

FORTIFIED Commercial™–Wind

New Construction & New Additions Form

This form captures the specific construction details for new construction and new additions to existing buildings. Qualifications for additions are listed in section 3.1.1.2.3 of the FORTIFIED Commercial–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. For example, if a low-sloped roof is the only type of roof on the project, do not fill out the steep-slope section—mark the section as not applicable (N/A). Additionally, some portions pertain to only 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 Commercial–Wind New Construction & New Additions 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 Commercial criteria as detailed in the FORTIFIED Commercial–Wind standard.

Full Name: _____

License/Registration Number: _____

Signature: _____

Date: _____

Hazard and FORTIFIED Level

Select the site-specific hazard¹: Hurricane High Wind

Select the FORTIFIED Commercial Wind level 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

1.0 Building Overview

Street Address: _____

City: _____

State: _____

Zip Code: _____

Please select the option which best describes the building’s proximity to saltwater:

- Within 300 ft
- 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 outlined in section 3.1.4 of the FORTIFIED Commercial–Wind standard have been implemented.

- Yes No

Project Status

Tentative Start Date: _____

Tentative Completion Date: _____

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

- Stand-Alone New Construction
- Addition(s) to Existing Buildings²
 - Extension to existing roof—connected roof structure*
Existing conditions will need to be verified by the engineer of record. The following verification/ calculations shall be submitted with this form:
 - Existing structural deck and framing members
 - Structural deck attachments

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

² Commercial buildings seeking a level other than FORTIFIED Roof may require additional calculations, existing conditions reports/testing, and other information that is outlined in FORTIFIED Silver and/or FORTIFIED Gold.

- Structural interaction between the addition and existing structure.
- Extension to existing roof—expansion joint*
Existing conditions will need to be verified by the engineer of record. The following verification/calculations shall be submitted with this form:
 - FORTIFIED Commercial–Wind, Existing Construction form(s)
 - Existing structural deck and framing members
 - Structural deck attachments
- Additional roof at a different elevation*
Existing conditions will need to be verified by the engineer of record. The following verification/calculations shall be submitted with this form:
 - FORTIFIED Commercial–Wind, Existing Construction form(s)
 - Existing structural deck and framing members
 - Structural deck attachments

General Building Characteristic

- Number of Stories: _____
- Roof Slope: _____
- Gross Square Footage (sft): _____
- 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: _____

2.0 Recommended Protection

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 Commercial.

First finished floor elevation (ft): _____

FEMA-designated flood zone³: _____

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.
 - 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)

(Optional) Hail Supplement Yes N/A

If hail mitigation is being provided, please fill out the “Hail Supplement Form” which can be found on the FORTIFIED Commercial website. Submit the Hail Supplement Form with this document to the FORTIFIED Commercial Evaluator.

3.0 Building Design Parameters

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

³Flood zone as defined by FEMA.

- 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 Commercial–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 outlined in section 3.1.1.3 of the FORTIFIED Commercial–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 Geometry⁵: _____

Zone ⁶	Base Design Pressure (psf)	Minimum F.O.S. ⁷	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 ⁶	Base Design Pressure (psf)	Minimum F.O.S. ⁷	Pressure with F.O.S. (psf)

⁵Roof geometry refers to the ASCE 7 profile designation such as mono-sloped (low-sloped), mono-sloped (steep-sloped), hip roof, gable roof, and flat roof. For more roof geometries, see ASCE 7.

⁶ Please 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.

⁷For more information, see section 3.1.1.3.2 of the FORTIFIED Commercial–Wind standard.

4.0 FORTIFIED Roof

Roof Configuration

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

If **yes**, fill out either section 4.1 or 4.2 for the corresponding quantity of roof systems⁸. 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 4.1 or 4.2 for each roof system with a different wind rating.⁸

General Information

Roof Type Number: _____ Out of: _____

Roof Slope (degrees): _____

Average Roof Height (ft): _____

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

Is there a continuous structural parapet⁹? Yes No

Parapet Height (ft): _____

4.1 Low-Sloped ($\leq 10^\circ$) System

Yes N/A

If "N/A" was selected, please continue to the next section for steep-sloped roofing ($> 10^\circ$).

Roof System Type

Select the roofing system type:

Architectural Metal Panels (attached to wood deck)¹⁰

Built-up Roofing

Gravel fully embedded in asphalt

Loose-laid gravel on low-sloped (**High-Wind-Prone Regions Only**)

Modified Bitumen

Single-ply Membrane¹¹

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 Commercial Evaluator. FPA Evaluation Reports can be found by using the search tool located: www.floridabuilding.org/pr/pr_app_srch.aspx

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: _____

⁸Fill out section 4.1 or 4.2 (depending on the roof slope) for as many different roof covers as are on the project.

⁹If the parapet is equal to or greater than 3 ft from the top of the roofing structure, it must be adequately braced per ASCE 7 for lateral wind loading

¹⁰If selected, skip "Roof System Detail Breakdown" and fill out the information in the "Architectural/Structural Metal Roof Panel Systems" section.

¹¹See "Additional Single-ply Membrane Requirements" section.

Single System—Enhanced Fastening¹²
 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 Commercial 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 Commercial 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: _____

▪ **Perimeter**

NOA: _____
 Uplift Resistance: _____

▪ **Corner**

NOA: _____
 Uplift Resistance: _____

Single System

NOA: _____
 Uplift Resistance: _____

Single System with Edge (Perimeter/Corner) Enhancements

¹²In some instances, FPA does permit edge (perimeter/corner) enhancements. Enhancements must follow provisions stated in corresponding active FPA Evaluation Report.

▪ **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 Commercial 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 Commercial 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 Type¹³: _____

Adhesion Rate: _____

- Mechanically Fastened

Fastener:

Trade Name: _____

Diameter (in): _____

Length (in): _____

Plate:

Plate Name: _____

Plate Material:

- Metal
- Plastic

Other: _____

Plate Diameter (in): _____

Fastening Pattern¹⁴:

Field: _____

Perimeter: _____

Corner: _____

Base Sheet

Yes N/A

Base sheet general information:

Base Sheet Manufacturer: _____

Thickness (in): _____

Base sheet attachment:

- Self-Adhered
- Mechanically Attached

Fastener:

Trade Name: _____

Fastener Type:

- Split Shank

Other: _____

Diameter (in): _____

Length (in): _____

¹³Refers 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.

¹⁴Fastening pattern rate shall be in terms of square footage (sq ft) per (1) fastener.

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 Commercial–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 in high-wind-prone regions. Structural calculations, uplift tests, and/or additional documentation may be requested by the FORTIFIED Commercial 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 Commercial–Wind standard.

Structural Roof Deck

Structural roof deck resists the loads and load combinations specified in ASCE 7 as outlined in section 3.1.1.3.1 of the FORTIFIED Commercial–Wind standard.

Structural roof deck attachment capacity meets the pressures outlined in section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.

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 outlined in section 3.1.1.3.1 of the FORTIFIED Commercial–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 outlined in section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.

ANSI-SPRI GT-1 (2016) with the adjustments outlined in section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.

4.2 Steep-Sloped (>10°) System

Yes N/A

Asphalt Shingles and Architectural Metal Panel

Select either asphalt shingles or architectural metal panels and fill out the corresponding information.

Asphalt Shingles Yes N/A

If the building is less and 60 ft tall, select one of the following options from the table. If not, additional engineering calculations are required and must be submitted with this form.

SELECTION	WIND SPEED (V _{asd})	WIND SPEED (V _{ult})	SHINGLE TESTING STANDARD/ CLASSIFICATION
<input type="checkbox"/>	100 MPH	129 MPH	ASTM D3161 (Class F) or ASTM D7158 (Class G or H)
<input type="checkbox"/>	110 MPH	142 MPH	
<input type="checkbox"/>	120 MPH	155 MPH	
<input type="checkbox"/>	130 MPH	168 MPH	ASTM D3161 (Class F) or ASTM D7158 (Class H)
<input type="checkbox"/>	140 MPH	180 MPH	
<input type="checkbox"/>	150 MPH	194 MPH	

Manufacturer name: _____

Number of nails used to install shingles for high wind rating (per shingle tab)¹⁵: _____

Shingles are installed at eaves using (check one):

Peel-and-stick starter strip

8-in.-wide x ½-in.-thick bed of flashing cement

Shingles are installed at rakes/gable edges using (check one):

8-in.-wide x ½-in.-thick bed of flashing cement

Starter strip set in an 8-in.-wide x ½-in.-thick bed of flashing cement

ASTM D1970 peel-and-stick starter strip with asphaltic adhesive strip

Shingles installed at intersections and valleys:

8-in.-wide x ½-in.-thick bed of flashing cement

Not applicable

Architectural Metal Panels

Yes N/A

Select architectural metal panel system approval:

Florida Product Approval

ICC-ES

Miami-Dade

TDI

UL

Provide the documentation number associated with the approved system (i.e., FL Number for FPA):

Multiple systems

Single system: _____

¹⁵6 nails per shingle are usually required by shingle manufacturers for high wind installation.

Enhancements (describe):

A check in the box beside each requirement indicates that the architectural metal panel installation is in accordance with the standard.

The architectural metal panels were designed to meet the design wind pressures of ASCE 7 for the building specific parameters as outlined in section 3.1.1.3.1 of the FORTIFIED Commercial–Wind standard.

The panel attachments were designed for the wind pressures as defined in section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.

Attachments are installed per the manufacturer’s guidelines.

Sealed Roof Deck Options for Asphalt Shingles and Metal Roof Covers

Select one of the following options to indicate how the roof deck is sealed:

OPTION 1A: SELF-ADHERING POLYMER-MODIFIED BITUMEN FLASHING TAPE at least 4-in. wide meeting ASTM D1970. It shall be applied directly to the roof deck (or primer if required by manufacturer) to all horizontal and vertical joints in the roof deck; then a #30 ASTM D226 Type II felt or #30 ASTM D4869 Type IV felt underlayment or a reinforced synthetic underlayment which has an ICC approval as an alternate to ASTM D226 Type II felt paper installed over the entire roof deck and secured with button cap nails (with 1-in. diameter) at maximum 6 in. o.c. at laps and 12 in. o.c. vertically and horizontally in the field. Horizontal laps must be minimum of 4 in. and end laps must be a minimum of 6 in.¹⁶

OPTION 1B: SELF-ADHERING AAMA 711-13, LEVEL 3 (FOR EXPOSURE UP TO 80°C/176°F) COMPLIANT FLEXIBLE FLASHING TAPE, at least 3¼-in. wide, applied directly to the roof deck (or primer if required by manufacturer) to all horizontal and vertical joints in the roof deck; then a #30 ASTM D226 Type II felt or #30 ASTM D4869 Type IV felt underlayment or a reinforced synthetic underlayment which has an ICC approval as an alternate to ASTM D226 Type II felt paper installed over the entire roof deck and secured with button cap nails at maximum 6 in. o.c. at laps and 2 rows spaced evenly in the field at 12 in. o.c.

OPTION 2: A FULL LAYER OF SELF-ADHERING POLYMER-MODIFIED BITUMEN MEMBRANE (“peel-and-stick”) meeting ASTM D1970 is installed over the entire roof deck with a second layer of minimum ASTM D226 Type I felt installed as a “bond break” between the peel-and-stick and the shingles.

OPTION 3: INSTALL TWO (2) LAYERS OF ASTM D226 TYPE II (#30) OR ASTM D4869 TYPE IV (#30) underlayment in a shingle fashion, lapped 19 in. on horizontal seams (36-in. roll), and 6 in. on vertical seams. Fasten underlayment at maximum 6 in. o.c. along the laps and at maximum 12 in. oc. in the field of the sheet centered between the side laps. Secure underlayment using annular ring or deformed shank nails with 1-in-diameter caps (button cap nails).¹⁶

Concrete and Clay Tile

Yes N/A

Concrete and Clay Tile Material and Installation

A check in the box beside each requirement indicates that the tile installation is in accordance with the standard.

Tile is installed in accordance with FRSA/TRI Florida High Wind Concrete and Clay Tile Installation Manual for the design wind speed as outlined in section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.¹⁷

Clay and concrete tiles are installed over a minimum ¹⁵/₃₂-in.-thick plywood.

Mortar-set tile or mortar-set hip and ridge tiles are not used.

Metal flashing is installed in accordance with FRSA/TRI Florida High Wind Concrete and Clay Tile Installation Manual.

Hip and ridge tile structural support and attachment is installed in accordance with FRSA/TRI Florida High Wind Concrete and Clay Tile Installation Manual. NOTE: Mortar set attachment is not acceptable.

Tile attachment is installed in accordance with FRSA/TRI Florida High Wind Concrete and Clay Tile Installation Manual. NOTE: Mortar set attachment is not acceptable.

Concrete and Clay Tile Sealed Roof Deck

Select one of the following options to indicate how the roof deck is sealed:

OPTION 1A: SELF-ADHERING POLYMER-MODIFIED BITUMEN FLASHING TAPE at least 4-in. wide meeting ASTM D1970. It shall be applied directly to the roof deck (or primer if required by manufacturer) to all horizontal and vertical joints in the roof deck; then a

¹⁶ Photographs of product labels and installation required. If ASTM D4869 felt underlayment does not specifically state that it is Type IV, the product must weight 26 lb/100 ft2 to meet this requirement.

¹⁷ ASCE 7-16 wind loads are not addressed in the FRSA/TRI Installation (Fifth Edition Revise) guidelines. In jurisdictions that require ASCE 7-16 wind loads, follow the tile manufacturer installation guidance and product approvals for the design wind pressures, and, if the roof tile is installed with adhesives, the adhesive manufacturer’s product approval for those wind pressures.

#30 ASTM D226 Type II felt or #30 ASTM D4869 Type IV felt underlayment or a reinforced synthetic underlayment which has an ICC approval as an alternate to ASTM D226 Type II felt paper installed over the entire roof deck and secured with button cap nails (with 1-in. diameter) at maximum 6 in. o.c. at laps and 12 in. o.c. vertically and horizontally in the field. Horizontal laps must be minimum of 4 in. and end laps must be a minimum of 6 in.¹⁸

- OPTION 1B: SELF-ADHERING AAMA 711-13, LEVEL 3 (FOR EXPOSURE UP TO 80°C/176°F) COMPLIANT FLEXIBLE FLASHING TAPE**, at least 3¼-in. wide, applied directly to the roof deck (or primer if required by manufacturer) to all horizontal and vertical joints in the roof deck; then a #30 ASTM D226 Type II felt or #30 ASTM D4869 Type IV felt underlayment or a reinforced synthetic underlayment which has an ICC approval as an alternate to ASTM D226 Type II felt paper installed over the entire roof deck and secured with button cap nails at maximum 6 in. o.c. at laps and 2 rows spaced evenly in the field at 12 in. o.c.
- OPTION 2: A FULL LAYER OF SELF-ADHERING POLYMER-MODIFIED BITUMEN MEMBRANE** (“peel-and-stick”) meeting ASTM D1970 is installed over the entire roof deck with a second layer of minimum ASTM D226 Type I felt installed as a “bond break” between the peel-and-stick and the shingles.

Other Roof Coverings Yes N/A

Roof type: _____

Manufacturer: _____

Describe how the roof covering meets the design pressures as outline in section 3.1.1.3 and that the attachments meet the design pressures as outline in section 3.1.1.3.1.

If applicable, please describe the sealed roof deck method:

Structural Roof Deck and Attachment

Select the appropriate structural roof deck and fill out the corresponding information.

Plywood and oriented strand board (OSB) Yes N/A

Select the structural deck:

- Plywood
- OSB

Check the box beside each requirement to indicate that the tile installation is in accordance with the standard.

Roof sheathing can resist the loads and load combinations specified in ASCE 7 as outlines section 3.1.1.3.1 of the FORTIFIED Commercial–Wind standard.

Wood structural panel thickness is not less than 7/16 in. and no less than 15/32 in. for the installation of new clay or concrete roof tiles.

Sheathing Fastening:

Roof member spacing (in.)¹⁹: _____

Sheathing thickness (in.): _____

Fastener type

- 8d ring-shank nails
- 10d ring-shank nails
- Other (engineer of record must provide calculations)

Note: Smooth-shank nails are not permitted.

Fastener spacing:

Field:

- 4 in. o.c.
- 6 in. o.c.
- Other: _____

Perimeter:

- 4 in. o.c.
- 6 in. o.c.
- Other: _____

Corner:

- 4 in. o.c.
- 6 in. o.c.
- Other: _____

Sawn Lumber or Wood Boards Yes N/A

Check the box beside each requirement to indicate that the sawn lumber or wood boards are in accordance with the standard. Fill out requested information where indicated.

¹⁸ Photographs of product labels and installation required. If ASTM D4869 felt underlayment does not specifically state that it is Type IV, the product must weight 26 lb/100 ft² to meet this requirement.

¹⁹For mean roof height less than 30 ft, the maximum allowed roof member spacing is 24 in. o.c. unless calculations are provided by the engineer of record. For height greater than 30 feet, calculations must be provided.

Sawn lumber or wood board roof deck can resist the loads and load combinations specified in ASCE 7 as outlines section 3.1.1.3.1 of the FORTIFIED Commercial–Wind standard.

Manufacturer: _____

Dimensions:

Width (in): _____

Thickness (in): _____

Roof member spacing (in)²⁰: _____

Sawn lumber or wood board roof deck attachments can resist the loads and load combinations specified in ASCE 7 as outlines section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.

Describe the attachment detail:

Structural Steel Decks Yes N/A

Check the box beside each requirement to indicate that the sawn lumber or wood boards are in accordance with the standard. Fill out requested information where indicated.

Structural steel deck can resist the loads and load combinations specified in ASCE 7 as outlines section 3.1.1.3.1 of the FORTIFIED Commercial–Wind standard.

Manufacturer: _____

Gauge: _____

Profile: _____

Roof member spacing (in.): _____

Structural steel deck attachments can resist the loads and load combinations specified in ASCE 7 as outlines section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.

Describe the attachment details:

Drip Edge (Edge Flashing) Yes N/A

A check in the box beside each requirement indicates that the drip edge is in accordance with the standard. Fill out requested information where indicated.

²⁰Measured from centerline to centerline in inches.

Minimum 26 gauge

Joints are overlapped a minimum of 3 in.

Drip edge extends ½ in. below sheathing and extends back on the roof a minimum of 2 in.

Mechanically fastened at 4 in. o.c. and fasteners are alternating (staggered)

Drip edge is installed **over** the underlayment

Flashing (All Non-Edge Flashing Applications)

Yes N/A

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

Meets the 2018 IBC

Meets the manufacturer’s installation guidelines

Ridge and Off Ridge Vents Yes N/A

Check the box beside each requirement to indicate that the ridge and off ridge vents are in accordance with the standard. Fill out requested information where indicated.

Ridge and off ridge vents are TAS 100(A) rated for resisting water intrusion in high winds.

Attached to the roof per the manufacturer’s installation guidelines.

Gable End Vents Yes N/A

IBHS recommends against including gable end vents in new commercial buildings built in hurricane-prone regions. If they must be used to meet code they must meet:

Gable end vents are TAS 100(A) rated for resisting water intrusion in high winds.

Attached to the roof per the manufacturer’s installation guidelines.

4.3 Skylight Yes N/A

Check the box beside each requirement to indicate that the skylights are in accordance with the FORTIFIED Commercial–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 Commercial–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.

4.4 Roof-Mounted Equipment (RME)

Yes N/A

Check the box beside each requirement to indicate that the RME are in accordance with the FORTIFIED Commercial–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 Commercial–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

4.5 Photovoltaic Systems

Yes N/A

Photovoltaic (PV) systems and their attachments are designed with a minimum factor of safety outlined in section 3.1.1.3 of the FORTIFIED Commercial–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.

4.6 Lightning Protection Yes N/A

Check the box beside each requirement to indicate that the lightning protection system is in accordance with the FORTIFIED Commercial–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.

4.7 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 Commercial–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.

4.8 Lo- 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 Commercial–Wind standard.

Roof equipment screens and their connections were designed to the parameters of section 3.1.1.3.1 of the FORTIFIED Commercial–Wind standard.

5.0 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 Commercial–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 Commercial–Wind standard.

- Windows and glazed openings are designed for the load combinations outlined in section 3.1.1.3.1 of the FORTIFIED Commercial–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 Commercial–Wind standard.

- 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 3.1.1.3.1 of the FORTIFIED Commercial–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 outlined in section 3.1.1.3.1 of the FORTIFIED Commercial–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 outlined in section 3.1.1.3.1 of the FORTIFIED Commercial–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) ²¹
- 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 / $\frac{3}{4}$ -in. plywood / $\geq \frac{7}{16}$ -in. wood structural panel sheathing with one of the following finishes:
- $\frac{1}{2}$ -in. stucco (IR)

$\frac{1}{2}$ -in.-thick wood (IR)

$\frac{1}{2}$ -in. fiber-cement-based planking (IR)

$\geq \frac{5}{8}$ -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 outlined in section 3.1.1.3.1 of the FORTIFIED Commercial–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

Gable Ends

Yes N/A

Gable overhangs will not have openings for attic ventilation.

Gable end walls, wall sheathing, overhangs, and overhang soffit covers will be designed for ASCE 7 ASD wind with a minimum factor of safety as defined in section 3.1.1.3 of the FORTIFIED Commercial–Wind standard.

Gable wall vents will be protected against water intrusion.

Gable overhangs using outlooker framing will have adequate connection at gable wall and at roof framing members. Connections must be designed by a registered PE or developed using prescriptive connection details available from IBHS.

²¹EIFS 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.

- Box-type soffit overhangs (eave) and gable overhangs with a depth of greater than 12 in. (measured from the back of fascia to exterior wall surface) and covered with aluminum or vinyl material, will have a center brace installed mid-span.
- Gable walls will be sheathed with a minimum of 7/16-in. structural sheathing (Plywood or OSB) or equivalent wall sheathing.
- Gable end walls on gables greater than 48 in. in height will be braced to withstand the ASCE 7 wind loads. A bracing design by a licensed PE is required. Bracing must be installed per design.
 - As an alternate, bracing details provided in the International Existing Building Code Appendix C or in the Florida Building Code may be used.

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

Since the building is located out of 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

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

6.0 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 Commercial–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

- Convenience store 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 outlined in section 3.1.1.3.1.

Chimneys

Yes N/A

- Chimneys have adequate load path members and connections capable of resisting the loads and load combinations specified in ASCE 7 as outlined in section 3.1.1.3.1.

Backup Power

- 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.