



Tempered glazing is required in the 2012 IRC (International Residential Code) in the following hazardous locations:

Glazing in doors. 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.

Glazing adjacent doors. Glazing in an individual fixed or operable panel adjacent to a door 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.

Exceptions:

- Decorative glazing.
- When there is an intervening wall or other permanent barrier between the door and the glazing.
- Glazing in walls on the latch side of and perpendicular to the plane of the door in a closed position.
- Where access through the door is to a closet or storage area 3 feet or less in depth.
- Glazing that is adjacent to the fixed panel of patio doors.

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

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

Exceptions:

- Decorative glazing.
- When a horizontal rail is installed on the accessible side(s) 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 1.5 inches in cross sectional height.

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 [within 45 degrees of horizontal] surface adjacent to the glass exterior.

Glazing in guards and railing. Glazing in guards and railings, including structural baluster panels and nonstructural in-fill panels, regardless of area or height above a walking surface shall be considered a hazardous location.

Glazing and wet surfaces. Glazing in walls, enclosures or fences containing or facing hot tubs, 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 a hazardous location. This shall apply to single glazing and all panes 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, spa, whirlpool, or swimming pool.

Glazing adjacent 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 stairways, landings between flights of stairs and ramps shall be considered a hazardous location.

Exceptions:

- When a rail is installed on the accessible side(s) 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

(continued)

Window Replacement (cont.)

the glass and be a minimum of 1.5 inches in cross sectional height.

- Glazing 36 inches or more measured horizontally from the walking surface.

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 of the bottom tread shall be considered a hazardous location.

Exception: The glazing is protected by a guard complying with Section R312 and the plan of the glass is more than 18 inches from the guard.

SMOKE AND CARBON MONOXIDE ALARMS

Where alterations, repairs or additions requiring a permit occur, or where one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with alarms located as required for new dwellings. See *Smoke and Carbon Monoxide Alarms Information Sheet*.

A BUILDING PERMIT IS REQUIRED FOR THE REPLACEMENT OF WINDOWS

Replacement windows shall be exempt from the maximum sill height and minimum requirements of the code if 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 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.

Licensed facilities. Windows in rooms used for foster care or day care licensed or registered by the State of Minnesota shall comply with the provisions of Section R310.1.5 of the *Minnesota Residential Code*, or all of the following conditions, whichever is more restrictive:

- Minimum of 20 inches in clear opening width;
- Minimum of 20 inches in clear opening height;
- Minimum of 648 square inches (4.5 square feet) clear opening; and
- Maximum of 48 inches from the floor to the sill height.