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Welcome to HVHZ CODE CHANGES

MIAMI-DADE COUNTY

What is the objective of this presentation?

Inform and Educate on the new FBC Roofing Code Changes for the High Velocity Hurricane Zone Effective January 1, 2024

MIAMI-DADE COUNTY

MIAMI-DADE
COUNTY

Resources & Helpful Links

- Florida Building Code: https://codes.iccsafe.org/codes/florida
- Florida Product Control Search: https://www.floridabuilding.org/pr/pr_app_srch.aspx
- Miami-Dade Product Control Search: http://www.miamidade.gov/building/pc-search_app.asp
- Miami-Dade Permit Forms: http://www.miamidade.gov/permits/
- Fire Directory Listings:
- www.ul.com

MIAMI-DADE COUNTY

Chapter 2 Definitions

POSITIVE ROOF DRAINAGE. The drainage condition in which consideration has been made for all loading deflections of the roof deck, and ~~additional~~ sufficient slope has been provided to ensure drainage of the roof within 48 hours of precipitation.

[BF] NAILABLE SUBSTRATE. A product or material such as framing, sheathing or furring, composed of wood, wood-based materials or other materials providing equivalent fastener withdrawal resistance.

ROOF COVERING SYSTEM. See “Roof assembly.”

ROOF ASSEMBLY. ~~(For application to Chapter 15 only)~~. A system designed to provide weather protection and resistance to design loads. The system consists of a roof covering and roof deck or a single component serving as both the roof covering and the roof deck. A roof assembly includes the roof covering roof deck, and may include a vapor retarder, ~~substrate or~~ thermal barrier, insulation or similar substrate ~~vapor retarder and roof covering~~.

MIAMI-DADE COUNTY

Chapter 2 Definitions

ROOF SYSTEM. A roof system consists of a roof covering and other interacting roofing components and may include vapor retarder, thermal barrier, insulation or other similar substrate. The system does not include the roof deck unless it is part of a single component serving as the roof covering and the roof deck.

[BF] STEEP SLOPE. A roof slope ~~greater than~~ two units vertical in 12 units horizontal (17-percent slope) or greater.

MIAMI-DADE COUNTY

Chapter 15 Changes

1512.2

Application. These high-velocity hurricane zone roofing requirements with associated roofing application standards (RAS) and testing application standards (TAS) are to be implemented in the HVHZ, or where the jurisdiction having authority has adopted their use in accordance with Section 553.73 of the Florida Statutes.

Table 1515.2 & FBC 1523.6.5.2.4.1.1

1.Standing seam metal roof panel systems that pass the requirements of the Static Water Leakage Test criteria of ~~FM 4471, Appendix G or~~ ASTM E2140 shall be permitted to be installed to a minimum slope of 1:12.

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.1 General

~~Prepared roof coverings shall be as defined in Section 1513 and in general limited to application over sloped roof decks capable of receiving mechanical fasteners. Prepared roof coverings may be mechanically fastened or, in specific limited cases when noted in the product approval, set in with an adhesive bond.~~

Roof coverings shall be applied in accordance with the applicable provisions of this section and the manufacturer's installation instructions.

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.2 Underlayments

~~Underlayment shall be as defined in Section 1513. Underlayment shall be installed in compliance with the roofing component product approval and shall be in compliance with the following minimum requirements:~~

Underlayment for roof slopes 2:12 and greater shall conform to the applicable standards listed in this chapter. Underlayment materials required to comply with ASTM D226, D1970, D4869, D6757 and ASTM D8257 shall bear a label indicating compliance to the standard designation and, if applicable, type classification indicated. Underlayment for roof slopes 2:12 and greater shall be applied and attached in accordance with Section 1518.1, 1518.2, 1518.5, 1518.6, 1518.7, 1518.8, 1518.9, 1518.10, or 1518.11 as applicable.

Exceptions:

1. For areas of a roof that cover exterior walkways and roofs of agricultural buildings, underlayment shall comply with the manufacturer's installation instructions.
2. Compliance with Section 1507.1.1.1 is not required for structural metal panels that do not require a substrate or underlayment.

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.2.1

~~Underlayment described in 1518.4 (1), (2) and (3) shall be attached to a nailable deck in a grid pattern of 12 inches (305 mm) between the overlaps, with 6-inch (152 mm) spacing at the overlaps.~~

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles.

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles shall comply with one of the following methods:

1. Self-Adhered Direct to Deck
2. Taped joints or sealed joints system
3. Two Layers of Nailable Underlayment

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.2.1

OPTION 1 : SELF-ADHERED DIRECT TO DECK

The entire roof deck shall be covered with an approved self-adhering polymer modified bitumen underlayment complying with ASTM D1970 installed in accordance with both the underlayment manufacturers and roof covering manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed.

Exception:

1. An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, renailing off the roof sheathing in accordance with Section 706.7.1 of the Florida Building Code, Existing Building can be confirmed or verified. An approved underlayment in accordance with Table 1518.2.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.2.1

OPTION 2 : TAPED JOINTS OR SEALED JOINTS SYSTEM

A minimum 3-3/4 -inch-wide (102 96 mm) strip of self adhering polymer-modified bitumen membrane complying with ASTM D1970 or self adhering flexible flashing tape complying with AAMA 711, Level 3 [for exposure up to 176°F (80°C)], installed in accordance with the manufacturer's instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment in accordance with Table 1518.2.1 for the applicable roof covering shall be applied over the entire roof over the membrane strips.

** Requires double-coverage underlayment when slope less than 4:12**

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.2.1

OPTION 3 : TWO LAYERS OF NAILABLE UNDERLAYMENT

Two layers of ASTM D226 Type II or ASTM D4869 Type III, Type IV, or ASTM D8257 underlayment shall be installed as follows: Apply a strip of underlayment that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply full sheets of reinforced underlayment, overlapping successive sheets half the width of a full sheet plus 2 inches. End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. (continued)

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.2.1

OPTION 3 : TWO LAYERS OF UNDERLAYMENT (CONTINUED)

Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps are required where the ultimate design wind speed, Vult, equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal. The minimum thickness of the outside edge of plastic caps shall be 0.035 inch (0.889 mm). The cap nail shank shall be not less than 0.083 inch (2.1082 mm) for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than 3/4 inch (19.05 mm) into the roof sheathing.

MIAMI-DADE COUNTY

Chapter 15 Changes

1518.8 Clay and concrete roof tile.

Tile shall be clay, concrete or composition material of various configurations complying with the physical property requirements of this code. All tile and tile systems shall be tested in compliance with the provisions set forth in Section 1523.

1518.7.3.3 Intersections, eaves, rakes, valleys, gable ends, and the starter course of asphaltic shingles shall be set in an 8-inch (203 mm) wide bed of approved cold adhesive or roofing cement. Application of adhesive or cement shall be in compliance with the application instructions of the product approval. Shingles shall not extend more than 1/4 inch (6.4 mm) beyond the eave and rake drip.

1518.7.3.2 Asphalt~~ic~~ shingles shall be installed in compliance with the product approval, but in no case with less than six approved roofing nails or approved fastening devices which penetrate through the thickness of sheathing or wood plank a minimum of ~~3/16~~ 1/8 inch (~~4.8~~ 3.2 mm) or penetrate into a 1 inch (25 mm) or greater thickness of lumber a minimum of 1 inch (25 mm), except where architectural appearance is to be preserved, in which case a minimum of 3/4 inch (19 mm) ring shank roofing nail may be used.

MIAMI-DADE COUNTY

Chapter 15 Changes

1521.4 25% RULE

Exception: If an existing roofing system or roof section was built, repaired, or replaced in compliance with the requirements of the 2007 Florida Building Code, or any subsequent editions of the Florida Building Code, and 25 percent or more of such roofing system or roof section is being repaired, replaced, or recovered, only the repaired, replaced, or recovered portion is required to be constructed in accordance with the Florida Building Code in effect, as applicable. Pursuant to s. 553.844(5), Florida Statutes, a local government may not adopt by ordinance an administrative or technical amendment to this exception.

MIAMI-DADE COUNTY

Chapter 15 Changes

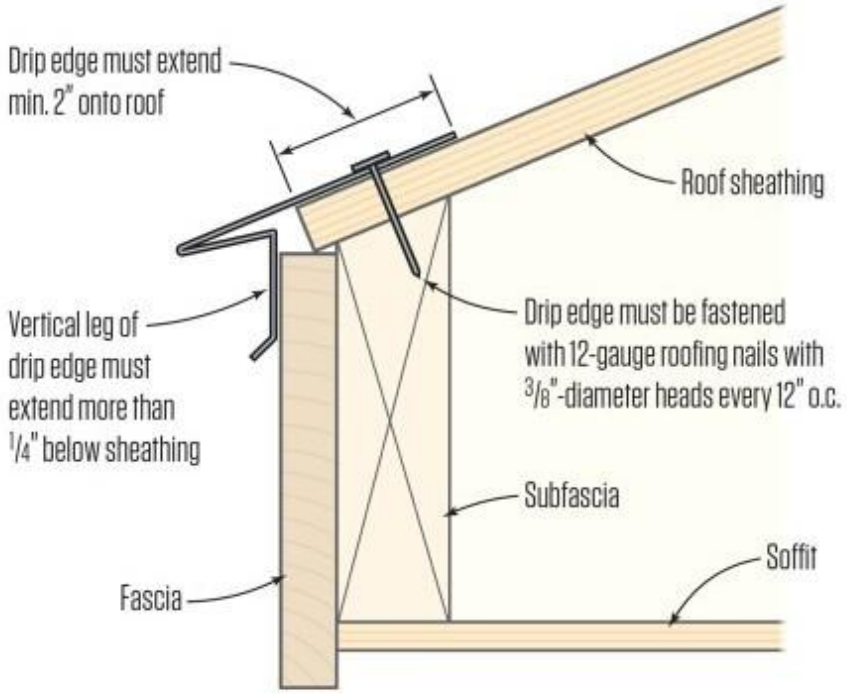
RAS 111

5.2.1 Vertical flange dimensions shall be not less than 1.5 in. and the horizontal dimension shall not be less than 2 in. wide and shall extend back on the roof a minimum of 2 inches (51mm). The vertical flange shall be of sufficient length to extend below the sheathing or other member immediately contiguous thereto by not less than 1 /2 in. Table 2 herein lists maximum vertical flange dimensions for various drip edge/gravel stop materials.

MIAMI-DADE COUNTY

Chapter 15 Changes

DRIP EDGE DETAIL



MIAMI-DADE COUNTY

Chapter 15 Changes

RAS 115

4.1 Underlayment shall be in accordance with Chapter 15 (High-Velocity Hurricane Zones) of the Florida Building Code, Building.

6.2 Starter strip shall be a row of either self-sealing ~~non-laminated~~ shingles or approved starter shingles.

6.3 If self-sealing ~~non-laminated~~ shingles are used for the starter strip, remove the tab portion of each shingle and position the remaining strip along the eaves. Install such that the factory-applied adhesive is face up and closest to the eaves edge. Trim material from the end of the first shingle in the starter strip according to manufacturer's specifications to ensure that the cutouts of the first course of shingles are not placed over the starter strip joints. Fasten starter strips parallel to the eaves along a line above the eave line according to manufacturer's installation instructions. Position fasteners to insure they will not be exposed under the cutouts in the first course

MIAMI-DADE COUNTY

Chapter 15 Changes

TAS 124

6.2.1 The Bell chamber test is appropriate when the selected roofing system has been tested in accordance with TAS 114 Appendix C or Appendix J. The Bell Chamber test is not appropriate for systems tested in accordance with TAS 114 Appendix D

6.3 Bonded pull test

6.3.1 Testing shall only be conducted on fully adhered roof coverings and when all other roofing system components are adhered and or partially adhered. This test is not appropriate when any of the roofing system components are mechanically attached.

MIAMI-DADE COUNTY

Chapter 15 Changes

TAS 124 SECTION 10

Refer to Table 3 for deflection limitations.

TABLE 3 MAXIMUM RECOMMENDED DEFLECTION FOR ADHERED COVERS ON STEEL DECK ROOFS BEFORE THE SAMPLE IS CONSIDERED SUSPECT

Test Pressure (PSF)	Maximum Deflection (In)
60 < P < 120	½ or 0.50
120 < P < 180	¾ or 0.75
180 < P < 225	15/16 or 0.94

Note: For roof assemblies in which thin topping boards or the roof cover are adhered to a substrate immediately below using ribbons of adhesive, use a maximum deflection of 1 in. (25 mm) to determine suspect test samples.

MIAMI-DADE COUNTY

Chapter 15 Changes

RAS 127 ROOF SLOPE CHANGES

TABLE 4 GABLE ROOFS

MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF FOR ROOF SLOPE 1.5:12 TO LESS THAN 4.5:12

RISK CATEGORY II EXPOSURE CATEGORY “D”

TABLE 5 — GABLE ROOFS

MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF FOR ROOF SLOPE 4.5:12 TO LESS THAN 6:12

RISK CATEGORY II EXPOSURE CATEGORY “D”

TABLE 6 — GABLE ROOFS

MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF FOR ROOF SLOPE 6:12 TO 12:12

RISK CATEGORY II EXPOSURE CATEGORY “D”

MIAMI-DADE COUNTY

Chapter 15 Changes

1523.6.5.2.1 TILE UNDERLAYMENT

All underlayment used in discontinuous roof tile systems shall be tested in compliance with TAS 103 and TAS 104, unless otherwise specifically listed in the applicable RAS.

NOA'S will be required for all tile underlayment's other than 30/90
These systems will require testing to show performance equivalency.

- The direct-to-deck method will require testing.
- Mechanically fastened will require testing of different anchor/base sheets, documented with the corresponding fastener pattern.

MIAMI-DADE COUNTY

Chapter 15 Changes

RAS 120 MORTAR AND ADHESIVE SET TILE APPLICATION

RAS 120 TABLE 1

Roof Pitch	Choice of Underlayment	Plastic or Compatible Roof Cement at Nails Penetrating Underlayment	Reference
2: 12 or greater	1. ASTM D226 Type II (#30) or ASTM D2626 (#43) organic base sheet nailed to deck, min. ASTM D6380, Class M or WS, Type II (#90) organic cap sheet set in Type IV hot asphalt.	Required	3.01A
	2. Any Product Approved underlayment.	Per Product Approval	3.01B, C, D or E

MIAMI-DADE COUNTY

Chapter 15 Changes

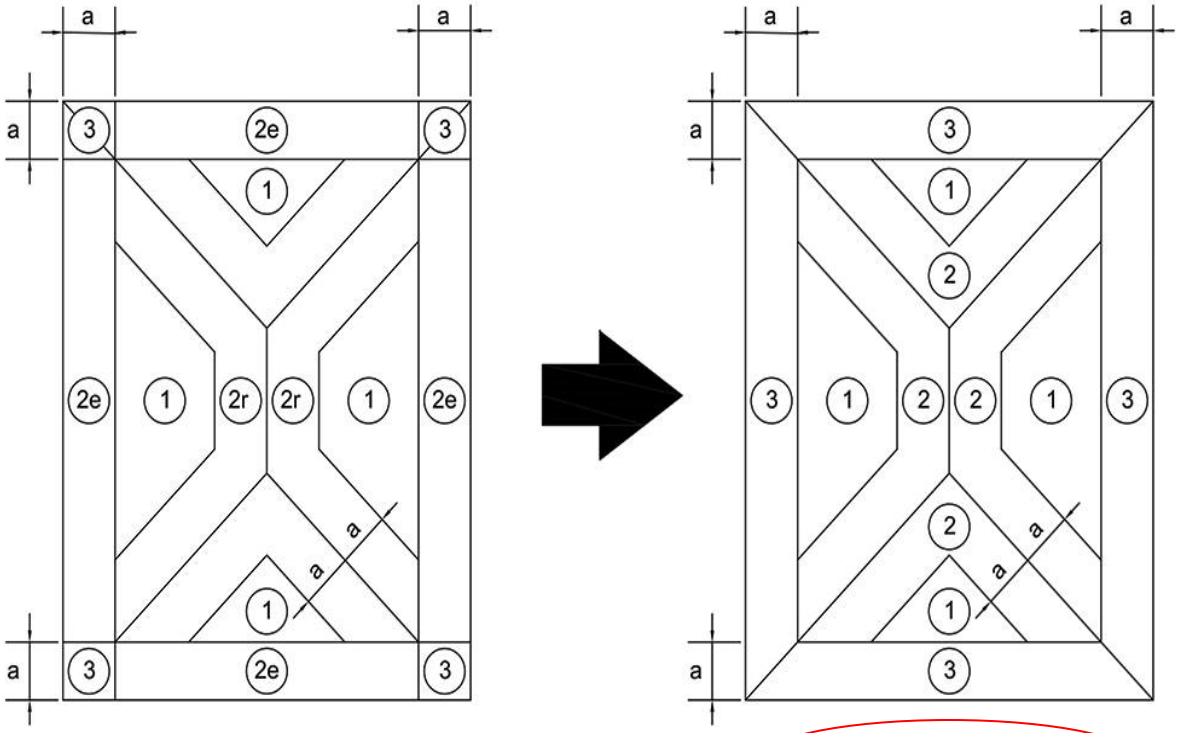
MOMENT BASED ROOF TILE TESTING

In Miami-Dade we test the roof tile assembly under TAS 101 requirements, which, provides a performance value stated as a moment force. The attachment resistance expressed as a moment force that is a measure of the bond's ability to resist the rotational force incurred upon it due to the uplift load placed on the tile.

MIAMI-DADE COUNTY

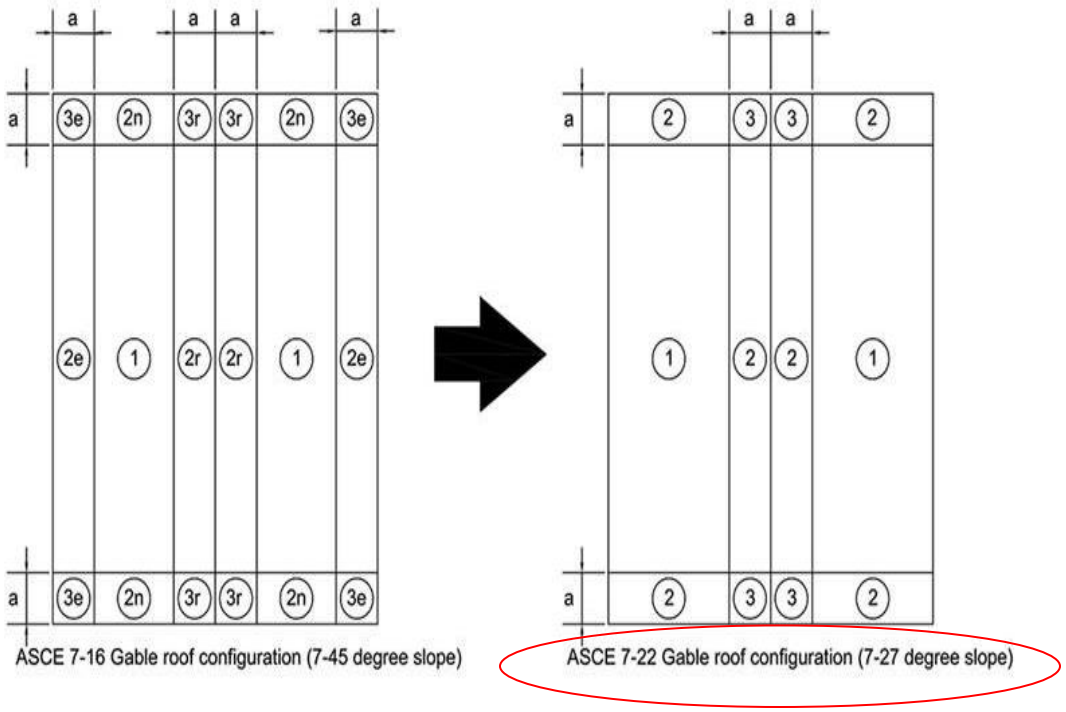
Chapter 15 Changes

ASCE 7-22 NEW ROOF PRESSURE ZONES



Chapter 15 Changes

ASCE 7-22 NEW ROOF PRESSURE ZONES
SLOPE 2/12 TO 4.5/12

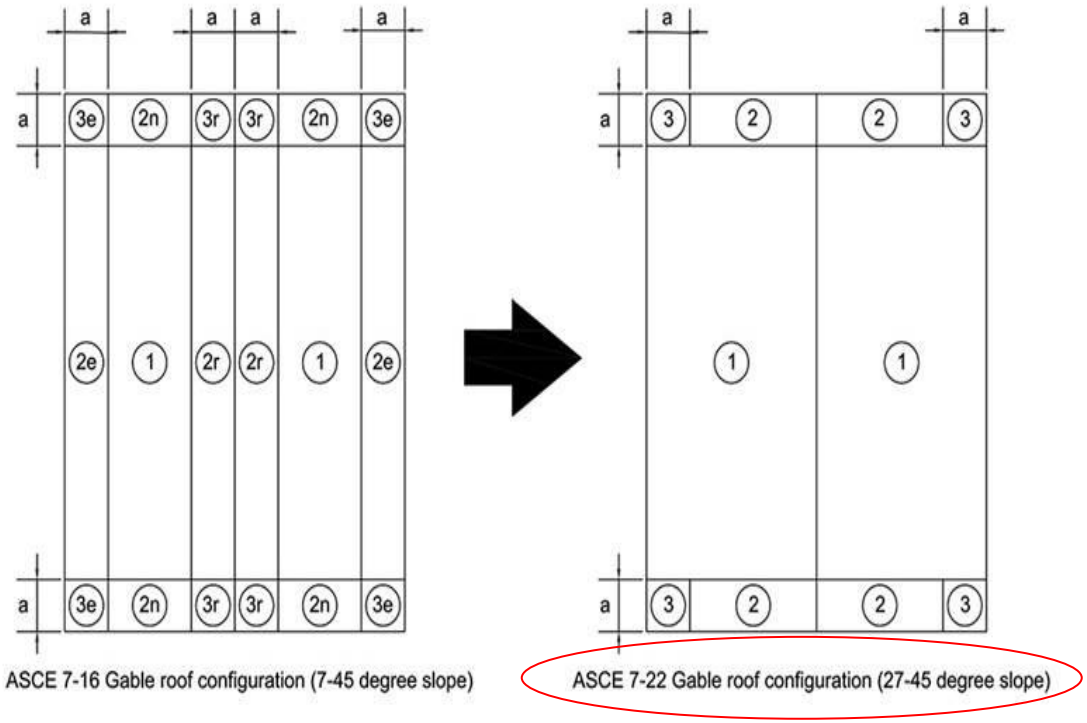


ASCE 7-16 Gable roof configuration (7-45 degree slope)

ASCE 7-22 Gable roof configuration (7-27 degree slope)

Chapter 15 Changes

ASCE 7-22 NEW ROOF PRESSURE ZONES
SLOPE 4.5/12 TO 12/12



ASCE 7-16 Gable roof configuration (7-45 degree slope)

ASCE 7-22 Gable roof configuration (27-45 degree slope)

Chapter 15 Changes

RAS 127 FBC 2023

Only risk category II Exposure “C” being shown, which is most used in Miami-Dade County

TABLE 1 — GABLE ROOFS
MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF
FOR ROOF SLOPE —1.5:12 TO LESS THAN 4.5:12
RISK CATEGORY II EXPOSURE CATEGORY “C”

Roof Mean Height	Roof Pressure Zones See Figure 1		
	1	2	3
≤ 15'	-74	-98	-128
> 15' to ≤ 20'	-78	-104	-136
> 20' to ≤ 25'	-82	-108	-142
> 25' to ≤ 30'	-85	-113	-148
> 30' to ≤ 35'	-88	-116	-153
> 35' to ≤ 40'	-91	-120	-157
> 40' to ≤ 45'	-93	-123	-162
> 45' to ≤ 50'	-95	-126	-165
> 50' to ≤ 55'	-97	-128	-169
> 55' to ≤ 60'	-98	-130	-171

TABLE 2 — GABLE ROOFS
MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF
FOR ROOF SLOPE—4.5:12 TO LESS THAN 6:12
RISK CATEGORY II EXPOSURE CATEGORY “C”

Roof Mean Height	Roof Pressure Zones See Figure 1		
	1	2	3
≤ 15'	-57	-91	-108
> 15' to ≤ 20'	-60	-96	-114
> 20' to ≤ 25'	-63	-101	-120
> 25' to ≤ 30'	-66	-105	-125
> 30' to ≤ 35'	-68	-109	-128
> 35' to ≤ 40'	-70	-111	-132
> 40' to ≤ 45'	-72	-115	-135
> 45' to ≤ 50'	-73	-117	-139
> 50' to ≤ 55'	-75	-120	-141
> 55' to ≤ 60'	-76	-121	-144

Chapter 15 Changes

RAS 127 FBC 2023

Only risk category II Exposure “C” being shown, which is most used in Miami-Dade County

TABLE 3 — GABLE ROOFS
MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF
FOR ROOF SLOPE—6:12 TO 12:12
RISK CATEGORY II EXPOSURE CATEGORY “C”

Roof Mean Height	Roof Pressure Zones See Figure 2		
	1	2	3
≤ 15'	-67	-74	-91
> 15' to ≤ 20'	-71	-78	-96
> 20' to ≤ 25'	-74	-82	-101
> 25' to ≤ 30'	-78	-85	-105
> 30' to ≤ 35'	-80	-88	-108
> 35' to ≤ 40'	-82	-91	-111
> 40' to ≤ 45'	-85	-93	-114
> 45' to ≤ 50'	-86	-95	-117
> 50' to ≤ 55'	-88	-97	-119
> 55' to ≤ 60'	-89	-98	-121

TABLE 7 — HIP ROOFS
MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF
FOR ROOF SLOPE—1.5:12 TO LESS THAN 4.5:12
RISK CATEGORY II EXPOSURE CATEGORY “C”

Roof Mean Height	Roof Pressure Zones See Figure 3		
	1	2	3
≤ 15'	-67	-88	-94
> 15' to ≤ 20'	-71	-93	-100
> 20' to ≤ 25'	-75	-97	-104
> 25' to ≤ 30'	-78	-101	-109
> 30' to ≤ 35'	-80	-105	-113
> 35' to ≤ 40'	-82	-107	-115
> 40' to ≤ 45'	-85	-110	-119
> 45' to ≤ 50'	-86	-112	-121
> 50' to ≤ 55'	-88	-115	-124
> 55' to ≤ 60'	-89	-117	-125

Chapter 15 Changes

RAS 127 FBC 2023

Only risk category II Exposure “C” being shown, which is most used in Miami-Dade County

TABLE 8 — HIP ROOFS
MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF
FOR ROOF SLOPE—4.5:12 TO LESS THAN 6:12
RISK CATEGORY II EXPOSURE CATEGORY "C"

Roof Mean Height	Roof Pressure Zones See Figure 3	
	1	2 and 3
≤ 15'	-54	-74
> 15' to ≤ 20'	-57	-78
> 20' to ≤ 25'	-59	-82
> 25' to ≤ 30'	-62	-85
> 30' to ≤ 35'	-64	-88
> 35' to ≤ 40'	-66	-91
> 40' to ≤ 45'	-67	-93
> 45' to ≤ 50'	-69	-95
> 50' to ≤ 55'	-70	-97
> 55' to ≤ 60'	-72	-98

TABLE 9 — HIP ROOFS
MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF
FOR ROOF SLOPE—6:12 TO 12:12
RISK CATEGORY II EXPOSURE CATEGORY "C"

Roof Mean Height	Roof Pressure Zones See Figure 3		
	1	2	3
≤ 15'	-57	-67	-88
> 15' to ≤ 20'	-60	-71	-93
> 20' to ≤ 25'	-63	-74	-97
> 25' to ≤ 30'	-66	-78	-101
> 30' to ≤ 35'	-67	-80	-104
> 35' to ≤ 40'	-70	-82	-107
> 40' to ≤ 45'	-71	-84	-110
> 45' to ≤ 50'	-73	-86	-112
> 50' to ≤ 55'	-75	-88	-115
> 55' to ≤ 60'	-76	-89	-117

Chapter 15 Changes

RAS 128 FBC 2023

Only risk category II Exposure “C” being shown, which is most used in Miami-Dade County

TABLE 1
MINIMUM ASD DESIGN WIND UPLIFT PRESSURES IN PSF
FOR ROOF SLOPE—LESS THAN $1^1/_2$:12
RISK CATEGORY II EXPOSURE CATEGORY "C"

Eave Height	Roof Pressure Zones			
	1'	1	2	3
≤ 15'	-37	-84	-84	-115
> 15' to ≤ 20'	-39	-88	-89	-122
> 20' to ≤ 25'	-41	-71	-94	-128
> 25' to ≤ 30'	-42	-74	-97	-133
> 30' to ≤ 35'	-44	-76	-101	-137
> 35' to ≤ 40'	-45	-78	-103	-141
> 40' to ≤ 45'	-46	-80	-106	-146
> 45' to ≤ 50'	-47	-82	-109	-148
> 50' to ≤ 55'	-48	-84	-111	-151
> 55' to ≤ 60'	-49	-85	-113	-154

Chapter 15 Changes

ENERGY CODE

C303.1.5 ROOF SOLAR REFLECTANCE AND THERMAL EMITTANCE

Low-sloped roofs directly above cooled conditioned spaces in Climate Zone 1A shall comply with one or more of the options in Table C402.3

TABLE C402.3 MINIMUM ROOF REFLECTANCE AND EMITTANCE OPTIONS

- Three-year aged solar reflectance of 0.55 (0.63 for Climate Zone 1A) and 3-year aged thermal emittance of 0.75
- Three-year-aged solar reflectance index of 64 (75 for Climate Zone 1A)

MIAMI-DADE COUNTY

FBC1516 HVHZ Fire Classification

- 1516.1General.

  Roof assemblies shall be divided into the classes defined below. Class A, B and C roof assemblies and roof coverings required to be listed by this section shall be tested in accordance with ASTM E108 or UL 790. In addition, fire-retardant-treated-wood roof coverings shall be tested in accordance with ASTM D2898.

- 1516.2

  Fire-resistant roofing assemblies and coverings shall be provided on all structures. Fire classification of roofing assemblies and coverings shall be based on the exposure hazard as follows:

- 1516.2.1 Class A.

  Zero feet to 20 feet (0 to 6.1 m) distance separation measured horizontally from the closest point of any building edge to the nearest point to an adjoining structure, and all buildings with occupation greater than 300 persons.

  Exception: Brick, masonry, slate, clay or concrete roof tile and exposed concrete roof deck are considered to meet Class A roof covering provisions without testing.

- 1516.2.2 Class B.

  All other structures, except as noted below.

- 1516.2.3 Class C.

  Structures not occupied by humans.

Shingle & metal roof covering are not exempt, ***UL directory listings are required for shingle & metal roof systems. FBC1512.3.4, FBC1516.2***

HVHZ Roofing Application Form

SECTION AB

Miami-Dade County (MDC)
2023 HVHZ Electronic Roof Permit Form

Section A (General Information)

Master Permit No: ☐ **Process No.** ☐

Contractor's Name: ☐

Job Address: ☐

Roof Category

☐ Low Slope ☐ Mechanically Fastened Tile ☐ Mortar/Adhesive Set Tile

☐ Asphaltic Shingles ☐ Tile Metal Panel/Shingles ☐ Wood Shingles/Shakes

☐ Sprayed Polyurethane Foam ☐ Other ☐ Roof Mean Height **(h)** ☐ ft.

Roof Type

☐ New Roof ☐ Re-Roofing ☐ Recovering ☐ Repair ☐ Maintenance

Are there Gas Vent Stacks located on the roof? ☐ Yes ☐ No If yes, what type? ☐ Natural ☐ LPGX

Roof System Information

Low slope roof area (ft.²): ☐ Steep Sloped area (ft.²): ☐ Total (ft.²): ☐

Section B (Roof Plan)

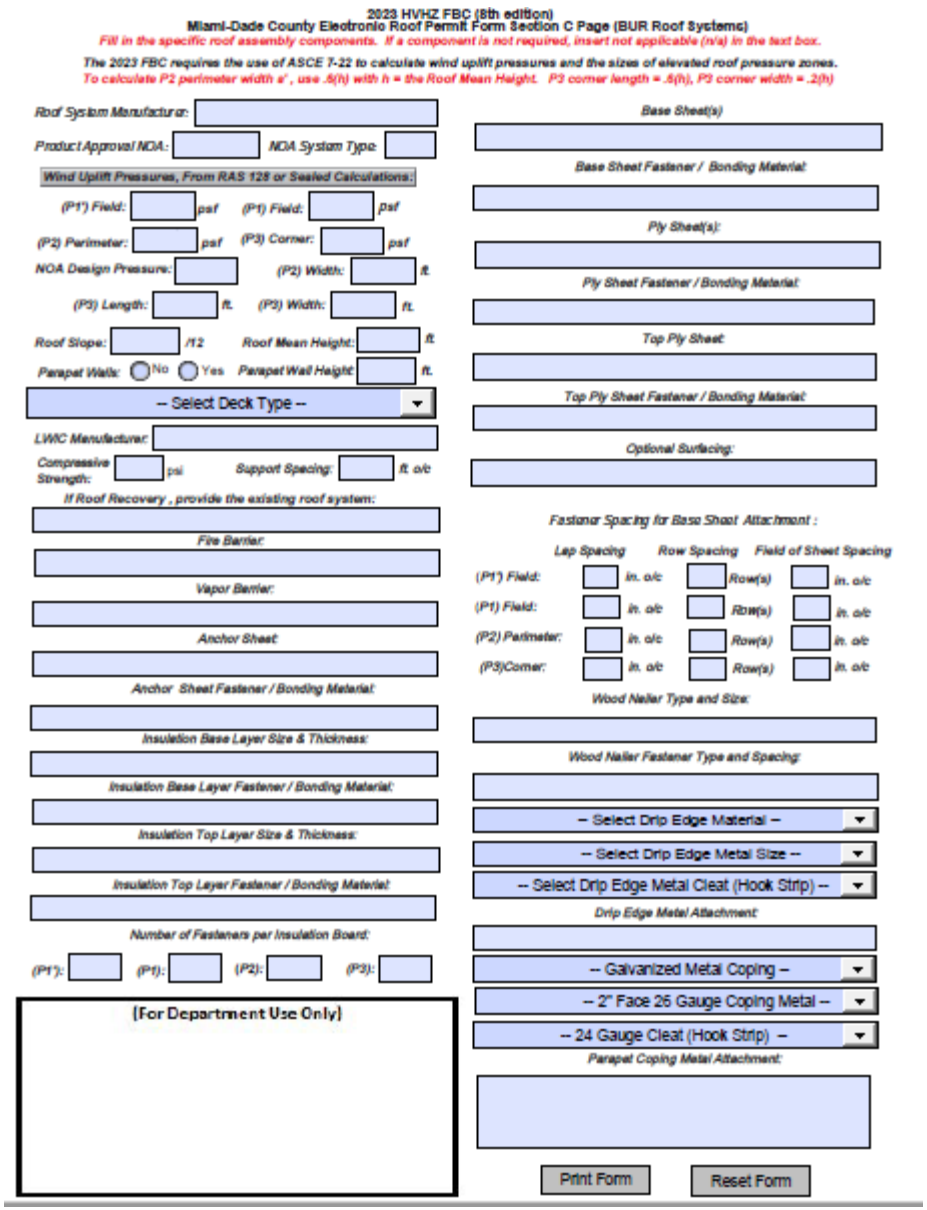
Sketch Roof Plan: Illustrate all levels and sections, roof drains, scuppers, overflow scuppers and overflow drains. Include dimensions of sections and levels, clearly identify dimensions of elevated pressure zones and location of parapets.

Perimeter Width a' **(.6h)**: ☐ ft. Corner Length **(.6h)**: ☐ ft. Corner Width: **(.2h)**: ☐ ft.

HVHZ Roofing Application Form

SECTION C

Built-Up Roof Systems



2023 HVHZ FBC (8th edition)
Miami-Dade County Electronic Roof Permit Form Section C Page (BUR Roof Systems)
Fill in the specific roof assembly components. If a component is not required, insert not applicable (n/a) in the text box.
The 2023 FBC requires the use of ASCE 7-22 to calculate wind uplift pressures and the sizes of elevated roof pressure zones.
To calculate P2 perimeter width 'a', use .5(h) with h = the Roof Mean Height. P3 corner length = .5(h), P3 corner width = .2(h)

Roof System Manufacturer:
Product Approval NOA:
NOA System Type:
Wind Uplift Pressures, From RAS 128 or Sealed Calculations:
(P1') Field: psf
(P1) Field: psf
(P2) Perimeter: psf
(P3) Corner: psf
NOA Design Pressure:
(P2) Width: ft.
(P3) Length: ft.
(P3) Width: ft.
Roof Slope: /12
Roof Mean Height: ft.
Parapet Walls: No Yes
Parapet Wall Height: ft.
-- Select Deck Type --
LWIC Manufacturer:
Compressive Strength: psi
Support Spacing: ft. o/c
If Roof Recovery, provide the existing roof system:
Fire Barrier:
Vapor Barrier:
Anchor Sheet:
Anchor Sheet Fastener / Bonding Material:
Insulation Base Layer Size & Thickness:
Insulation Base Layer Fastener / Bonding Material:
Insulation Top Layer Size & Thickness:
Insulation Top Layer Fastener / Bonding Material:
Number of Fasteners per Insulation Board:
(P1'): (P1): (P2): (P3):
(For Department Use Only)

Base Sheet(s)
Base Sheet Fastener / Bonding Material:
Ply Sheet(s):
Ply Sheet Fastener / Bonding Material:
Top Ply Sheet:
Top Ply Sheet Fastener / Bonding Material:
Optional Surfacing:

Fastener Spacing for Base Sheet Attachment:

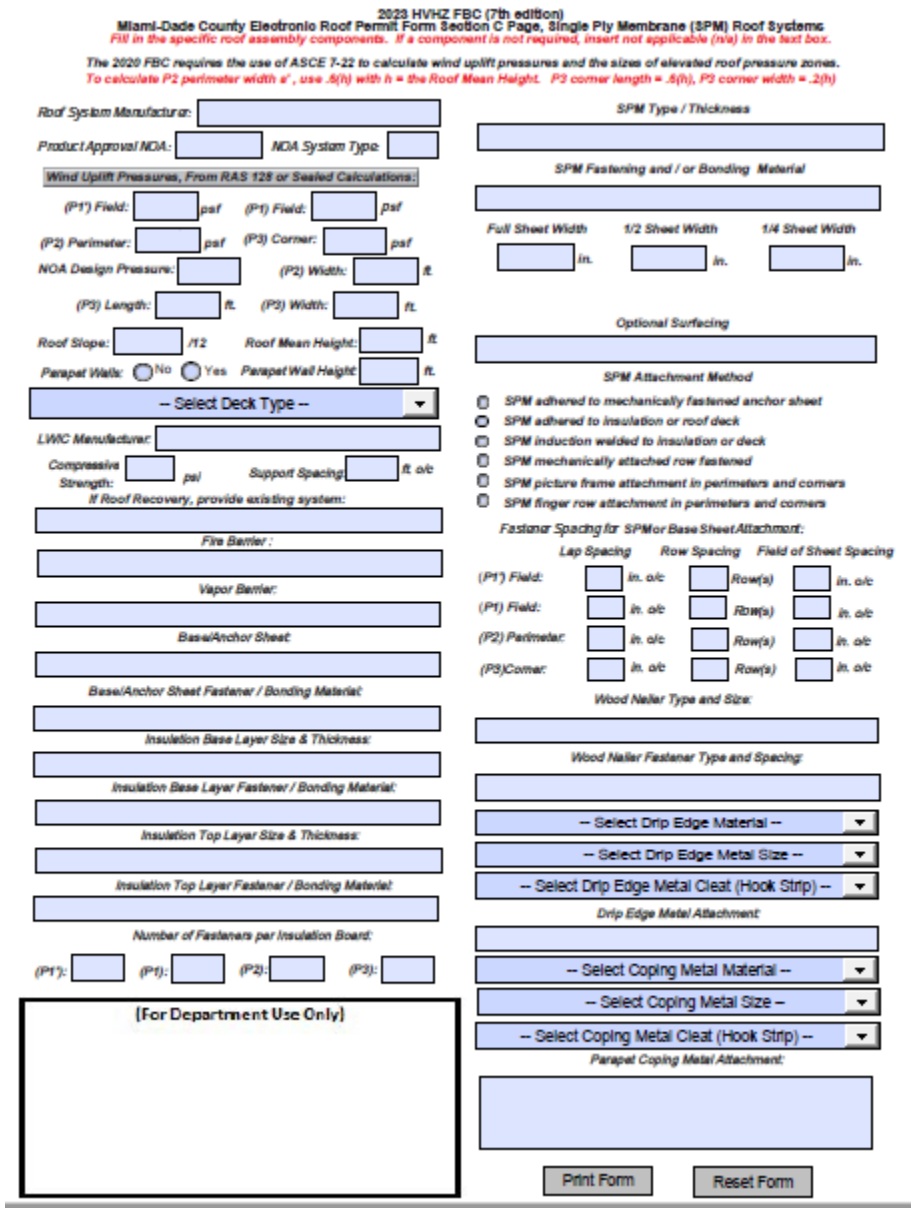
	Lap Spacing	Row Spacing	Field of Sheet Spacing
(P1') Field:	in. o/c	Row(s)	in. o/c
(P1) Field:	in. o/c	Row(s)	in. o/c
(P2) Perimeter:	in. o/c	Row(s)	in. o/c
(P3)Corner:	in. o/c	Row(s)	in. o/c

Wood Nailer Type and Size:
Wood Nailer Fastener Type and Spacing:
-- Select Drip Edge Material --
-- Select Drip Edge Metal Size --
-- Select Drip Edge Metal Cleat (Hook Strip) --
Drip Edge Metal Attachment:
-- Galvanized Metal Coping --
-- 2" Face 26 Gauge Coping Metal --
-- 24 Gauge Cleat (Hook Strip) --
Parapet Coping Metal Attachment:
Print Form
Reset Form

HVHZ Roofing Application Form

SECTION C

Single-Ply Roof Systems



2023 HVHZ FBC (7th edition)
Miami-Dade County Electronic Roof Permit Form Section C Page, Single Ply Membrane (SPM) Roof Systems
Fill in the specific roof assembly components. If a component is not required, insert not applicable (n/a) in the text box.
The 2020 FBC requires the use of ASCE 7-22 to calculate wind uplift pressures and the sizes of elevated roof pressure zones.
To calculate P2 perimeter width a', use .5(h) with h = the Roof Mean Height. P3 corner length = .5(h), P3 corner width = .2(h)

Roof System Manufacturer:
Product Approval NOA:
NOA System Type:
Wind Uplift Pressures, From RAS 128 or Sealed Calculations:
(P1') Field: psf
(P1) Field: psf
(P2) Perimeter: psf
(P3) Corner: psf
NOA Design Pressure:
(P2) Width: ft.
(P3) Length: ft.
(P3) Width: ft.
Roof Slope: /12
Roof Mean Height: ft.
Parapet Walls: No Yes
Parapet Wall Height: ft.
-- Select Deck Type --
LWIC Manufacturer:
Compressive Strength: psi
Support Spacing: ft. o/c
If Roof Recovery, provide existing system:
Fire Barrier :
Vapor Barrier:
Base/Anchor Sheet:
Base/Anchor Sheet Fastener / Bonding Material:
Insulation Base Layer Size & Thickness:
Insulation Base Layer Fastener / Bonding Material:
Insulation Top Layer Size & Thickness:
Insulation Top Layer Fastener / Bonding Material:
Number of Fasteners per Insulation Board:
(P1'): (P1): (P2): (P3):
(For Department Use Only)

SPM Type / Thickness
SPM Fastening and / or Bonding Material
Full Sheet Width in.
1/2 Sheet Width in.
1/4 Sheet Width in.
Optional Surfacing
SPM Attachment Method
SPM adhered to mechanically fastened anchor sheet
SPM adhered to insulation or roof deck
SPM induction welded to insulation or deck
SPM mechanically attached row fastened
SPM picture frame attachment in perimeters and corners
SPM finger row attachment in perimeters and corners
Fastener Spacing for SPM or Base Sheet Attachment:

	Lap Spacing	Row Spacing	Field of Sheet Spacing
(P1') Field:	in. o/c	Row(s)	in. o/c
(P1) Field:	in. o/c	Row(s)	in. o/c
(P2) Perimeter:	in. o/c	Row(s)	in. o/c
(P3) Corner:	in. o/c	Row(s)	in. o/c

Wood Nailer Type and Size:
Wood Nailer Fastener Type and Spacing:
-- Select Drip Edge Material --
-- Select Drip Edge Metal Size --
-- Select Drip Edge Metal Cleat (Hook Strip) --
Drip Edge Metal Attachment:
-- Select Coping Metal Material --
-- Select Coping Metal Size --
-- Select Coping Metal Cleat (Hook Strip) --
Parapet Coping Metal Attachment:
Print Form
Reset Form

HVHZ Roofing Application Form

SECTION D

Metal Roofs

Metal Roof System 2023

"Delivering Excellence Every Day"

Miami-Dade County
HVHZ Electronic Roof Permit Form
Section D Metal Roof System

Roof System Manufacturer:

Notice of Acceptance Number:

Minimum Design Wind Pressures, (from RAS 127 or Calculations): P 1: **P 2:** **P 3:**

Maximum Design Wind Pressures, (From the NOA Specific system): **psf**

Fill in the specific roof assembly components. If a component is not required, insert not applicable (n/a) in the text box.

Roof Slope: "/12"

Roof Mean Height: ft.

Clip or Screw Spacing for Metal Roof Panel Attachment

Field: " o/c Perimeters: " o/c Corners: " o/c

Number of screws required per clip:

Perimeter Width: ft.

Screw Type, Size, & Gauge for Clip or Metal Panel Attachment:

Deck Type: -- Select Deck Type --

Optional Nailable Substrate:

Optional Nailable Substrate Attachment Method:

Optional Insulation:

Optional Insulation Attachment Method:

Fire Barrier:

Underlayment Type:

Underlayment Fastener Type:

Optional Peel & Stick Membrane:

Metal Roof Panel:

Drip Edge Size & Gauge: -- Select Metal Gaug

Drip Edge Material Type: -- Select Metal Type

Drip Edge Fastener Type:

Hook Strip/Cleat gauge or weight: -- Select Hook Strip

HVHZ Roofing Application Form

SECTION D

Shingle Roofs

Shingle Roof System 2023

"Delivering Excellence Every Day"

Miami-Dade County
HVHZ Electronic Roof Permit Form
Section D Shingle Roof System

Roof System Manufacturer:

Notice of Acceptance Number:

Fill in the specific roof assembly components. If a component is not required, insert not applicable (n/a) in the text box.

Roof Slope: "/12"

Roof Mean Height: ft.
(Maximum roof mean height 33 ft.)

Optional Ridge Venting: Yes No

Ridge Vent NOA Number:

Installed Ridge Venting: lineal ft.

Installed Ridge Venting: ft.²

Existing Soffit Intake: ft.²

Note: In no case shall the amount of exhaust ventilation at the ridge exceed the amount of soffit ventilation.

Deck Type: --Select Deck Type--

Optional Insulation:

Optional Nailable Substrate:

Optional Nailable Substrate Attachment:

Optional Underlayment/Base Sheet Type:

Fastener Type for Basesheet Attachment:

Optional Peel & Stick Membrane:

Shingle Type:

Drip Edge Size & Gauge: --Select Drip Edge Si

Drip Edge Material Type: --Select Drip Edge Materi

Drip Edge Fastener Type:

Hook Strip/Cleat gauge or weight: --Select Hook Stri

HVHZ Roofing Application Form

SECTION D

Tile Roofs

Miami-Dade County (MDC)
2020 HVHV Electronic Permit
Form Section D Tile Roof Systems

Roof System Manufacturer:

MDC Notice of Acceptance (NOA):

Minimum Design Wind Pressures (psf) from 2020 RAS-127 or Calculations per ASCE 7-22

(P1) Field: *(P2) Perimeter:* *(P3) Corner:*

Maximum design wind pressure from MDC NOA: *Alternate / Additional NOA design pressure:*

Complete the required roof assembly system components, if a component is not required mark the field N/A.

Roof Slope: /12 *Roof Mean Height:* ft. *Perimeter Width:* ft.

Deck Type: -- Select Deck Type --

Optional Nailable Surface:

Optional substrate attachment:

Optional Insulation:

Optional Insulation Attachment:

Basesheet Type:

Fastener Type & Spacing for Basesheet Attachment:

Tile Underlayment (Cap Sheet Type:)

Tile Underlayment Attachment Method:

Tile Profile Type:

Drip Edge Material:

Drip Edge Size and Thickness:

Drip Edge Hook Strip (Continuous Cleat):

Drip Edge Fastener & Attachment Spacing:

Tile Attachment Method/Material:

Alternate or Additional Tile Attachment Method:

Print Form Reset Form

HVHZ Roofing Application Form

Florida Building Code 8th Edition (2023)
MDC High Velocity Hurricane Zone Application Form
Section E (Tile Calculations)

Enter positive uplift pressures in the Zone Fields when using these methods of calculating attachment.

For Moment based tile systems, choose **Method 1**. Compare the values for Mr with the values from Mf. If the Mf values are greater than or equal to the Mr values for each area of the roof, then the tile attachment method is acceptable.

Method 1 " Moment Based Tile Calculations per RAS 127"

Zone 1: ____ x λ ____ = ____ - Mg: ____ = Mr1: ____ ≤ ____ NOA Mf:
Zone 2: ____ x λ ____ = ____ - Mg: ____ = Mr2: ____ ≤ ____ NOA Mf:
Zone 3: ____ x λ ____ = ____ - Mg: ____ = Mr3: ____ ≤ ____ NOA Mf:

Tile attachment method: _____ ***Alternate attachment method:*** _____

For Uplift Based tile systems use **Method 3**. Compare the values for F' with the values for Fr. If the F' values are greater than or equal to the Fr values for each area of the roof, then the tile attachment method is acceptable.

Method 3 "Uplift Based Tile Calculations per RAS 127"

Zone 1: ____ x L: ____ - ____ x W: ____ - ____ - w: ____ - ____ x cos θ ____ - Fr1 ____ NOA F' ____
Zone 2: ____ x L: ____ - ____ x W: ____ - ____ - w: ____ - ____ x cos θ ____ - Fr2 ____ NOA F' ____
Zone 3: ____ x L: ____ - ____ x W: ____ - ____ - w: ____ - ____ x cos θ ____ - Fr3 ____ NOA F' ____

Where to obtain information		
Description	**Symbol**	**Where to Find**
Design Pressure	Zones 1, 2, 3	From the applicable Table in RAS- 127 or be an engineering analysis prepared by a PE based upon ASCE 7
Mean Roof Height	H	Job Site
Roof Slope	θ	Job Site
Aerodynamic Multiplier	λ	Product Approval / Notice of Acceptance
Restoring Moment due to Gravity	M_g	Product Approval / Notice of Acceptance
Attachment Resistance	Mr	Product Approval / Notice of Acceptance
Required Moment Resistance	Mr	Calculated
Minimum Attachment Resistance	F'	Product Approval / Notice of Acceptance
Required Uplift Resistance	Fr	Calculated
Average Tile Weight	w	Product Approval / Notice of Acceptance
Tile Dimensions	L=Length W= Width	Product Approval / Notice of Acceptance
All calculations must be submitted to the Building Official at the time of permit application.		

Print Form Reset Form

SECTION E

Tile Roofs

HVHZ Roofing Application Form

SECTION D

Wood Shake Roofs

Wood Shingle/Shake System 2023

"Delivering Excellence Every Day"

Miami-Dade County
HVHZ Electronic Roof Permit Form
Section D Wood Shingle/Shake Roof System

Roof System Manufacturer:

Notice of Acceptance Number:

Fill in the specific roof assembly components. If a component is not required, insert not applicable (n/a) in the text box.

Roof Slope: "/12"

Roof Mean Height: ft.
(Maximum roof mean height 33 ft.)

Fastener Type for Wood Shake/Shingle Attachment:

Number of Fasteners per Shake/Shingle:

Shingle/Shake Length: in.

Shingle/Shake Maximum Exposure: in.

Interlayment Sheet:

Deck Type: -- Select Deck Type --

Optional Insulation:

Optional Nailable Substrate:

Optional Nailable Substrate Attachment:

Fire Barrier:

Underlayment Type:

Fastener Type for Underlayment Attachment:

Optional Peel & Stick Membrane:

Type of Wood Shingle/Shake:

Drip Edge Size & Gauge: -- Select Metal Gauge

Drip Edge Material Type: -- Select Metal Type

Drip Edge Fastener Type:

Hook Strip/Cleat gauge or weight: --Select Hook Strip

Contact Information

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Natasha Romero

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MIAMI-DADE COUNTY

Thank you all for attending!!

Q & A Time