vicinity of the bedrooms. Final inspections of window, door and skylight installation or replacement will include verification of carbon monoxide and smoke alarms. Carbon monoxide and smoke alarms shall be fully battery powered; plug-connected into a dwelling's unswitched electrical outlet and include a battery backup; wired into a dwelling's electrical system and include a battery back-up; or connected to an electrical system via an electrical panel. Approved combination smoke/ carbon monoxide alarms may be used.

All openings shall be flashed to create a weather resistive barrier per IRC R703.1 and IBC 1403.2. Skylights may require a 4 inch high curb and/or screening below the skylight; see IRC R308.6.8 and IBC 2405.4.

Safety glazing is required for all hazardous locations subject to human impact, per IRC Section 308.4 and IBC 2406 including but not limited to the following:

- Within a 24" arc of either vertical edge of a door (except in a wall perpendicular to the door other than the wall toward which the door swings).
- Within 5' of stairways and landings;
- In any wall within 5 feet of bathtubs, showers, hot tubs, spas, or pools, if lower than 5 feet above standing surface.



For fall protection, in locations where the opening of an operable window is more than 72 inches above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches above the finished floor of the room in which it is located for one and two family dwellings, and shall be a minimum of 36 inches above the finished floor of the room in which it is located for Occupancy Groups R-2 and R-3. Approved window guards or limited opening sizes may be used in certain situations. IRC Section R312.2, IBC Section 1013.8. See figure R612.2 below.

