

UNIFORMITY OF INSPECTIONS COMMITTEE

MARCH 2008 RESULTS

March Question #1 Glazing Adjacent To Stairway Landings

R308.4(10)

“Glazing adjacent to stairways, landings and ramps within 36 inches (914 mm) horizontally of a walking surface when the exposed surface of the glass is less than 60 inches (1524 mm) above the plane of the adjacent walking surface.”

“At the top of a stairway is a three foot by three foot landing. A hallway extends from the landing towards bedrooms, etc. In this hallway is a window that is within 36 inches of the landing. This window is “within 36 inches horizontally of” the walking surface of the landing but is 66 inches from the stair. Does this window require safety glazing based on the code text?”

“Does this window require safety glazing based on the code text?”

Yes	3	17%
No	18	83%

Total votes: 21

Comments on this topic:

A) “NO; from your description it appears the window is not within the 36x36 landing and is not within 60 inches of the stairs.”

B) “I am assuming that the window in this example is not larger than 9 sq.ft. in area.....The window would not need to have safety glazing per **Section R308.4 Item #10**. The 60" horizontal dimension is now only measured at the bottom tread per **R3080.4 Item #11**.”

C) “I know what I thought the code said but if you read the text closely it seems more ominous than first thought. This section requires glazing adjacent a landing be safety glazed if the glazing is within 36 inches horizontally of a walking surface and less than 60 inches above the walking surface. So applying this to a landing, where does the 36 inches come in? It would seem as though you would need to run lines parallel to (and 36 inches away) and swing arcs (36 inch radius) from the extremities of stairways, landings, and ramps and that any glazing less than 60 inches above the walking surface that falls within those lines must be safety glazed. It would seem that the literal reading of the section would require the hallway window in the example be safety glazed. Am I reading this wrong? Why does the code reference the 36 inch horizontal dimension if this window doesn't require safety glazing?”

D) “You're right, the language is confusing if you attempt to read each word literally. I believe this section means that glass within the landing (IE: part of the 36x36 perimeter lines/walls) or any glass within the stair run or ramp run & intermediate landing including 60" horizontal in any direction at the bottom of stairs.

Ref: IRC commentary "The walking surface in question would be part of a stair or ramp itself, including top, bottom and intermediate landings. It does not include adjacent floors or other walking surfaces".

E) “OK, so when we read the 36 inch dimension, where do we measure that from and to?”

F) “I believe the language reads that, for example, you have a stair/ramp and parallel to this stair/ramp you have a **wall within 36 inches** of the stair/ramp edge any glass in that wall below 60 inches

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above the floor surface would be safety glass; the exception would be if you had a guard along the stair/ramp and the glass was a minimum of 18 inches away from the edge. This would apply to (free standing stairs) intermediate landings and at the top of a stair (mezzanine) or any part of the wall(s) creating the landing(s)--(similar to window within tub/shower enclosures, once you get outside the enclosure it's not regulated).

The landing is measured in the direction of travel starting at the landing nosing/stair riser and a minimum of the width of the stairs etc. I hope this example is not more confusing.”

G) “I cannot believe I am saying this, but (C & E) is correct as to the way this section is written. The glass is measured from the landing edge as stated. If it is within 36" horizontally it is required to be tempered unless specifically exempted. The walking surface is still the landing even though there is an intervening walking surface. Nothing in the language considers direction of travel for the measurement, consequently the glass is in a hazardous location till it is outside the 36" horizontal or 60" vertical area. I hate it when (he) makes a valid point.

Let me muddy the water. In **311.5.4** there is an exception to the landing requirement at the top of an interior stair. Would it be safe to say that there is technically no landing because there is no door swinging over the stair? In this case, the measurement would be taken from the stair edge yielding a different answer.”

H) “No, the hallway window does not require safety glass according to **Sec. R308.4(10)** because the glass is not adjacent to a stairway, ramp or landing. I believe the 36 inch dimension is intended to include recessed or alcove glass within the hazardous location, but is not intended to extend the hazardous location beyond the landing. The section definitely needs some additional wordsmithing. Given the ambiguity of this section, all of the above interpretations are reasonable, but do they all make practical sense?”

I) “I'm not sure where everyone is coming up with some of the reasons that this glass is not required to be safety glazed but it doesn't seem to be supported by text in the code but by supposition. Is a landing a walking surface? I think we would all agree that a landing is a walking surface. For stairs and ramps, it isn't just enough that the glass be apart from the stair or ramp. It must be 36 inches or more away from the ramp or landing or it must be safety glazed. So I picture this stairway adjacent a light well that is 32 inches wide and in the wall of this light well 32 inches from the walking surface of the stair is a window. This glazing is “adjacent to stairways, landings and ramps within 36 inches horizontally of the walking surface”. Therefore it needs to be safety glazed. Then we get to the top of this stair to the landing. If the light well continued along the landing, would we say it needn't be safety glazed? What changes from the top step of the stair to the landing? The code doesn't differentiate. I agree that this is a poorly written code section and it doesn't seem to have a strong basis in safety, kind of like the requirement for returning handrails to a wall.”

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March Question #2

Door Swing Over Stairs

R311.4.3.2(3) "An exterior landing is not required at a doorway when only a storm or screen door is installed which does not swing over the exterior landing."

"Given a screen porch that only has a screen door to the exterior.

A) Would this code section permit this door to open over the top step of a set of stairs?

B) Would this code section prohibit a screen door from swinging over a landing at the top of the stairs? R311.4.3.2(1) permits a screen door opening over a landing.

C) Are these two code sections in conflict?"

A.	Yes	10	50%
A.	No	10	50%
B.	Yes	1	3%
B.	No	18	97%
C.	Yes	2	11%
C.	No	17	89%

Total votes: 20

A) "This is a typical Minnesota amendment, poorly worded and confusing. It states that an exterior landing is not required if only a screen/storm door is installed that doesn't swing over the landing that isn't there to begin with(?). Let's come at this backwards. Suppose I have a stair with a landing. The landing is not more than 7 3/4 inches below the top of the threshold and only a screen/storm door swings over the landing. This is permitted by R311.4.3.2(1). Now let's say I wish to remove the landing. Going back to R311.4.3.2(3), the exterior landing is not required if the storm/screen door doesn't swing over the landing. But my door does swing over the landing so does that mean I can't remove it? Would seem so. So, my answers would be maybe, maybe, and yes."

B) "yes
no
no
(just to mix things up a bit)"

C) "yes
no
no"

D) "Ditto."

E) "If one reads carefully and logically you can build a matrix that leads you through every door situation that is not contradictory. You must however, assume that the first requirement in R311.4.3.2 for "other exterior doors" is that a landing is required at FF height unless one of the situations listed applies. In

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doing so, a matrix can be developed that does not conflict with itself. As opposed to me-who is always in conflict.

1. Exterior exit:

- a. Flush landing for outswing or
- b. dropped landing for inswing

2. Other exterior (other than stand alone screen or storm):

- a. Flush landing for outswing, (assumed)
- b. lowered landing for inswing or sliding,
- c. no landing for stair less than 30" regardless of swing.

3. Exterior screen or storm only

- a. lowered landing outswing
- b. no landing inswing
- c. no landing for stair less than 30' regardless of swing

4. Interior door

- a. No landing when door does not swing over stair
- b. Landing required when door swings toward stair-height unknown"

F) "It took me a while, but I agree with (E)."

I also agree that this is a confusing and poorly worded section. Imagine what we will get with authoritative vs. advisory code boards."

G) "I agree with all that has been said so far regarding landings at doors, [Sec. 311.4.3](#). But if there is also a stair involved, referring to [Sec. R311.5.4](#), landings for stairways, there is a conflict. A landing is required at the top and bottom of each stairway. The exception applies only to interior stairways, so I would consider this section to trump the exception for landings at doors and mandate the landing at the top of the stairway."

March Question #3

Frost Protected Deck Footings

“Our May 2007 question asked: “Are deck stair stringers required to be supported on frost protected footings?” 97% of our pollsters responded with a “No” answer.

We want you now to take a look at (2006) IRC Section R403.1.4.1 Minimum depth. Is there a change in the code language that would now require frost protected footings for stairs attached to a deck which is supported by a dwelling?

Is there a change in the code language?”

Yes	1	4%
No	24	96%

Total votes: 25

A) “I would say no. The piers on which decks are erected are at best a marginal foundation design that is prone to movement even when installed code compliant. The primary reason for footings to extend below frost depth (an arbitrary depth by the way) is to limit the movement of attachments to a dwelling in an effort to prevent damage to the dwelling. Since movement of the deck is a given and since stairs are attached to decks in a manor that allows some movement of the stairs, it is hard to argue that any damage would occur to the dwelling due to stair movement caused by frost. Furthermore, requiring a frost depth footing under stairs becomes problematic when considering that some tread materials may require stringers 12 o.c. or some low deck designs involve stairs that wrap around the deck. In the former, you could have four 8 inch piers that may be only 4 inches apart. In the later, you may have three or four piers supporting the deck and ten, twelve, or more piers supporting the stairs. Either situation conflicts with logic.”

B) “No, I have not seen deck stair stringers affect a deck in a negative way due to lack of frost footings. The landing that the stringers are attached to must be supported by frost footings. If you think homeowners and contractors will get stair stringer footings in the correct location, think again. (not gonna happen the majority of the time)”

C) “I agree with both the previous responses’ by (A & B) (a moral issue I need to deal with for sure....), but I would apply **1300.0110 Subpart 1** where it states “use some common sense”. But that is just my opinion..... and I could be wrong.”

D) “In this case I may be the lone dissenting opinion, but I'm O.K. with that. My understanding is that when a deck is attached to the structure it is intended to be a permanent attachment. That said, would it not be reasonable to say the stair attachment is also intended to be permanent? The argument that a large number of footings would be required as the result of the stair layout does not stand up. I've not seen where anyone is advocating (or requiring) EACH stringer to be support by an individual footing. Just as the deck itself is does not have individual footings supporting each joist why would a stair need individual footings for each stringer? Except in extreme cases, most stairs can be supported by two footings with the intermediate stringers supported by a 'beam' between them. Any carpenter worth his salt can figure out how to assemble this so the only hardship is they have to dig two additional holes to cast the footings. If this is not going to be required what happens to the stringer connection at the deck after the bottom (discharge end) raises and lowers during the freeze/thaw cycle?

By requiring the stair to be supported by footings ensures the stair will remain intact throughout the life expectancy of the deck. If you don't believe there's a hazard waiting to happen here, then don't require them.”

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E) "I don't dispute the "code language" requires the deck to have footings; I have always question this huge freeze /thaw movement issue we always seem to bring to the table. Sure the ground will heave a bit if there is significant moisture in and the ground freezes, but I have not seen any significant movement from this, certainly not around stairs. An example might be the concrete apron in front of every garage door. It may heave a 1/4" or so and I still am able to get in and out of my garage.

An argument could be made that making a footing hole at the bottom of a stairway for surface water to collect into and then the potential of freezing and heaving those footings up is poor design. I am not aware of floating stairs being an issue, in fact, of all the issues surrounding the numerous problems with decks (attachment, connectors, decking material, railings lumber grades etc.) "Footing less" stairs has not been one of them.

I say let them lay on a landing area and be happy if they get the rise right."