

primary safety concerns are either not present or pose minimal or no unsafe condition in the case of human impact.

Several factors must be considered when classifying revolving doors. The first thing to be considered is that they cannot be used as part of the required means of egress. Another thing to consider is that revolving doors are not fixed glass panels that can be mistaken for a passageway or clear opening. In addition, the individual pieces of glass to make the large door panels, by necessity, are required to be very thick. The extra thickness of glass, coupled with the added strength of the curved form and the movable panel, make it highly unlikely that injury could result from glass breakage caused by human impact.

4. This exception is based on CPSC 16 CFR, Part 1201. Technically, glass in doors of refrigerator cabinets should comply with the standard when the door is open. The intent, however, was not to cover doors a person would not ordinarily use for egress. Refrigerated cabinets in food markets would be in this category and are, therefore, exempt. There are also no records of injuries from glass in this application.

2406.4.2 Glazing adjacent to 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 (610 mm) 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 (1524 mm) above the walking surface shall be considered a hazardous location.

Exceptions:

1. Decorative glazing.
 2. Where there is an intervening wall or other permanent barrier between the door and glazing.
 3. Where access through the door is to a closet or storage area 3 feet (914 mm) or less in depth. Glazing in this application shall comply with Section 2406.4.3.
 4. Glazing in walls on the latch side of and perpendicular to the plane of the door in a closed position in one- and two-family dwellings or within dwelling units in Group R-2.
- ❖ The purpose for identifying the area adjacent to a door as a hazardous location is to provide protection in cases where a person may slip or mistake a glass panel adjacent to a door for a passageway and walk into the glass or where a person may push against the sidelight with one hand for support while opening the door with the other hand. There are reported accidents where a person's hand has slipped from the doorknob, impacting and breaking the glass adjacent to the door, thereby causing injury. This item is applicable to glass adjacent to both exterior and interior

doors used for passage for all occupancies and types of buildings.

It is not necessary for an entire piece of glass in a glazed wall or opening to be within the 24-inch (610 mm) arc to require it to be safety glass. If any portion of an individual piece of glass is within the arc, that piece of glass must be safety glass [see Commentary Figure 2406.4.2(1)].

There are four exceptions that eliminate the need for safety glazing adjacent or in close proximity to glass doors. These exceptions are included because they eliminate or greatly reduce the possibility of human impact with fixed glazing:

1. Decorative glass and decorative glass assemblies are readily visible and easily identified; therefore, they are not likely to be mistaken for an open passageway when they are adjacent to a door. As a rule, stained glass assemblies are made from small pieces of glass that would cause little or no damage if broken.
2. An intervening wall provides a permanent barrier that prevents people from having physical contact with any glass that is beyond the intervening wall, but is still within the 24-inch (610 mm) arc. This barrier eliminates many of the safety issues addressed in this section. This exception may be applied to an interior or exterior wall/glazing condition [see Commentary Figure 2406.4.2(2)]. The code does not specify a minimum height requirement for the intervening wall; therefore, where the wall does not extend to the full height of the rooms or spaces where the door/wall is located, the 60-inch (1524 mm) requirement must be applied. If, for example, the top of the wall is 60 inches (1524 mm) above the floor, any individual piece of glass that extends below the top of the wall must be safety glass or the top of the wall must be extended to provide a barrier for any piece of nonsafety glazing within 60 inches (1524 mm) of the floor. The same must be applied to the 24-inch (610 mm) arc in the plan dimension. Any glazing within the arc must be safety glazing, or the wall must be extended to include glazing not protected by the wall [see Commentary Figure 2406.4.2(3)].
3. This exception addresses closets and other storage areas that are not considered "walk-ins." The assumption is that at such locations a building occupant would not need to pass through the door opening to access the storage area, thus reducing the risk of impact with any adjacent glazing.
4. Because the occupants of one- and two-family dwellings are presumed to be familiar with their

environment, and walls that are perpendicular to the plane of a door are, by definition, parallel to the direction of travel of an occupant using the door, the risk of impact with glazing is considered to be low. This decreased risk is recognized by Exception 4. Since there is a chance that an opening door could push a person into the wall toward which the door opens, the exception does not apply and safety glazing would be required at that location.

Individual dwelling units within Group R-2 occupancies are allowed the same exemption; however, it does not extend to the use of glazing in close proximity to doors in public-use areas.

2406.4.3 Glazing in windows. Glazing in an individual fixed or operable panel that meets all of the following conditions shall be considered a hazardous location:

1. The exposed area of an individual pane is greater than 9 square feet (0.84 m²).
2. The bottom edge of the glazing is less than 18 inches (457 mm) above the floor.
3. The top edge of the glazing is greater than 36 inches (914 mm) above the floor.

4. One or more walking surface(s) are within 36 inches (914 mm), measured horizontally and in a straight line, of the plane of the glazing.

Exceptions:

1. Decorative glazing.
 2. Where a horizontal rail is installed on the accessible side(s) of the glazing 34 to 38 inches (864 to 965 mm) above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot (730 N/m) without contacting the glass and be a minimum of 1½ inches (38 mm) in cross-sectional height.
 3. Outboard panes in insulating glass units or multiple glazing where the bottom exposed edge of the glass is 25 feet (7620 mm) or more above any grade, roof, walking surface or other horizontal or sloped (within 45 degrees of horizontal) (0.79 rad) surface adjacent to the glass exterior.
- ❖ The reason for including this type of glazed opening as a hazardous location is to provide protection where the glazed opening could be mistaken for a passageway or a clear opening that someone might be able to walk through, fall into or otherwise be accidentally forced into. In the case of a child, the open-

