



FORTIFIED Multifamily™–Wind

Existing Construction, Low-Sloped ($\leq 10^\circ$) Re-Roofing

This form captures the specific construction details for existing construction, low-sloped re-roofing. Qualifications are listed in section 3.1.1 of the *FORTIFIED Multifamily–Wind Standard*.

This form is to be filled out by the project architect, a licensed structural engineer, and the general contractor and/or roofer. It confirms the requirements for the selected FORTIFIED level have been included in the building documents and the contractor and/or roofer is aware of these requirements.

Fill out only the applicable sections. Some portions of the sections may pertain only to Hurricane or High Wind—fill out accordingly depending on your building’s exposure.

Compliance Agreement

I, the DESIGNER COMPLETING THIS CHECKLIST, understand and agree that:

1. The *FORTIFIED Multifamily–Wind Existing Construction, Low-Sloped Re-Roofing Form* must be completed FULLY and CORRECTLY for the applicable hazards.
2. I will provide engineered plans (and all other necessary documentation) that verify the structure meets FORTIFIED design criteria BEFORE construction starts. These plans and documents must be:
 - Legible
 - Complete
 - Certified by the Professional of Record
 - Included with this document
3. The plans submitted will comply with all local building codes and with the FORTIFIED Multifamily criteria as detailed in the *FORTIFIED Multifamily–Wind Standard*.

Full Name: _____

License/Registration Number: _____

Signature: _____

Date: _____

Hazard and FORTIFIED Level

Select the site-specific hazard¹: Hurricane High Wind

Select the FORTIFIED Multifamily–Wind designation being pursued:

- FORTIFIED Roof™**—Enhanced roof performance
- FORTIFIED Silver™**—FORTIFIED Roof requirements plus building envelope protection and reduction of business operations downtime
- FORTIFIED Gold™**—FORTIFIED Silver requirements plus enhanced structural performance and maintaining business operations

Building Overview

Street Address: _____

City: _____

State: _____

Zip Code: _____

Year of Construction: _____

Existing buildings with wood frame roofs must be constructed in accordance with the 2000 IBC or later for eligibility.

Yes No N/A

Please select the option which best describes the buildings proximity to saltwater:

- Within 300 feet
- More than 300 ft but less than 1,000 ft
- More than 1,000 ft but less than 3,000 ft
- More than 3,000 ft

Corrosion protection requirements described in section 3.1.4 of the *FORTIFIED Multifamily–Wind Standard* have been implemented

YES NO

Project Status

Tentative Re-Roofing Start Date: _____

Tentative Completion Date: _____

Re-covering applications are not permitted. Check box to confirm this method is not being used.

Select the option(s) which best describe the building:

- Low-slope re-roofing using existing structural roof deck²
- Low-slope re-roofing with new structural roof deck
- Other³: _____

¹Hurricane-prone regions are areas vulnerable to hurricanes as defined in ASCE 7. See section 1.4 of the *FORTIFIED Multifamily–Wind Standard* for more information.

²All damaged or deteriorated roof deck must be removed and replaced. See section 3.1.1.2.1 of the *FORTIFIED Multifamily–Wind Standard*.

³Must be confirmed/approved by IBHS and/or the FORTIFIED Multifamily Evaluator.



General Building Characteristic

Number of Stories: _____

Roof Slope: _____

Gross Square Footage (sq ft): _____

Building Dimensions (ft):

Length: _____

Width: _____

Height: _____

Occupancy Type: _____

Wall/Framing (gravity system) [select all that apply]:

- Concrete Masonry
- Steel Light Gauge
- Wood Other: _____

Lateral System [select all that apply]:

- Moment Frames or Braced Frames
- Shear Walls
- Other: _____

Flood—Recommended Whole-Building Protection (Not Required)

While protecting electrical and mechanical systems from flood is a requirement of FORTIFIED Silver, whole-building protection against the flood hazard is not be required under FORTIFIED Multifamily.

First finished floor elevation (ft): _____

FEMA-designated flood zone⁴: _____

If located in a FEMA-designated flood zone (V, A, B, D, and X-shaded), please select one of the following options:

- The building’s first finished floor is located above the 500-year flood level.
500-year flood level (ft): _____
- The building’s first finished floors is located 3 ft above the base flood elevation.
Base flood level (ft): _____
- Dry flood protection such as flood gates, walls, or doors, inflatable barriers, sand bags, or similar devices are readily available on site to help mitigate water intrusion.
- Not applicable (N/A)

Hail Recommended Protection (Not Required)

While hail protection is not required for FORTIFIED Multifamily, if the building is in a hail-prone region as designated in section 2.4.2 of the FORTIFIED Multifamily–Wind Standard, a hail-resistant roof cover is strongly recommended.

Is the building located in a hail-prone region⁵? Yes No

If yes, select one of the following options for the installed roof cover:

- FM Approval Standard 4470 with a Class 1-SH or 1-VSH
- UL 2218 Class 4
- Not Applicable

Existing Conditions Verification

Foundations

Check the box beside each requirement to indicate that the existing foundation is in accordance with the standard. Fill out requested information where indicated.

- The existing foundation system is NOT constructed of unrestrained stacked masonry or stone (dry-stacked foundation).
- The existing foundation system has adequate positive connections from the floor or wall structure to support the foundation.⁶

Low-Slope Re-Roofing Using Existing Structural Deck

If the existing structural roof deck is going to be re-used, complete the following section.

Existing Structural Deck Material: _____

Check the box beside each requirement to indicate that the existing structural roof deck is in accordance with the standard. Fill out requested information where indicated.

- The existing structural roof deck was inspected after old roofing materials were removed.

Were there any locations where the existing structural roof deck was damaged or deteriorated?⁷ Yes No

If YES was selected, please describe the type of damage.

⁴Flood zone as defined by FEMA.

⁵See section 2.4.2 of the FORTIFIED Multifamily–Wind Standard.

⁶When seeking FORTIFIED Gold, the existing foundation systems must be evaluated by the structural engineer of record. Additional information and on-site testing may be required to verify the structural capacity of the existing conditions.

⁷If re-roofing, all roof decks shall be evaluated for any rust, rotting, or any other condition that may reduce the integrity of the deck. If the deck includes lightweight insulating concrete, gypsum, cementitious wood-fiber or similar materials, the deck also must be evaluated for moisture, cracks, or brittleness, and insulation fastener pull tests shall be conducted.



Fill out the following if damage or deterioration existing structural deck was indicated:

The damaged sections of the deck were removed, and the entire sheet was replaced with the same deck type and thickness as the existing. Yes No

If the roof deck is damaged, there is a possibility that the framing members are damaged as well.

Roof framing members below the deteriorated roof deck were evaluated for damage. Yes No

If yes was indicated that roof framing members were damaged or deteriorated, then the members must be evaluated by a structural engineer. Please provide the signed and sealed conditions report by a licensed structural engineer.

All necessary repairs to the roof deck were completed prior to installation of a new roof cover system. Yes No

Low-Slope Re-Roofing with New Structural Roof Deck Yes No

If the existing structural roof deck is going to be replaced with a new one, please complete the following section. Check the box beside each requirement to indicate that the existing structural roof framing is in accordance with the standard. Fill out requested information where indicated.

Roof framing members below the deteriorated roof deck were evaluated for damage. Yes No

If Yes was indicated that roof framing members were damaged or deteriorated, then the members must be evaluated by a structural engineer. Please provide the signed and sealed conditions report by a licensed structural engineer.

All necessary repairs to the roof deck was completed prior to installation of a new roof deck and roof cover system. Yes No

FORTIFIED Roof

Roof Configuration

Does the building have more than one roof type? Yes No

If yes, please fill out either section 3.0 for the corresponding quantity of roof systems. Number of different roof types are _____.

Does the building have roofs at multiple heights? Yes No

If yes, are the heights different enough that roof systems with different wind ratings are specified? Yes No

If yes, fill out section 3.0 for each roof system with a different wind rating.

General Information

Roof Type Number: _____ out of: _____

Roof Slope (degrees): _____

Average Roof Height (ft): _____

ASCE 7 Roof Dimension "a" (ft): _____

Re-Roofing Code Specification

Select the applicable code and fill out the corresponding information:

- ASCE 7-05
 - Risk Category II
 - Risk Category III
 - Risk Category IV
 - Importance Factor: _____
 - Design wind speed (V_{ult}): _____ mph
- ASCE 7-10
 - Risk Category II
 - Risk Category III
 - Risk Category IV
 - Design wind speed (V_{ult}): _____ mph
- ASCE 7-16
 - Risk Category II
 - Risk Category III
 - Risk Category IV
 - Design wind speed (V_{ult}): _____ mph

Select the applicable building code:

- IBC 2000 IBC 2012
- IBC 2003 IBC 2015
- IBC 2006 IBC 2018
- IBC 2009

Exposure Category and Classification

The exposure category per ASCE 7 is: C D

In accordance with the code selected in the above section, please identify the building exposure classification:

- Partially enclosed
- Enclosed
- Open

Minimum Required Factor of Safety

Please select the minimum factor of safety that was applied to the building design pressures. See section 3.1.1.3 of the *FORTIFIED Multifamily-Wind Standard*.

- ASCE 7-05 Allowable Stress Design (ASD) Method: Calculated ASD wind load x 2 (Minimum Required Factor of Safety)
- ASCE 7-05 Load and Resistance Factor Design (LRFD) Method: (Calculated LRFD wind load/1.6) x 2 (Minimum Required Factor of Safety)
- ASCE 7-10 ASD Method: Calculated ASD wind load x 2 (Minimum Required Factor of Safety)



- ASCE 7-10 LRFD Method: Calculated LRFD wind load x 0.6 x 2 (Minimum Required Factor of Safety)
- ASCE 7-16 ASD Method: Calculated ASD wind load x 1.67 (Minimum Required Factor of Safety)
- ASCE 7-16 LRFD Method: Calculated LRFD wind load

Wind Design Pressures

Select and fill out the appropriate wind pressure table. The base pressure shall be directly calculated from corresponding ASCE 7 edition and the additional factor of safety as described in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.

- ASCE 7-05 and 7-10 design pressures (psf) using minimum terrain, Exposure C or D, and effective wind area of 10 sq ft.

Please select the method used to obtain base pressures:

- ASD
- LRFD

Roof Geometry⁸: _____

Zone ⁸	Base Design Pressure (psf)	Minimum F.O.S. ⁹	Pressure with F.O.S. (psf)
Field (Zone 1)			
Perimeter (Zone 2)			
Perimeter Overhang (Zone 2OH)			
Corner (Zone 3)			
Corner Overhang (Zone 3OH)			

- ASCE 7-16 design pressures (psf) using minimum terrain, Exposure C or D, and effective wind area of 10 sq ft.

Please select the method used to obtain base pressures:

- ASD
- LRFD

Roof Geometry⁵: _____

Zone ¹⁰	Base Design Pressure (psf)	Minimum F.O.S. ⁷	Pressure with F.O.S. (psf)

Zone ¹⁰	Base Design Pressure (psf)	Minimum F.O.S. ⁷	Pressure with F.O.S. (psf)

3.1 Low-Slope Re-Roofing Details

Roof System Type

Select the roofing system type:

- Architectural Metal Panels (attached to wood deck)¹¹
- Built-up Roofing
 - Gravel fully embedded in asphalt
 - Loose-laid gravel on low-sloped (**High-Wind-Prone Regions Only**)
- Modified Bitumen
- Single-ply Membrane¹²
 - TPO
 - PVC
 - EPDM
 - Ballasted, Roof Pavers and Pedestal Systems (**High-Wind-Prone Regions Only**)
- Structural Metal Panels
- Vegetative Roof Systems (**High-Wind-Prone Regions Only**)

Approved Low-Sloped System

Material substitutions and deviations from the approved system’s design criteria are not acceptable. The entire system must be installed in accordance with the Approval or Product Evaluation description and meets the specified design and limitations for use of the product as well as specified installation methods. Yes

Please select and complete one of the following low-sloped approved roofing systems:

- Florida Product Approval (FPA)

Note: The design team must submit a copy of the FPA Evaluation Report for each approved system to the FORTIFIED Multifamily Evaluator. FPA Evaluation Reports can be found by using the search tool located: www.floridabuilding.org/pr/pr_app_srch.aspx

⁸Roof geometry refers to the ASCE 7 profile designation such as mono-sloped, flat roof, and stepped roof. For more roof geometries, see ASCE 7.

⁹For more information, see section 3.1.1.3.2 of the *FORTIFIED Multifamily–Wind Standard*.

¹⁰Please use the table to describe the different wind zones of the roof. ASCE 7-16 has implemented new wind zone designations so please denote which roofing geometry was used to obtain base pressures.

¹¹If selected, skip “Roof System Detail Breakdown” and fill out the information in the “Architectural/Structural Metal Roof Panel Systems” section.

¹²See “Additional Single-ply Membrane Requirements” section.



Multiple Systems

▪ **Field**

Uplift Resistance (psf): _____

FL Number: _____

▪ **Perimeter**

Uplift Resistance (psf): _____

FL Number: _____

▪ **Corner**

Uplift Resistance (psf): _____

FL Number: _____

Single System

Uplift Resistance (psf): _____

FL Number: _____

Single System—Enhanced Fastening¹³

Uplift Resistance (psf): _____

FL Number: _____

Describe the enhancements:

Enhancements have been designed for the component and cladding wind pressures and provide uplift resistance with a minimum factor of safety of 2.0 (1.67 for ASCE 7-16 ASD loads) in the field, perimeter, and corners of the roof as described in section Roof Design Load Requirement. Yes

FM Approved with a current and active [RoofNav](#) Assembly Number

Note: The design team must submit a copy of the FM Assembly Report highlighting the selected assembly details for each approved system to the FORTIFIED Multifamily Evaluator. FM Approved roof assemblies can be found by using the RoofNav® search tool located at [www.roofnav.com](#).

Multiple Systems

▪ **Field**

FM Rating: _____

Roof Nav Assembly #: _____

▪ **Perimeter**

FM Rating: _____

Roof Nav Assembly #: _____

▪ **Corner**

FM Rating: _____

Roof Nav Assembly #: _____

Single System

FM Rating: _____

Roof Nav Assembly #: _____

ICC Evaluation Service (ICC-ES)

Note: The design team must also submit a copy of the ICC-ES Report for each approved system to the FORTIFIED Multifamily Evaluator. ICC-ES Approved roof assemblies can be found by using the search tool located at [www.icc-es.org/evaluation-report-program/reports-directory](#).

Multiple Systems

▪ **Field**

ESR Report Number: _____

Division Number: _____

Section Number: _____

Table and System Number: _____

Uplift Resistance (psf): _____

▪ **Perimeter**

ESR Report Number: _____

Division Number: _____

Section Number: _____

Table and System Number: _____

Uplift Resistance (psf): _____

▪ **Corner**

ESR Report Number: _____

Division Number: _____

Section Number: _____

Table and System Number: _____

Uplift Resistance (psf): _____

Single System

ESR Report Number: _____

Division Number: _____

Section Number: _____

Table and System Number: _____

Uplift Resistance (psf): _____

Miami-Dade County (MDCA) with current and active Notice of Acceptance (NOA)

Multiple Systems

▪ **Field**

NOA: _____

Uplift Resistance: _____

¹³In some instances, FPA does permit edge (perimeter/corner) enhancements. Enhancements must follow provisions stated in corresponding active FPA Evaluation Report.



▪ **Perimeter**

NOA: _____

Uplift Resistance: _____

▪ **Corner**

NOA: _____

Uplift Resistance: _____

Single System

NOA: _____

Uplift Resistance: _____

Single System with Edge (Perimeter/Corner) Enhancements

▪ **Field**

NOA: _____

Uplift Resistance: _____

Note: Perimeter and corner enhancements can be made in accordance with the Miami-Dade County Notice of Acceptance.

Describe the enhancements and how they were obtained for both the perimeter and corner:

Texas Department of Insurance (TDI)

Note: The design team must also submit a copy of the TDI Product Evaluation Report for each approved system to the FORTIFIED Multifamily Evaluator. TDI Approved roof assemblies can be found by using the search tool located at www.tdi.texas.gov/wind/prod/indexrc.html.

Multiple Systems

▪ **Field**

TDI Evaluation ID: _____

Assembly Number: _____

Uplift Resistance Range: _____

▪ **Perimeter**

TDI Evaluation ID: _____

Assembly Number: _____

Uplift Resistance Range: _____

▪ **Corner**

TDI Evaluation ID: _____

Assembly Number: _____

Uplift Resistance Range: _____

Single System

TDI Evaluation ID: _____

Assembly Number: _____

Uplift Resistance Range: _____

UL Rated

Note: The design team must submit a copy of the UL Product Specification Report for each approved system to the FORTIFIED Multifamily Evaluator. Product Specification Reports can be found by using the UL search tool located at <http://productspec.ul.com/index.php>.

Multiple Systems

▪ **Field**

UL Product Number: _____

Option Number: _____

Uplift Resistance (psf): _____

▪ **Perimeter**

UL Product Number: _____

Option Number: _____

Uplift Resistance (psf): _____

▪ **Corner**

UL Product Number: _____

Option Number: _____

Uplift Resistance (psf): _____

Single System

UL Product Number: _____

Option Number: _____

Uplift Resistance (psf): _____

Roof System Detail Breakdown

Fill in the correct information for the individual parts of the approved system. If it does not apply to the selected approved system, please select N/A.

For architectural and structural metal roof panel systems, do not fill out the information in this section—rather, fill out the information in the “Architectural/Structural Metal Roof Panel Systems” section.

Cover/Cap Sheet Yes N/A

Cover/Cap Sheet Type: _____

Manufacturer: _____

Trade Name: _____

Cover/Cap Sheet Attachment Yes N/A

Adhered

Manufacturer: _____

Trade Name: _____

Adhesion Rate: _____

Mechanically Fastened

Sheet Width (in.): _____



Fastener:

Manufacturer: _____

Type: _____

Plate:

Manufacturer: _____

Type: _____

Fastener Spacing (in.):

Field: _____

Perimeter: _____

Corner: _____

Fastener Spacing Along Laps (in.):

Field: _____

Perimeter: _____

Corner: _____

Cover Board

Yes N/A

Select the cover board type:

- Polyisocyanurate
- Perlite
- Fiberglass
- Wood Fiber
- Other: _____

Manufacturer: _____

Trade Name: _____

Thickness (in.): _____

Cover Board Attachment:

- Adhered
- Mechanically Fastened

Details: _____

Insulation Yes N/A

Select the insulation board(s) type:

- Isocyanurate
- Perlite
- Fiberglass
- Wood Fiber
- Other: _____

Manufacturer: _____

Trade Name: _____

Board Thickness (in.): _____

Number of boards: _____

Is the insulation board tapered Yes No

Intermediate Layers

Yes N/A

Select the intermediate layer type:

- Isocyanurate
- Perlite
- Fiberglass
- Wood Fiber
- Other: _____

Manufacturer: _____

Trade Type: _____

Thickness (in.): _____

Insulation Board Fasteners

Yes N/A

Select the attachment method:

- Adhered
- Manufacturer: _____

Trade Name: _____

Application Type¹⁴: _____

Adhesion Rate: _____

- Mechanically Fastened

Fastener:

Trade Name: _____

Diameter (in): _____

Length (in): _____

Plate:

Plate Name: _____

Plate Material:

- Metal
- Plastic

Other: _____

Plate Diameter (in): _____

Fastening Pattern¹⁵:

Field: _____

Perimeter: _____

Corner: _____

Base Sheet

Yes N/A

Base sheet general information:

Base Sheet Manufacturer: _____

Thickness (in): _____

Base sheet attachment:

- Self-Adhered
- Mechanically Attached

¹⁴Refers to the application; fully adhered, strips, ribbons, etc. For example, securement of insulation to concrete deck with an adhesive applied was installed in a serpentine method with a ribbon width of 0.75 in.

¹⁵Fastening pattern rate shall be in terms of square footage (sq ft) per (1) fastener.



Fastener:

Trade Name: _____

Fastener Type: Split Shank Other: _____

Diameter (in): _____

Length (in): _____

Plate (if differs from trade name above):

Plate Name: _____

Plate Material: Metal Plastic Other: _____

Plate Diameter (in): _____

Fastening Pattern¹³:

Field: _____

Perimeter: _____

Corner: _____

Additional Single-Ply Membrane Requirements Yes N/A

Single-ply roof covers have a perimeter peel stop with a termination bar or similar located 1–2 ft from the roof edge. Yes N/A
Mechanically Attached Single-Ply Membrane on Steel Decks—Sheets and fasteners are installed PERPENDICULAR to the steel deck ribs.

Yes N/A

Hurricane-Prone Regions: Ballasted, roof pavers, and pedestal systems are NOT being used. Yes

High-Wind-Prone Regions: If ballasted, roof pavers, and/or pedestal systems are being used please complete the following information:

- Ballasted
- Roof Paver
- Pedestal System

Manufacturer specifications must be submitted with this submittal.

System meets the minimum wind uplift requirements as defined in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.

The selected system has been installed in accordance with FM Data Sheet 1-29 and ANSI/SPRI RP-4.

Vegetative Roof Systems (High-Wind-Prone Regions Only)

Yes N/A

Vegetative roof systems are permitted only high-wind-prone regions. Structural calculations, uplift tests, and/or additional documentation may be requested by the FORTIFIED Multifamily Evaluator.

Select the system:

- Extensive
- Simple Intensive (Semi-Intensive)

Provide the appropriate approval rating and number:

FM RoofNav Number: _____

Miami-Dade NOA: _____

Architectural/Structural Metal Roof Panel

Yes N/A

Please indicate the roof system:

- Non-structural architectural metal panel roofs on solid wood sheathing
- Structural metal panel roof systems on open framing members
- Structural Standing Seam
- Through-Fastened (Lap Seam)

Purlin spacing:

Field: _____

Perimeter: _____

Corner: _____

Approved System:

FM Approval Standard 4470 or FM4471

FM RoofNav: _____

Miami-Dade County Approved

NOA: _____

Attachment:

Clip Spacing (in.):

Field: _____

Perimeter: _____

Corner: _____

Number of screws per clip: _____

Total screw pull out value (lb): _____

Other (i.e., through-fastened with wood screw):

Describe: _____

Field: _____

Perimeter: _____

Corner: _____

Lap Seam Fasteners:

Field: _____

Perimeter: _____

Corner: _____

Attachments include a minimum 2.0 safety factor as described in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.

Structural Roof Deck

Structural roof deck resists the loads and load combinations specified in ASCE 7 as described in section 3.1.1.3.1 of the *FORTIFIED Multifamily–Wind Standard*.

Structural roof deck attachment capacity meets the pressures described in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.



Structural calculations verifying the roof deck capacity and attachment must be submitted to the FORTIFIED Multifamily Evaluator with this form.

Select the deck type and specify construction:

- Cast-in-place structural concrete with lightweight insulating concrete (LWIC) above structural concrete
- Cast-in-place structural concrete without LWIC
- Poured concrete on steel form deck with LWIC
- Poured concrete on steel form deck without LWIC
- Precast concrete "tees"

Panel width (in.): _____

- Gypsum on bulb "tees"

Panel width (in.): _____

Clip trade name: _____

Clip spacing (in.):

Field: _____

Perimeter: _____

Corner: _____

- Cementitious wood fiber

Panel width (in.): _____

Clip trade name: _____

Clip spacing (in.):

Field: _____

Perimeter: _____

Corner: _____

- LWIC poured on steel form (fill out steel deck information below)

- Steel deck

Specify the details listed below:

Deck gauge: _____

Deck attachment method:

- Weld

Weld size (in.): _____

Weld spacing (in.): _____

Field: _____

Perimeter: _____

Corner: _____

- Screw **or** Rivet

Size: _____

Head diameter (in.): _____

Spacing (in.):

Field: _____

Perimeter: _____

Corner: _____

- Other: _____

Spacing (in.):

Field: _____

Perimeter: _____

Corner: _____

Joist or Beam Spacing (in.):

Field: _____

Perimeter: _____

Corner: _____

Manufacturer: _____

Model: _____

Type/size: _____

- Wood Deck

Deck Type:

- Plywood
- Oriented strand board (OSB) plank
- Other: _____

Deck Thickness (in.): _____

Deck Attachment Method:

- Screw ring-shank nail
- Spiral nail
- Smooth nail

Fastener size: _____

Fastener spacing (in.): _____

Structural Framing Members:

- Wood joists
- Wood beams
- Glulam beams
- Cross laminated timber
- Other: _____

Structural Framing Member Spacing (in.): _____

Field: _____

Perimeter: _____

Corner: _____

Roof Edge Flashing, Coping, and Counter Flashing

Yes N/A

All flashing is designed in accordance with ANSI/SPRI/FM 4435/ES-1 for the ASCE 7 design wind pressures as described in section 3.1.1.3 of the *FORTIFIED Multifamily-Wind Standard*.



Wood Nailers Yes N/A

Wood nailers comply with the guidance found in section 2.2.2 of the FM Data Sheet 1-49.

Wood Nailer:

Wood Species: _____

Width: _____

Thickness(in): _____

Wood Nailer Securement:

Nail/Bolt Size: _____

Corrosion Resistance:

Hot-dipper galvanized steel

Stainless steel

Other: _____

Wood nailers have been secured with two rows of staggered fasteners.

Gutters Systems Yes N/A

Select the option which best describes the gutter system.

ANSI-SPRI GD-1 (2010) with the adjustments described in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.

ANSI-SPRI GT-1 (2016) with the adjustments described in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.

Skylights Yes N/A

Check the box beside each requirement to indicate that the skylights are in accordance with the *FORTIFIED Multifamily–Wind Standard*.

Skylights and their attachments are designed and detailed for the ASCE 7 wind loads and provide an uplift resistance with a minimum factor of safety 2.0 for ASCE 7 ASD loads (1.67 for ASCE 7-16 ASD loads). Installation must meet the air and water infiltration requirements of ASTM E330 and ASTM E331. The curb installation must be confirmed by the engineer of record that it shall meet the required uplift with a minimum factor of safety as described in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.

Hurricane-Prone Regions Only:

Skylights shall conform to one of the following:

Current and active FM Approval per ANSI FM 4431 with large missile impact rating.

Miami-Dade County Approved with a current and active Notice of Acceptance with large missile impact rating.

When the ASCE 7-05 wind speed is ≥ 130 mph (ASCE 7-10 and 7-16 when appropriate Risk Category design wind speed is ≥ 165 mph), skylights shall also meet AAMA 520-09.

Roof-Mounted Equipment (RME) Yes N/A

Check the box beside each requirement to indicate that the RME are in accordance with the *FORTIFIED Multifamily–Wind Standard*.

All RME and their attachments have been designed with a minimum factor of safety as defined in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard*.

All RME and their attachments are in accordance with one of the following:

ASCE 7-10 Section 29.5.1 ($h \leq 60$ ft)

ASCE 7-16 Section 29.4

Photovoltaic Systems Yes N/A

Photovoltaic (PV) systems and their attachments are designed with a minimum factor of safety described in section 3.1.1.3 of the *FORTIFIED Multifamily–Wind Standard* and in accordance with (select one):

ASCE 7-16

SEAOC PV2

Model-scale wind tunnel study that meets the requirements of ASCE 49-12 (documentation must be submitted)

Provided the wind loads used are consistent with the provisions described above, the following options are acceptable:

Rigid PV modules that are FM Approved or meet Approval Standard 4478 (wind uplift, combustibility from above the deck).

Flexible PV modules that are FM Approved or meet Approval Standard 4476.

Lightning Protection Yes N/A

Check the box beside each requirement to indicate that the lightning protection system is in accordance with the *FORTIFIED Multifamily–Wind Standard*.

The system is designed and installed in accordance with FEMA-Rooftop Attached Lightning Protection Systems in High-Wind Regions.

Looped conductor connections were used in lieu of pronged connectors.

Bolted splice connectors were used in lieu of pronged connectors.

Low-Sloped ($\leq 10^\circ$) Roof-Mounted Safety Rails

Yes N/A

Check the box beside each requirement to indicate that the Low-Sloped ($\leq 10^\circ$) Roof-Mounted Safety Rails are in accordance with the *FORTIFIED Multifamily–Wind Standard*.

Rails and their connections were designed in accordance with IBC 2015 and ASCE 7-10.

A calculation set by the engineer of record must be submitted with this document including all wind design parameters, member selection and design, connection details and capacity verification, and the supporting structural member calculations.

Low-Sloped ($\leq 10^\circ$) Roof Equipment Screens

Yes N/A

Check the box beside each requirement to indicate that the Low-Sloped ($\leq 10^\circ$) Roof Equipment Screens are in accordance with the *FORTIFIED Multifamily–Wind Standard*.



Roof equipment screens and their connections were designed to the parameters of section 3.1.1.3.1 of the *FORTIFIED Multifamily–Wind Standard*.

Re-Roofing Photo Documentation

Additional photo documentation may be requested by FORTIFIED Multifamily Evaluator.

Photo documentation is a supplementary tool that helps the FORTIFIED Multifamily Evaluator inspect the roofing job more efficiently. Clear and focused photos help ensure all items are captured and could reduce the time of the overall inspection process.

Existing Conditions Documentation

Overview

Photo(s) - exposed structural deck with removed cover (single ply, built-up, etc.) in the corner, perimeter, and field conditions¹⁶

Damaged or Deteriorated Structural Deck and Framing Members

YES N/A

- Photo(s) - damaged or deteriorated existing structural deck
- Photo(s) - photos of the structural framing members under the damaged or deteriorated existing structural deck (damaged deck removed)

Re-Roofing

Re-Roofing Materials

Photo(s) - all roof covering material labels including but not limited to coverboard, insulation, membranes, and fasteners.

Structural Deck Fastening

YES N/A

Use a measuring tape to show spacing of existing fasteners and additional fasteners added to meet the minimum spacing requirement specified in the *FORTIFIED Multifamily–Wind Standard*.

- Photos (Minimum of 2 locations) - structural deck in the corner area
- Photos (Minimum of 2 locations) - structural deck in the perimeter area
- Photos (Minimum of 2 locations) - structural deck in the field area
- Photos (Minimum of 2 locations) - structural deck at the roof ridge or top of a mono-sloped roof

Cover Installation

YES N/A

- Photos (minimum of 2 locations) - fastening or adhesion pattern in the corner area
- Photos (minimum of 2 locations) - fastening or adhesion pattern in the perimeter area
- Photos (minimum of 2 locations) - fastening or adhesion pattern in the field area
- Photo(s) - any additional photos documenting the proper installation of the roof cover.

FORTIFIED SILVER

All FORTIFIED Roof requirements must be satisfied.

For this section, check the box beside each requirement or respond to the item to indicate that items are in accordance with the *FORTIFIED Multifamily–Wind Standard*.

Opening Protection

Wall Design Pressures

Provide select and fill out the appropriate wind pressures.

ASCE 7-05 and 7-10 design pressures (psf) using minimum terrain Exposure C or D and effective wind area of 10 sq ft

Please select the method used to obtain base pressures:

ASD LRFD

Specify the wind pressures (psf):

Zone 4: _____

Zone 5: _____

ASCE 7-16 design pressures (psf) using minimum terrain Exposure C or D and effective wind area of 10 sq ft

Please select the method used to obtain base pressures:

ASD LRFD

Specify the wind pressures (psf):

Zone 4: _____

Zone 5: _____

Windows and Glazed Openings

Yes N/A

Select the type(s) of window system:

- Single-pane
- Double-pane
- Laminated glass
- Impact-rated laminated window and frame system
- Triple-pane impact-rated laminated window and frame system

Check the box beside each requirement or respond to the item to indicate that the windows are in accordance with the *FORTIFIED Multifamily–Wind Standard*.

Windows and glazed openings are designed for the load combinations described in section 3.2.1.1 of the *FORTIFIED Multifamily–Wind Standard*.

Hurricane-Prone Regions: Fill out the following if you are located in a hurricane-prone region. If you are not located in a hurricane-prone region, continue to high-wind-prone region.

Labels verifying the impact rating and pressure capacity are visible on the installed windows.

Check the box beside each requirement or respond to the item to indicate that the windows are in accordance with the *FORTIFIED Multifamily–Wind Standard*.

¹⁶A photo is required in all areas of the roof; for example, if the roof has four corner conditions, four corner conditions are captured.



- Glazed openings that do not have impact-rated products installed will be protected from wind-borne debris by permanently or temporarily installed shutter systems such as roll-down, accordion, storm panels, fabric, or screen products.
- All openings located within 30 ft of grade, are specified as impact rated or to be protected with an impact-rated protection system. At a minimum, the specified products or systems meet ASTM E1886 cyclic pressure and ASTM E1996 large missile impact requirements.
- Glazing specified for locations 30 ft or higher above grade are rated for the design pressure and small missile impact.

Openings required to be protected and located at upper levels without access from a porch or balcony shall have permanently installed protection which, at a minimum, shall be an impact rated product or operable from the inside the building. Yes N/A

Commercial Doors Yes N/A

- All commercial doors are designed in accordance with section 3.2.1.1 of the *FORTIFIED Multifamily-Wind Standard*.

Hurricane-Prone Regions: Fill out the following if you are located in a hurricane-prone region.

- All commercial doors meet both ASTM E1886 cyclic pressure and ASTM E1996 large missile impact requirements.
- Labels verifying the impact rating and pressure capacity are visible on the installed doors.

Exterior Personnel Doors Yes N/A

- All personnel doors are designed for the load combinations described in section 3.2.1.1 of the *FORTIFIED Multifamily-Wind Standard*.

Hurricane-Prone Regions: Fill out the following if you are located in a hurricane-prone region.

- Exterior personnel doors with or without windows located 30 ft of grade meets both ASTM E1886 cyclic pressure and ASTM E1996 large missile impact requirements.

Exterior Walls and Wall Protection

- Wall systems are designed for the load combinations described in section 3.1.1.3.1 of the *FORTIFIED Multifamily-Wind Standard*

Hurricane-Prone Regions: Fill out the following if you are located in a hurricane-prone region.

- Wall impact resistance meets the requirements of ASTM E1886 and ASTM E1996 for the impact of a 9-lb nominal 2x4 lumber missile impacting end-on at 34 mph (50ft/s) (large missile impact level D).

Wall Types

Select all that apply; for hurricane-prone regions, exterior walls must be impact rated (denoted as "IR" below).

- Reinforced concrete block (IR)
- Precast concrete/tilt up panels (IR)

- Cast-in-place concrete (IR)
- Brick veneer over wood or metal frame
- Brick with concrete block backing (IR)
- Metal walls
 - Metal wall systems are designed and tested for resistance in accordance with ASTM E1592. Each assembly shall be tested for a load equal to 1.5 times the design pressure.
- Insulated concrete form
- Sandwich panel wall systems
 - Meets the International Code Council (ICC) Evaluation Service – Acceptance Criteria for Sandwich Panels AC04. Any adhesives used shall comply with ASTM D2559 or the ICC Acceptance Criteria for Sandwich Panel Adhesives AC05.

- Exterior insulating finishing systems (EIFS) ¹⁷

Hurricane-Prone Regions Only: EIFS Installed on a metal or wood frame are not permitted unless they are a Miami-Dade County Approved system.

- Solid insulated concrete forms or ¾-in. plywood or ≥⁷/₁₆-in. wood structural panel sheathing with one of the following finishes:

- ½-in. stucco (IR)
- ½-in. thick wood (IR)
- ½-in. fiber-cement-based planking (IR)

- ≥⁵/₈-in.-thick wood structural panel sheathing with vinyl or aluminum siding (IR)

- Other walls

Describe "other" wall system:

- Wall systems are designed for the load combinations described in section 3.1.1.3.1 of the *FORTIFIED Multifamily-Wind Standard*

Hurricane-Prone Regions: Fill out the following if you are located in a hurricane-prone region.

- Wall impact resistance meets the requirements of ASTM E1886 and ASTM E1996 for the impact of a 9-lb nominal 2x4 lumber missile impacting end on at 34 mph (50ft/s) (large missile impact level D).

Parapets Yes N/A

Is the parapet taller than 3 ft from base connection to free end?
 Yes No

If yes, is structural bracing (internal or external) provided and does it meet the minimum ASCE 7 standards?
 Yes No

¹⁷EIFS that are not visibly damaged, deteriorated, chipped, cracked, have structurally sound horizontal and vertical seals including around windows and penetrations, are free of leaks, and have at least 5 years of useful life remaining are eligible for a FORTIFIED Silver designation or certificate. EIFS that do not meet these conditions and/or that do not have at least 5 years of useful life remaining shall require repairs or replacement to be eligible for a FORTIFIED Silver designation or certificate.



Electrical/ Mechanical Systems

Flood Protection

All electrical and mechanical equipment and connections necessary to operate critical systems are located above the 500-year flood level if known, or at least 3 ft above the known base flood elevation (100-year flood level) or advisory flood elevation.

Yes N/A

If the building is not located in a 500-year and 100-year flood zone, all electrical and mechanical equipment and connections necessary to operate critical systems are not exposed to flood waters.

Yes N/A

Electrical Connections for Backup Power Yes N/A

Recommended—not required

- Transfer switch or docking station (sometimes referred to as a storm switch), that support connection of a generator capable of powering, at a minimum, the critical systems needed to provide continuity of operation.

All electrical connections for backup power are located above the 500-year flood level if known, or at least 3 ft above the known base flood elevation (100-year flood level) or advisory flood elevation.

Yes N/A

FORTIFIED Gold

All FORTIFIED Silver requirements must be satisfied.

For this section, check the box beside each requirement or respond to the item to indicate that items are in accordance with the *FORTIFIED Multifamily–Wind Standard*.

Continuous Load Path

- A continuous and adequate load path from the roof to the foundation of the building exist. The building has positive connections from the roof to foundation as a means to transmit wind uplift and lateral loads safely to the ground. This includes providing roof-to-wall connection hardware (e.g., hurricane straps for wood) with the required roof uplift resistance as determined by the designer or specified in the prescriptive method being used.
- Inter-story connections in multi-story structures have a continuous load path through the wall to the foundation.

Attached and Accessory Structures

Yes N/A

- Canopies, carports, porte cocheres or any other vehicle-type drive-through structures will have adequate load path members and connections to resist the loads and load combinations specified in ASCE 7 as described in section 3.1.1.3.1.

Backup Power

Recommended—not required

- Backup power shall be available and capable of powering critical electrical and mechanical systems that maintain vital business operations. All equipment shall be installed in accordance with the requirements of Electrical Systems (Flood) described in section 3.2.3.