

*The most often heard contractor phrase:
No one else makes me do that, so why do I have to ...*

Guards and Window Fall Protection

- Violation 1** : Window fall protection not present at window(s) which open and allow a 4-inch sphere to pass
Code Section(s) : 5th Edition (2014) FBC-Residential R312.2 Window fall protection
5th Edition (2014) FBC-Building 1013.8 Window sills
Comments : Contractor shall provide proper window fall protection or opening control devices
- Violation 2** : Screen porch does not have a proper guard – insect screening is not considered a guard
Code Section(s) : 5th Edition (2014) FBC-Residential R312.1 Guards
5th Edition (2014) FBC-Building 1013.5 Screen porches
Comments : Contractor shall provide a proper guard for the screen porch
- Violation 3** : Equipment/appliance within 10 feet of roof edge does not have a proper guard
Code Section(s) : 5th Edition (2014) FBC-Residential R312.1 Guards and M1301.1 Scope, which references
the 5th Edition (2014) FBC-Mechanical, included therein is 304.11 Guards
5th Edition (2014) FBC-Building 1013.6 Mechanical equipment
5th Edition (2014) FBC-Mechanical 304.11 Guards
Comments : Contractor shall provide a proper guard between equipment/appliance and roof edge
- Violation 4** : Roof access within 10 feet of roof edge does not have a proper guard
Code Section(s) : 5th Edition (2014) FBC-Residential R312.1 Guards and M1301.1 Scope, which references
the 5th Edition (2014) FBC-Mechanical, included therein is 304.11 Guards
5th Edition (2014) FBC-Building 1013.7 Roof access
5th Edition (2014) FBC-Mechanical 304.11 Guards
Comments : Contractor shall provide proper guard between roof access and roof edge

A. Violation 1 : Window fall protection not present for window(s) which open and allow a 4-inch sphere to pass

Window fall protection is required at windows which open and allow a 4-inch sphere to pass through, and which are more than 72 inches above finished grade or surface below, and which has the bottom of the opening less than (24 inches FBC-Residential) (36 inches FBC-Building) above the finished floor of the room the window is in.

From the 5th Edition (2014) Florida Building Code, Residential (underlining in code below is mine)

○ CHAPTER 3 BUILDING PLANNING

SECTION R312 GUARDS AND WINDOW FALL PROTECTION

R312.2 Window fall protection.

Window fall protection shall be provided in accordance with Sections R312.2.1 and R312.2.2.

R312.2.1 Window sills.

In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter (102 mm) sphere where such openings are located within 24 inches (610 mm) of the finished floor.

Exceptions:

1. *Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.*

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2. *Openings that are provided with window fall prevention devices that comply with ASTM F 2090.*
3. *Windows that are provided with window opening control devices that comply with Section R312.2.2.*

R312.2.2 Window opening control devices.

Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section R310.1.1.

From the 5th Edition (2014) Florida Building Code, Building (underlining in code below is mine)

○ CHAPTER 10 MEANS OF EGRESS

SECTION 1013 GUARDS

1013.8 Window sills.

In Occupancy Groups R-2 and R-3, one- and two-family and multiple-family dwellings, where the opening of the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the lowest part of the clear opening of the window shall be at a height not less than 36 inches (915 mm) above the finished floor surface of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter (102 mm) sphere where such openings are located within 36 inches (915 mm) of the finished floor.

Exceptions:

1. *Operable windows where the sill portion of the opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.*
2. *Windows whose openings will not allow a 4-inch diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position.*
3. *Openings that are provided with window fall prevention devices that comply with ASTM F 2090.*
4. *Windows that are provided with window opening control devices that comply with Section 1013.8.1.*

1013.8.1 Window opening control devices.

Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2.

B. Violation 2 : Screen porch does not have a proper guard – insect screening is not considered a guard

Screen porches with insect screening which have a floor or walking surface more than 30 inches above the floor or grade below at any point within 36 inches measured horizontally from the edge of the open side require proper guards – insect screening is not considered to be a guard.

From the 5th Edition (2014) Florida Building Code, Residential (underlining in code below is mine)

○ CHAPTER 3 BUILDING PLANNING

SECTION R312 GUARDS AND WINDOW FALL PROTECTION

R312.1 Guards.

Guards shall be provided in accordance with Sections R312.1.1 through R312.1.4.

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R312.1.1 Where required.

Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.

From the 5th Edition (2014) Florida Building Code, Building (underlining in code below is mine)

○ CHAPTER 10 MEANS OF EGRESS

SECTION 1013 GUARDS

1013.5 Screen porches.

Porches and decks which are enclosed with insect screening shall be provided with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.

C. Violation 3 : Equipment/appliance within 10 feet of roof edge does not have a proper guard

Mechanical equipment, appliances, fans, roof hatch openings and other components which require service and are located within 10 feet of the edge of a roof, floor or walking surface which is more than 30 inches above the floor or surface below require a guard – the guard must extend at least 30 inches beyond each side of the equipment/appliance/etc. Note: these guards permit larger openings than are permitted in other guards – openings in these guards shall not allow a 21 inch sphere to pass (instead of the typical 4 inch sphere opening limitation for other guards). The minimum required height of the guard is 42 inches above the elevated surface.

The FBC-Residential is not as specific as the FBC-Building and FBC-Mechanical. The FBC-Residential addresses “walking surfaces” without defining what is considered a “walking surface”. However, the FBC-Residential requires access to the equipment/appliance/etc for inspection, service, repair and replacement. As such, suitable guards need to be provided for those making such inspection, service, repair or replacement where the access to the equipment/appliance requires walking on/across a roof which can be walked on as a walking surface or a ramp.

Additionally, the FBC-Residential, M1301.1, states that installations of mechanical appliances, equipment and systems not addressed by the FBC-Residential shall comply with the FBC-Mechanical. The FBC-Residential does not address roof mounted equipment, thus the FBC-Mechanical becomes the applicable code. FBC-Mechanical requires guards for roof mounted equipment located as stated above.

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○ CHAPTER 3 BUILDING PLANNING

SECTION R312 GUARDS AND WINDOW FALL PROTECTION

R312.1 Guards.

Guards shall be provided in accordance with Sections R312.1.1 through R312.1.4.

R312.1.1 Where required.

Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.

○ CHAPTER 13 GENERAL MECHANICAL SYSTEM REQUIREMENTS

SECTION M1301 GENERAL

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M1301.1 Scope.

The provisions of this chapter shall govern the installation of mechanical systems not specifically covered in other chapters applicable to mechanical systems. Installations of mechanical appliances, equipment and systems not addressed by this code shall comply with the applicable provisions of the Florida Building Code, Mechanical and the Florida Building Code, Fuel Gas.

SECTION M1305 APPLIANCE ACCESS

M1305.1 Appliance access for inspection service, repair and replacement.

Appliances shall be accessible for inspection, service, repair and replacement without removing permanent construction, other appliances, or any other piping or ducts not connected to the appliance being inspected, serviced, repaired or replaced. A level working space at least 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an appliance. Installation of room heaters shall be permitted with at least an 18-inch (457 mm) working space. A platform shall not be required for room heaters.

From the 5th Edition (2014) Florida Building Code, Building (underlining in code below is mine)

○ CHAPTER 10 MEANS OF EGRESS

SECTION 1013 GUARDS

1013.6 Mechanical equipment.

Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliance, equipment, fan or component.

From the 5th Edition (2014) Florida Building Code, Mechanical (underlining in code below is mine)

○ CHAPTER 3 GENERAL REGULATIONS

[B] 304.11 Guards.

Guards shall be provided where appliances, equipment, fans or other components that require service and roof hatch openings are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliances, equipment, fans, components and roof hatch openings and the top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the Florida Building Code, Building.

D. Violation 4 : Roof access within 10 feet of roof edge does not have a proper guard

Roof hatch opening/roof access is located within 10 feet of the edge of a roof, floor or walking surface which is more than 30 inches above the floor or surface below requires a guard which extends at least 30 inches beyond each side of the equipment/appliance/etc. Note, however, that these guards permit openings which are larger than permitted for other guards – opening in these guards shall not allow a 21 inch sphere to pass through (instead of the typical 4 inch sphere opening limitation for other guards). The minimum required height of the guard is 42 inches above the elevated surface.

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The FBC-Residential code is not as specific as the FBC-Building code. The FBC-Residential code addresses “walking surfaces” without defining what is considered a “walking surface”; however, the FBC-Residential does require guards along the open sides of walking surfaces which are more than 30 inches above the floor or surface below – a roof hatch opening or other roof access leading to a roof makes that roof as a ‘walking surface’ for inspection, service, repair or replacement of whatever is located on the roof and requires such.

Additionally, the FBC-Residential, M1301.1, states that installations of mechanical appliances, equipment and systems not addressed by the FBC-Residential shall comply with the FBC-Mechanical. The FBC-Residential does not address roof mounted equipment, thus the FBC-Mechanical becomes the applicable code. FBC-Mechanical requires guards for roof access hatches located as stated above.

From the 5th Edition (2014) Florida Building Code, Residential (underlining in code below is mine)

○ CHAPTER 3 BUILDING PLANNING

SECTION R312 GUARDS AND WINDOW FALL PROTECTION

R312.1 Guards.

Guards shall be provided in accordance with Sections R312.1.1 through R312.1.4.

R312.1.1 Where required.

Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.

From the 5th Edition (2014) Florida Building Code, Building (underlining in code below is mine)

○ CHAPTER 10 MEANS OF EGRESS

SECTION 1013 GUARDS

1013.7 Roof access.

Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.

From the 5th Edition (2014) Florida Building Code, Mechanical (underlining in code below is mine)

○ CHAPTER 3 GENERAL REGULATIONS

[B] 304.11 Guards.

Guards shall be provided where appliances, equipment, fans or other components that require service and roof hatch openings are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliances, equipment, fans, components and roof hatch openings and the top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the Florida Building Code, Building.

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All contributors will be acknowledged and given credit for their contributions ... PLEASE help others by sharing the items, issues, and tips you have found in the field or during plan reviews.

I look forward to all contributions, and suggestions for future topics.

Respectfully submitted,



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