

Safety Glazing in and around Bathtub or Shower Enclosures

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Code reference: 2022 Oregon Structural Specialty Code—Section 2406.4.5
2023 Oregon Residential Specialty Code—Section R308.4.5
ICC IRC Committee Interpretation 18-14

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Subject: Safety glazing in and around bathtub or shower enclosures

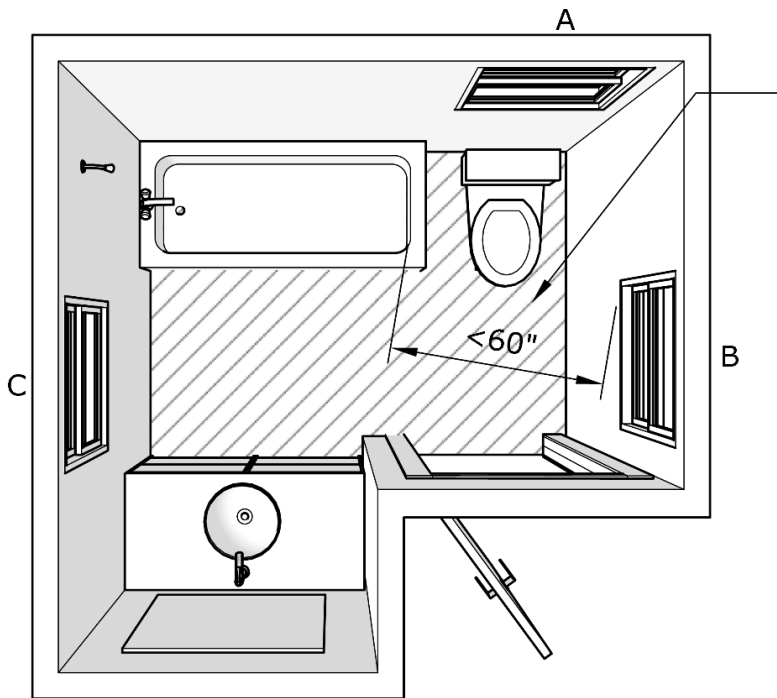
Questions:

What constitutes a hazardous location for enclosures and walls facing hot tubs, whirlpools, saunas, steam rooms, bathtubs, and showers?

Answers:

Where glazing within walls or other enclosures facing bathtubs or showers is located with bottom exposed edges at 60 inches or less vertically above any standing or walking surfaces, the base requirement for safety glazing applies from the charging language of Section R308.4.5. With this established, safety glazing provisions are further qualified by the exception to the section. The key to interpreting the exception is applying the intent of the code when identifying the hazardous location with regard to “enclosures for or walls facing” the “water’s edge” of the related element. Where saunas, steam rooms, and showers do not have a defined water’s edge, the 60 inches of projection shall be taken directly in front of the enclosure horizontally and in a straight line from the front edges of the enclosure. The following figures identify the hazardous locations in five common bathtub/shower configurations:

Figure 1. (Below) The enclosure for a bathtub or shower is defined by the walls that surround the bathtub/shower and how the bathtub/shower can be accessed or exited from within the enclosure. In this figure, a bathtub/shower combination is open into the room on two sides, therefore the walls that make up the entire bathroom would be considered the enclosure for the bathtub/shower due to the accessibility from the two sides. The hatching in the figure denotes the area that is considered to be a hazardous location, and windows within that area that are within 60 inches of the water’s edge (the typical water line of the bathtub/shower) are required to be protected with safety glazing.



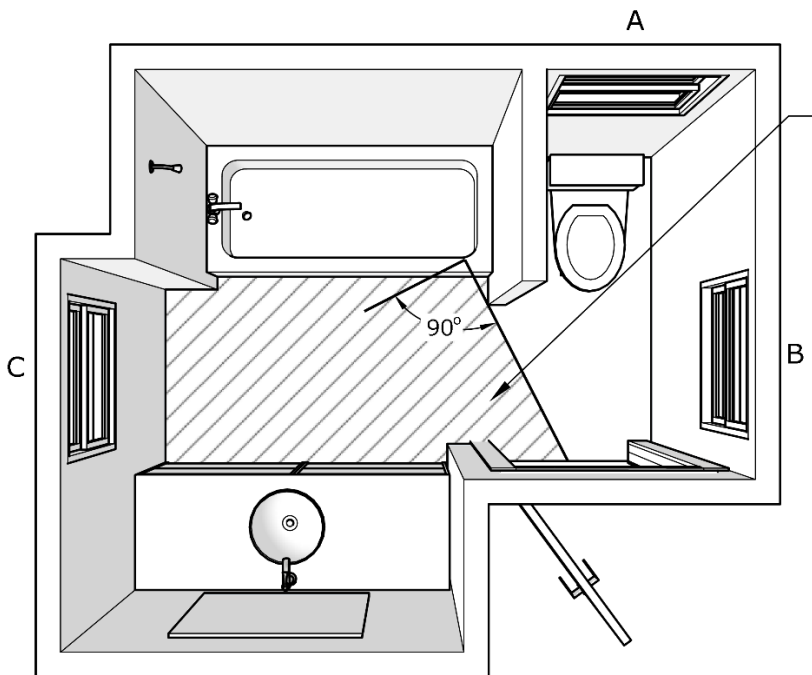
HATCHING DENOTES THE AREA WITHIN 60 INCHES MEASURED HORIZONTALLY AND IN A STRAIGHT LINE FROM THE WATER'S EDGE OF THE BATHTUB TO BE CONSIDERED A HAZARDOUS LOCATION

WINDOWS A, B AND C MUST BE SAFETY GLAZED AS THEY ARE WITHIN 60 INCHES HORIZONTALLY AND IN A STRAIGHT LINE FROM THE WATER'S EDGE

NOTE:

ALL WINDOWS SHOWN HAVE THE BOTTOM EXPOSED EDGE OF THE GLAZING LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE. WINDOWS LOCATED WITHIN ENCLOSURES MUST BE SAFETY GLAZED.

FIGURE 1 – SECTION R308.4.5



HATCHING DENOTES THE AREA WITHIN 60 INCHES MEASURED HORIZONTALLY AND IN A STRAIGHT LINE FROM THE WATER'S EDGE OF THE BATHTUB TO BE CONSIDERED A HAZARDOUS LOCATION

WINDOW C MUST BE SAFETY GLAZED AS IT IS WITHIN 60 INCHES HORIZONTALLY AND IN A STRAIGHT LINE FROM THE WATER'S EDGE

WINDOWS A AND B ARE OUTSIDE THE HAZARDOUS AREA

NOTE:

ALL WINDOWS SHOWN HAVE THE BOTTOM EXPOSED EDGE OF THE GLAZING LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE. WINDOWS LOCATED WITHIN ENCLOSURES MUST BE SAFETY GLAZED.

FIGURE 2 – SECTION R308.4.5

Figure 2. (Above) The room in this figure is identical to the room in Figure 1 with the exception that there is a wall or barrier installed at the end of the bathtub/shower prohibiting access or exiting from the end of the bathtub. The enclosure is now defined by the three walls surrounding the bathtub/shower, as shown by the hatched area, and only window C is within 60 inches measured horizontally and in a straight line from the water's edge of the bathtub. Therefore, window C would have to be protected by safety glazing.

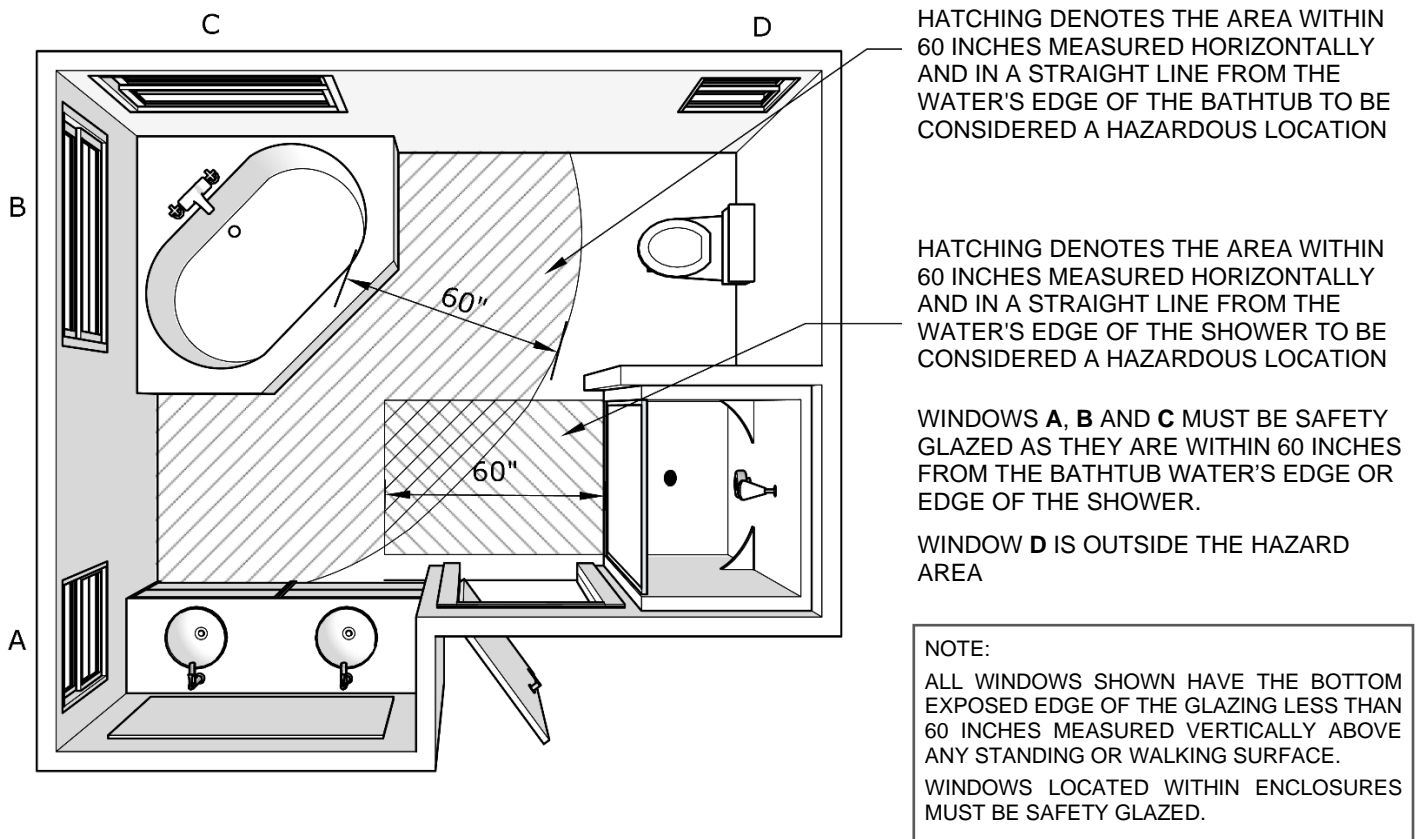


FIGURE 3 – SECTION R308.4.5

Figure 3. (Above) Figure 3 depicts a much larger bathroom compartment with a corner bathtub that can be accessed or exited from several locations but is bounded by walls on two sides. The enclosure for this bathtub would be defined by the two walls and then by the 60-inch projection from the bathtub's typical water line. The hatched area depicts the affected area where safety glazing would be required if any walls with windows were present that were facing the bathtub's typical water line. In this case, window A is considered as facing the typical water line due to the curvature of the bathtub and would require safety glazing. In addition, the glazing in the walls behind the bathtub fall within the defined enclosure and would require safety glazing. This bathroom also contains a shower or sauna enclosure which is bounded on three sides by solid walls which define the enclosure. Windows closer than 60 inches horizontally and in a straight line from the front edge of the shower would require safety glazing.

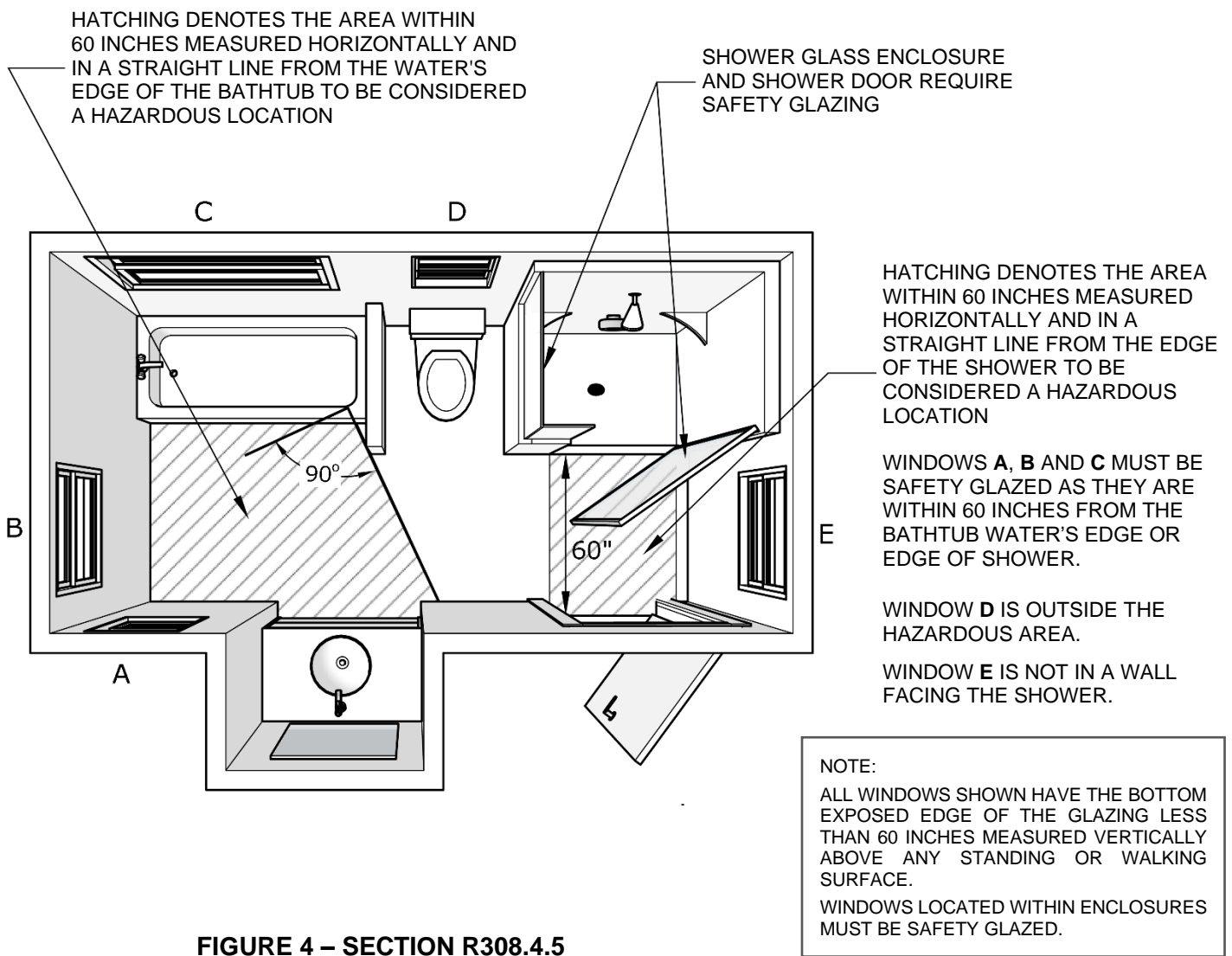


FIGURE 4 – SECTION R308.4.5

Figure 4. (Above) The configuration depicts a bathtub bounded on two sides by full height walls and on the end near the water closet with a half wall. This type of installation will require judgment by the inspector/building official to discern the capabilities of the user to access or exit the bathtub over the half wall. Typically, if this wall is over 36 inches tall it could be considered part of the bathtub enclosure due to the difficulty of traversing the low wall. Assuming the low wall does define the enclosure, the hatched area as shown would be considered the enclosure and any glazing falling within the area would need to be protected. Therefore, windows A, B and C would require safety glazing. The shower is enclosed by walls on two sides with a half wall on the side adjacent to the water closet. Above the half wall is a safety glazed enclosure that completes a glass enclosed shower stall including the shower door at the front of the shower. The half wall with the safety glazing above defines the shower enclosure as having walls on three sides therefore the hatched area shows the area considered to be within the walls of the enclosure and within 60 inches horizontally and in a straight line from the edge of the shower. In this case, window E is not within either hatched area and is not in a wall facing the shower and therefore does not require safety glazing. Due to having enclosure walls from the bathtub and shower adjacent to the water closet, window D behind the water closet would not fall within the required safety glazing parameters.

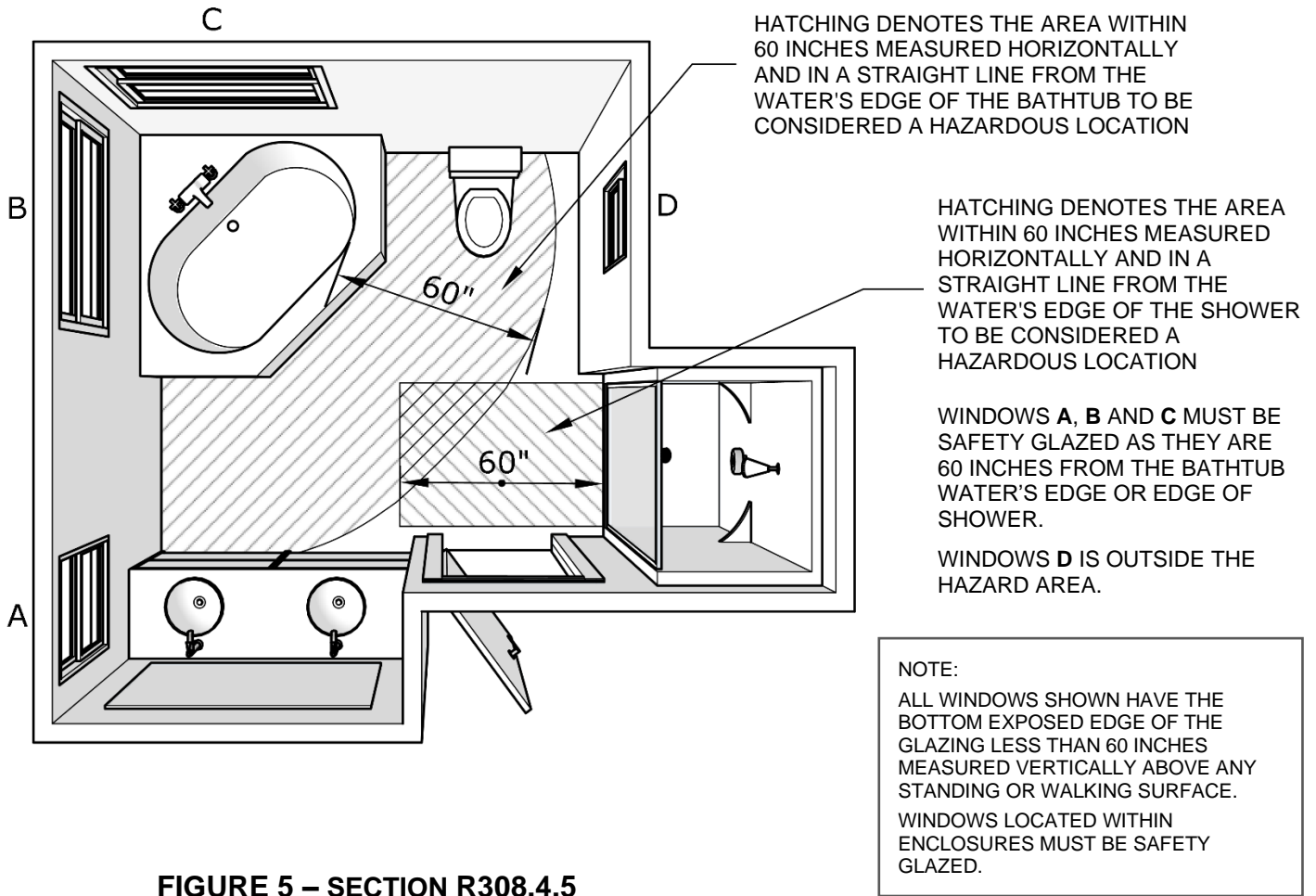


FIGURE 5 – SECTION R308.4.5

Figure 5. (Above) The configuration depicts an oval shaped corner bathtub bounded on two sides by full height walls and open at the front. The 60-inch radius in conjunction with the two back walls define the enclosure, therefore the hatched area as shown would be considered the enclosure and any glazing falling within the area would need to be protected. In this case, windows A, B and C would require safety glazing. The recessed configuration of the shower defines the enclosure and therefore windows within 60 inches horizontally and in a straight line of the edge of the shower would be subject to safety glazing provisions. Due to window D being at 180 degrees from the face of the shower the window does not require safety glazing.

Contact:

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