The 2016 California Building Code (CBC) and California Residential Code (CRC) regulate interior and exterior glass and 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.

Identification  DESIGN PROVISIONS

Permanent labels and identification marks for glazing installed in hazardous locations is always required. Each unit of tempered glass shall be sandblasted, laser etched embossed or of a type that, once applied, cannot be removed without being destroyed and be visible when the unit is glazed.

Hazardous Locations

The following are specific hazardous locations where safety glazing is required:

A. Glass Panels Adjacent to Doors

Glazing in fixed or operable panels adjacent to a door where the nearest exposed 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 walking surface.

[Diagram of safety glazing requirements]
Hazardous Locations (cont.)

B. Glass Panels in Walls within Tubs

1. Doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in walls enclosing these compartments if the bottom exposed edge of the glazing is less than 60-inches above a standing surface and drain inlet.

2. Safety Glazing required within 60-inches measured horizontally and in a straight line from the water's edge of a hot tub, whirlpool and bathtub.

Safety Glazing required within 60-inches measured horizontally and in a straight line from the water's edge, when permanent enclosure not present.
Hazardous Locations (cont.)

C. Glass Panels adjacent to a Walking Surface

Individual fixed or operable panel that meets all of the following criteria:

1. The exposed area of an individual pane is greater than 9 sq. ft.
2. The exposed bottom edge is less than 18-inches above the floor.
3. The exposed top edge is greater than 36-inches above the floor.
4. One or more walking surfaces is within 36-inches horizontally of the plane of the glazing. Refer to diagram and table for specific safety glazing locations.

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![Diagram of glass panels adjacent to a walking surface]

**GLASS PANELS ADJACENT TO A WALKING SURFACE – ELEVATION**

Table 1 – Glass panels adjacent to a walking surface

<table>
<thead>
<tr>
<th>Glass Panel(s)</th>
<th>Safety Glazing Required?</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Yes</td>
<td>Panel A is more than 9 sq. ft. in area and its lowest edge extends to within 18-in of the walking surface.</td>
</tr>
<tr>
<td>B &amp; D</td>
<td>No</td>
<td>The lowest edge of the panel is more than 18-in above the walking surface.</td>
</tr>
<tr>
<td>E</td>
<td>No</td>
<td>Panel E is less than 9 sq. ft. in area.</td>
</tr>
<tr>
<td>C</td>
<td>See remarks</td>
<td>Panel C, being one piece of glass more than 9 sq. ft. in area and within 18-in of the walking surface, is required to be of safety glazing materials unless a horizontal member not less than 1 1/2-in in width is located between 34 and 38-in above the walking surface.</td>
</tr>
</tbody>
</table>
Hazardous Locations (cont.)

D. Railings

Glass in railings shall be glazed with safety glazing materials, including structural baluster panels and nonstructural in-fill panels, regardless of area or height above a walking surface.

E. Swimming Pool Barriers

Glazing in walls and fences used as the barrier for indoor and outdoor swimming pools and spas, when the following conditions are present:

1. The bottom edge is less than 60-inches above grade on the pool side.
2. The glazing is within 5-feet of the swimming pool or spa water's edge.
Hazardous Locations (cont.)

F. Stairs and Landings

Glazing adjacent to stairways, landings and ramps within 60-inches horizontally of a walking surface; when the exposed surface of the glass is less than 36-inches above the plane of the adjacent walking surface.

Glazing adjacent to stairways within 60-inches horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 36-inches above the nose of the tread. (See CBC or CRC for exceptions)
Hazardous Locations (cont.)

G. Other Locations
1. Swing doors except jalousies
2. Fixed and sliding panels of sliding door assemblies and panels sliding and bi-fold assembly doors
3. Storm doors
4. All unframed swinging doors

H. Exceptions
1. Glazing under Item A (Page 1) where there is an intervening wall or other permanent barrier between the door and glazing
2. Glazing under Item A (Page 1) in walls on the latch side of and perpendicular to the plane of the door in closed position for one or two family dwellings or within Group R-2 dwellings.
3. Glazing under Item C when a protective bar is installed on the accessible sides of the glazing 34 to 38 inches above the floor (see window type C in the illustration on page 3) The bar 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 height
4. Outboard pane in insulating glass units and in other multiple glazed panels under Item C when the bottom exposed edge of the glass is 25-ft or more above any grade, roof, walking surfaces or other horizontal or sloped (within 45 of horizontal) surface adjacent to the glass exterior
5. Glass block panels complying with CBC Section 2110 and CRC Section R610
   Openings in doors through which a 3-inch sphere is unable to pass CBC 2406.4.1, CRC R308.4.6.
   Decorative glass in CBC Section 2406.4.1, CRC R308.4
7. Commercial refrigerated cabinet glazed doors
8. Louvered windows complying with the requirements of CBC Section 2403.5, CRC R308.2 9. Mirrors and other glass panels mounted or hung on a surface that provides a continuous backing support, CBC 2406.4.1 #7, CRC R308.3 #2