



EVALUATION REPORT

FLORIDA BUILDING CODE, 7TH EDITION (2020)

Manufacturer: GULF COAST SUPPLY & MANUFACTURING, LLC *Issued October 18, 2021*
14429 SW 2nd Place, Suite G30
Newberry, FL 32669
(352) 498-7852
www.gulfcoastsupply.com

Manufacturing Locations: Alachua, FL
Sebring, FL
Montgomery, AL

Quality Assurance: Keystone Certifications, Inc. (QUA1824)

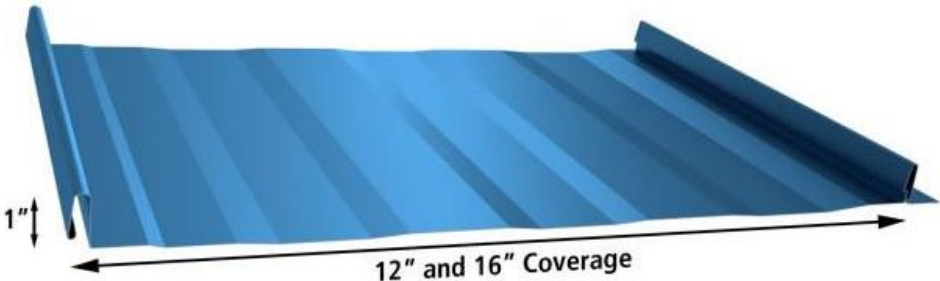
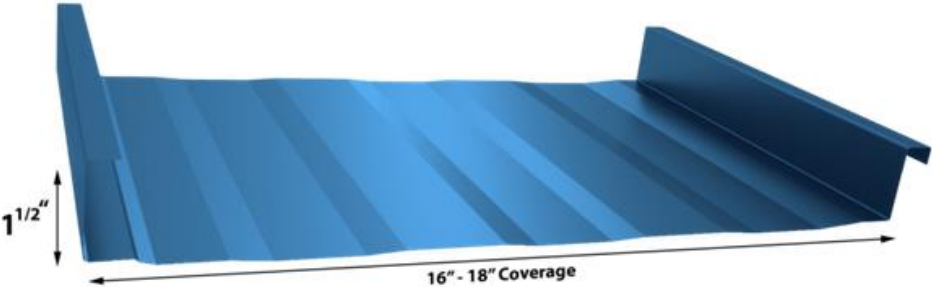
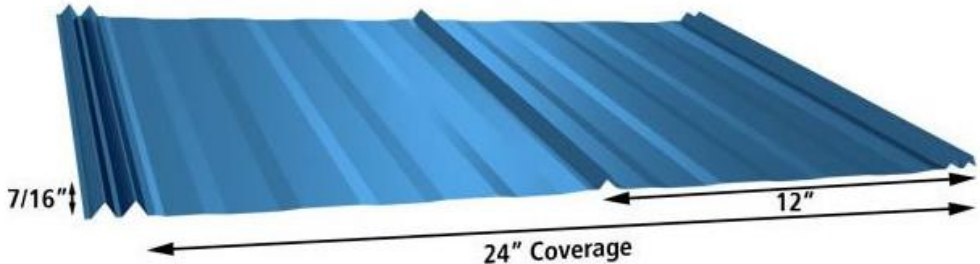
SCOPE

Category: Roofing
Subcategory: Metal Roofing
Code Edition: Florida Building Code, 7th Edition (2020) High-Velocity Hurricane Zones (HVHZ)
Code Sections: 1518.9.1, 1523.1.1, 1523.6.5, 1523.6.5.2.4, 1523.6.5.2.4.1
Properties: Wind Resistance

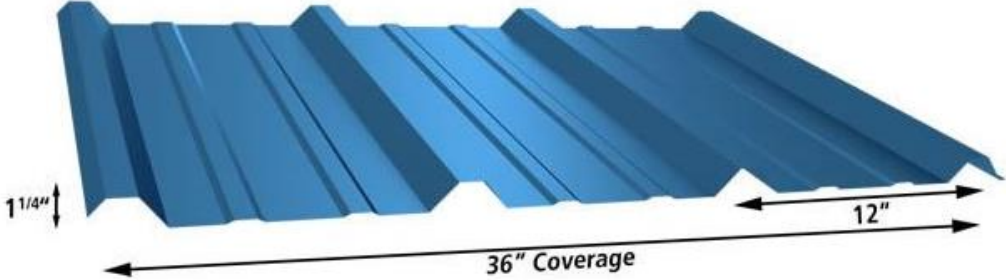
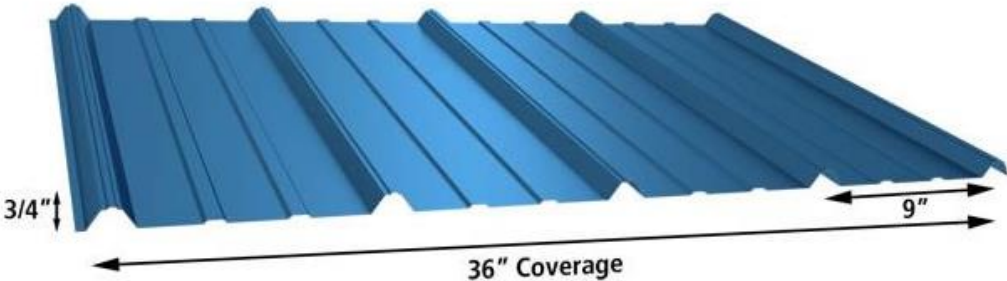
REFERENCES

Entity	Report No.	Standard	Year
Architectural Testing, Inc. (TST1527)	B9000.01-450-18	TAS 125	2003
Farabaugh Engineering & Testing, Inc. (TST1654)	T126-07	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T128-07	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T129-07	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T130-07	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T132-07	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T215-08	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T270-08	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T271-08	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T272-08	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T273-08	TAS 100	1995
Farabaugh Engineering & Testing, Inc. (TST1654)	T356-10	TAS 100	1995
Force Engineering & Testing (TST5328)	72-0313T-06A-C	TAS 125	2003
Force Engineering & Testing (TST5328)	72-0198T-07A-C	TAS 125	2003
Force Engineering & Testing (TST5328)	117-0062T-07A-C	TAS 125	2003
Force Engineering & Testing (TST5328)	117-0062T-07D-F	TAS 125	2003
Force Engineering & Testing (TST5328)	117-0062T-07G-I	TAS 125	2003
Force Engineering & Testing (TST5328)	117-0062T-07J-L	TAS 125	2003
Force Engineering & Testing (TST5328)	117-0065T-07A-C	TAS 125	2003
Force Engineering & Testing (TST5328)	117-0238T-09D	FM 4471	1992
Force Engineering & Testing (TST5328)	117-0238T-09E	FM 4471	1992
Force Engineering & Testing (TST5328)	117-0238T-11A	FM 4471	1992
Force Engineering & Testing (TST5328)	117-0378T-11A	FM 4471	1992
Force Engineering & Testing (TST5328)	117-0378T-11B	FM 4471	1992
Force Engineering & Testing (TST5328)	117-0378T-11C	FM 4471	1992
PRI Construction Materials Technologies (TST5878)	HTL-018-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	1272T0002	ASTM B 117	2016
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1272T0003	ASTM B 117	2016
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1272T0005	ASTM G 155	2013
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1272T0006	ASTM G 155	2013
		TAS 110	2000

PRODUCT DESCRIPTION

GulfLok	Profile:	1 in. snap lock seam; Max. 16 in. coverage
	Description:	Non-structural, snap lock standing seam roof panel with 7/8 in. slotted nail strip
	Material:	Min. 26 ga. ASTM A792 AZ50 coated with Florupen® or ASTM A653 G90; F _y = min. 50 ksi; Shall conform with FBC Section 1507.4.3
		
VersaLoc	Profile:	1.5 in. mechanical seam; Max. 18 in. coverage
	Description:	Non-structural, mechanical lock 180° standing seam roof panel
	Material:	Min. 24 ga. ASTM A792 AZ50 coated with Florupen® or ASTM A653 G90; F _y = min. 50 ksi; Shall conform with FBC Section 1507.4.3
		
5V Crimp	Profile:	7/16 in. ribs at 12 in. o.c.; 24 in. coverage
	Description:	Non-structural, through fastened roof panel
	Material:	Min. 26 ga. ASTM A792 AZ50 coated with Florupen® or ASTM A653 G90; F _y = min. 50 ksi; Shall conform with FBC Section 1507.4.3 Min. 0.032 in. ASTM B209, 3105 H24 aluminum; Optional Florupen® paint finish; F _y = min. 25 ksi; Shall conform with FBC Section 1507.4.3
		



GulfPBR	Profile:	1 1/4 in. ribs at 12 in. o.c.; 36 in. coverage
	Description:	Non-structural, through fastened roof panel
	Material:	Min. 26 ga. ASTM A792 AZ50 coated with Florupon® or ASTM A653 G90; F _y = min. 80 ksi; Shall conform with FBC Section 1507.4.3
		
GulfRib	Profile:	3/4 in. ribs at 9 in. o.c.; 36 in. coverage
	Description:	Non-structural, through fastened roof panel
	Material:	Min. 29 ga. ASTM A792 AZ50 coated with Florupon® or ASTM A653 G90; F _y = min. 80 ksi; Shall conform with FBC Section 1507.4.3
		

LIMITATIONS

1. Fire classification is not within the scope of this evaluation.
2. The roof deck and the roof deck attachment information are provided based on testing. FBC requirements for the rational design of the roof deck, including the attachment, are not within the scope of this evaluation.
3. Roof slope shall be 2:12 or greater.
4. Reroofing shall be in accordance with Section 1521.
5. Installation of the evaluated products shall comply with this report, RAS 133, and the manufacturer's published application instructions. Where discrepancies exist between these sources, the more restrictive and FBC compliant installation detail shall prevail.
6. All products listed in this report shall be manufactured under a quality assurance program in compliance with Rule 61G20-3.

COMPLIANCE STATEMENT

The products evaluated herein by Zachary R. Priest, P.E. have demonstrated compliance with the Florida Building Code, 7th Edition (2020) High-Velocity Hurricane Zones (HVHZ) as evidenced in the referenced documents submitted by the named manufacturer.



**This item has been
digitally signed and
sealed by Zachary R.
Priest, PE, on 10/18/2021.**

**Printed copies of this
document are not
considered signed and
sealed and the signature
must be verified on any
electronic copies.**

Zachary R. Priest, P.E.
Florida Registration No. 74021
Organization No. ANE9641

CERTIFICATION OF INDEPENDENCE

CREEK Technical Services, LLC does not have, nor will it acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

CREEK Technical Services, LLC is not owned, operated, or controlled by any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

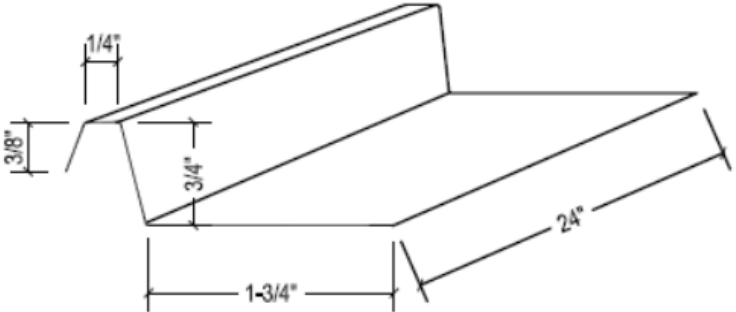
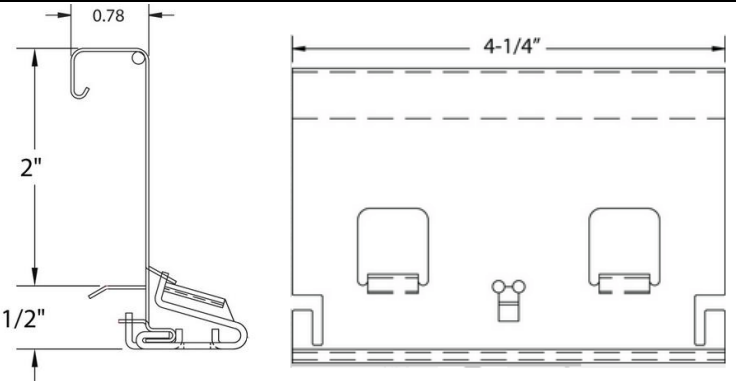
APPENDICES

- 1) APPENDIX A – Installation (3 pages)
- 2) APPENDIX B – Approved Roof Systems (4 pages)
- 3) APPENDIX C – Design Wind Loads (3 pages)

APPENDIX A
INSTALLATION

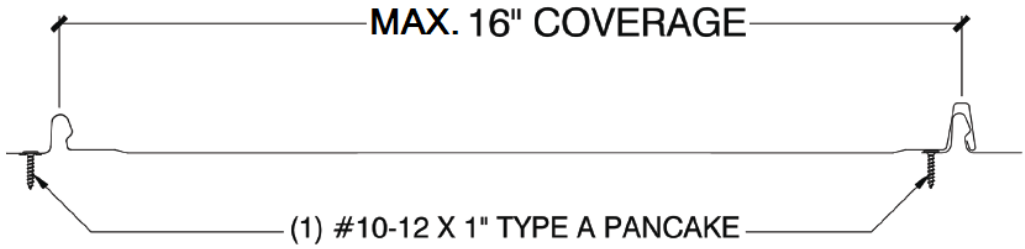
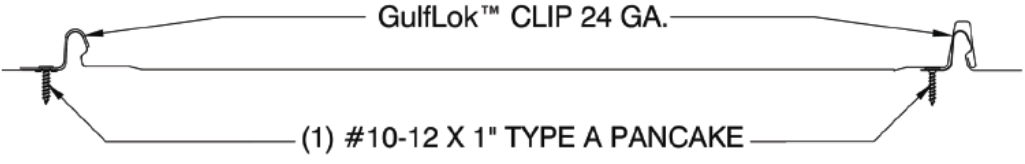
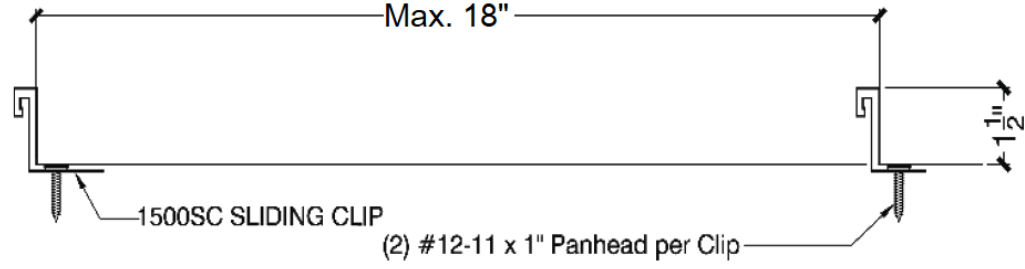
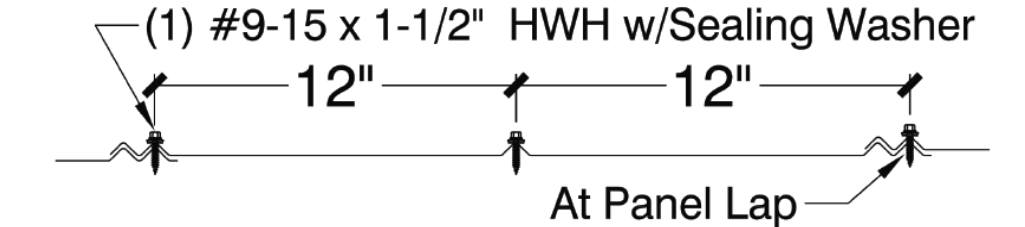
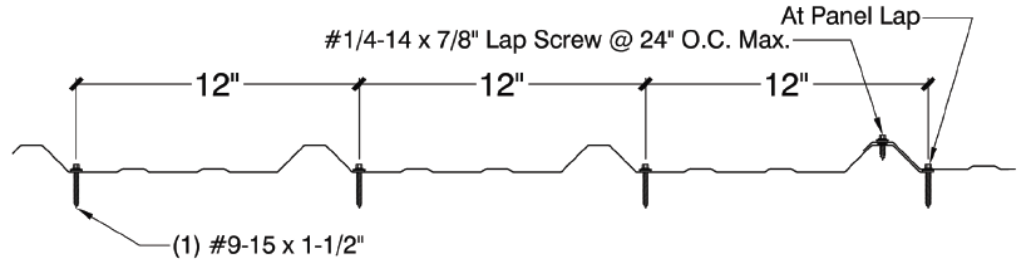
Note - Refer to the [APPROVED ROOF SYSTEMS](#) section of this report for specific installation details of a selected system.

Unless otherwise specified in this report the following installation details shall be met for the named products:

Component	Product	Installation Detail
Fasteners	#9-15 HWH wood screw with sealing washer	Shall penetrate through the sheathing a minimum 3/8 in. Shall be corrosion resistant in accordance with FBC section 1507.4.4.
	#9-15 HWH WoodZAC screw	
	#10-12 Pancake Type A screw	
	#12-11 Pancake Type A screw	
	1/4-14 HWH ZAC Impax Lap screw	Installed at panel side lap; Shall be corrosion resistant in accordance with FBC section 1507.4.4.
Clips	GulfLok Clip	24 ga. in-seam clip 
	NC-33003-3 Sliding Clip	
Sealants	TiteBond Weathermaster Metal Roof Sealant	Shall be applied in 1/4"- 5/16" continuous beads on the male rib along the seam

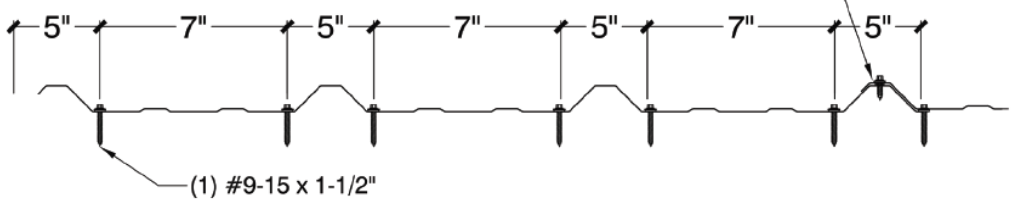
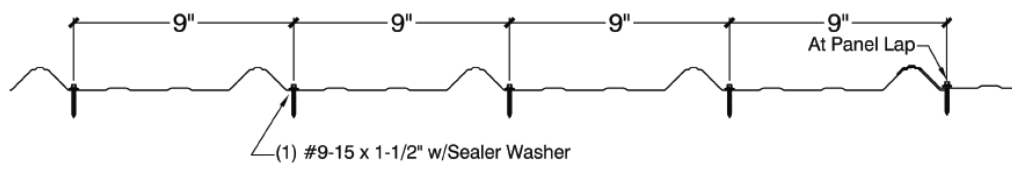
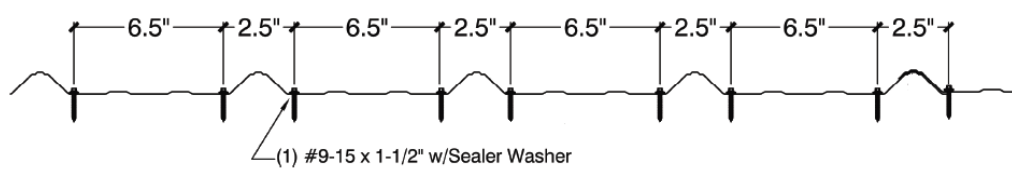


APPENDIX A

Fastening Details	
Nomenclature	Attachment
GulfLok Type 1	 <p>MAX. 16" COVERAGE</p> <p>(1) #10-12 X 1" TYPE A PANCAKE</p>
GulfLok Type 2	 <p>GulfLok™ CLIP 24 GA.</p> <p>(1) #10-12 X 1" TYPE A PANCAKE</p>
VersaLoc Type 1	 <p>Max. 18"</p> <p>1500SC SLIDING CLIP</p> <p>(2) #12-11 x 1" Panhead per Clip</p>
5V Type 1	 <p>(1) #9-15 x 1-1/2" HWH w/Sealing Washer</p> <p>12" 12"</p> <p>At Panel Lap</p>
GulfPBR Type 1	 <p>#1/4-14 x 7/8" Lap Screw @ 24" O.C. Max.</p> <p>12" 12" 12"</p> <p>(1) #9-15 x 1-1/2"</p> <p>At Panel Lap</p>



APPENDIX A

Fastening Details	
Nomenclature	Attachment
GulfPBR Type 2	<p>#1/4-14 x 7/8" Lap Screw @ 24" O.C. Max.</p>  <p>(1) #9-15 x 1-1/2"</p>
GulfRib Type 1	 <p>(1) #9-15 x 1-1/2" w/Sealer Washer</p> <p>At Panel Lap</p>
GulfRib Type 2	 <p>(1) #9-15 x 1-1/2" w/Sealer Washer</p>

APPENDIX B
APPROVED ROOF SYSTEMS

The following notes shall be observed when using the assembly tables below.

1. Maximum Design Pressure (*MDP*) was calculated using a 2:1 margin of safety per FBC Section 1523.4.
2. Refer to [LIMITATIONS](#) and sections of this evaluation when using the table(s) below.
3. Refer to [INSTALLATION](#) section of this report for installation detail when the information is not explicitly stated for the selected assembly.
4. The on-center (o.c.) spacing given is the maximum allowable attachment spacing for the rated system.
5. Underlayment shall be installed in accordance with FBC requirements. The minimum underlayment shall be ASTM D 226, Type II installed as described in FBC Section 1518.2.1 with nails and tin caps per 1517.5.
6. Steel Deck shall be designed by others in accordance with FBC requirements and shall be minimum 22 ga ($F_y = \text{min.40 ksi}$) Wide Rib Deck (Type WR) conforming to ANSI/SDI-RD1.0 & FBC. In no case shall the panels be installed on less than two continuous spans, which are spaced a maximum 5-ft o.c. At minimum, the deck shall be attached with one (1) #12 x 1.5-inch HWH self-drilling screws at the bottom of each flute (maximum 6-inch o.c. along the support). At minimum, the deck side laps shall be fastened a maximum 6-inch o.c. with #12 x 1.5-inch HWH self-drilling screws.
7. Wood Deck shall be designed by others in accordance with FBC requirements and shall be minimum 19/32-inch thick APA Span-Rated plywood sheathing or wood plank at maximum 24-inch span for new construction. Existing construction shall be the minimum plywood sheathing or wood plank thickness at maximum 24-inch span as stated in the approval tables on following pages. In no case shall the attachment be less than 8d ring shank nails spaced 6-inch o.c.

Roof System Numbers and Definitions	
LOK-W#	GulfLok over Wood Deck (New or Existing)
VL-W#	1.5" VersaLoc over Wood Deck (new or Existing)
5V-W#	5V Crimp over Wood Deck (New or Existing)
PBR-W#	GulfPBR over Wood Deck (New or Existing)
RIB-W#	GulfRib over Wood Deck (New or Existing)

Approved Systems for GulfLok over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	<i>MDP</i> (psf)
LOK-W-1	Min. 15/32 CDX plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 26 ga. GulfLok Max. 16-inch coverage	<i>GulfLok Type 1</i> attachment with #10-12 x 1" Pancake Type A screws spaced 5-3/16 in. o.c. Titebond Weathermaster Metal Roof Sealant applied to male rib.	-121.75
LOK-W-2	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	26 ga., Grade 80 GulfLok Max. 16-inch coverage	<i>GulfLok Type 1</i> attachment #10-12 x 1" Pancake Type A screws spaced 5-3/16 in. o.c	-63.5
LOK-W-3	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	26 ga., Grade 80 GulfLok Max. 16-inch coverage	<i>GulfLok Type 2</i> attachment with #10-12 x 1" Pancake Type A screws through clip and spaced 5-3/16 in. o.c.	-161

APPENDIX B

Approved Systems for VersaLoc over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
VL-W-1	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 24 ga. VersaLoc Max. 16-inch coverage	<i>VersaLoc Type 1</i> attachment with clips spaced 24 in. o.c.	-59.75
VL-W-2	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 24 ga. VersaLoc Max. 16-inch coverage	<i>VersaLoc Type 1</i> attachment with clips spaced 6 in. o.c.	-123.5

Approved Systems for 5V Crimp over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
5V-W-1	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 26 ga. 5V Crimp 24-inch coverage	<i>5V Crimp Type 1</i> attachment with #9-15 HWH wood screws with sealing washers spaced 12 in. o.c.	-108.5
5V-W-2	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 26 ga. 5V Crimp 24-inch coverage	<i>5V Crimp Type 1</i> attachment with #9-15 HWH wood screws with sealing washers spaced 6 in. o.c.	-156.5

Approved Systems for GulfPBR over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
PBR-W-1	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 26 ga. GulfPBR 36-inch coverage	<i>GulfPBR Type 1</i> attachment with #9-15 15 HWH WoodZAC screws spaced 24 in. o.c. Laps fastened with 1/4-14 x 7/8" HWH ZAC Impax Lap screws spaced 24 in. o.c.	-60.5

APPENDIX B

Approved Systems for GulfPBR over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
PBR-W-2	Min. 1x4 No. 2 SYP wood purlins spaced 24 in. o.c. over Min. 15/32 B-C plywood	OPTIONAL Approved fire barrier or insulation	As required per FBC	Min. 26 ga. GulfPBR 36-inch coverage	GulfPBR Type 1 attachment with #9-15 HWH WoodZAC screws spaced 24 in. o.c. into wood purlins Laps fastened with 1/4-14 x 7/8 ZAC Impax Lap screws spaced 24 in. o.c.	-100.5
PBR-W-3	Min. 1x4 No. 2 SYP wood purlins spaced 12 in. o.c. over Min. 15/32 B-C plywood	OPTIONAL Approved fire barrier or insulation	As required per FBC	Min. 26 ga. GulfPBR 36-inch coverage	GulfPBR Type 2 attachment with #9-15 HWH WoodZAC screws spaced 12 in. o.c. into wood purlins Laps fastened with 1/4-14 x 7/8" HWH ZAC Impax Lap screws spaced 24 in. o.c.	-151.75
PBR-W-4	Min. 15/32 B-C plywood	OPTIONAL Approved fire barrier or insulation	As required per FBC	Min. 26 ga. GulfPBR 36-inch coverage	GulfPBR Type 2 attachment with #9-15 HWH WoodZAC screws spaced 12 in. o.c. Laps fastened with 1/4-14 x 7/8" HWH ZAC Impax Lap screws spaced 24 in. o.c.	-154.75

Approved Systems for GulfRib over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
RIB-W-1	Min. 15/32 B-C plywood	OPTIONAL Approved fire barrier or insulation	As required per FBC	Min. 29 ga. GulfRib 36-inch coverage	GulfRib Type 1 attachment with # with #9-15 HWH WoodZAC screws spaced 24 in. o.c.	-71.75
RIB-W-2	Min. 1x4 No. 2 SYP wood purlins spaced 24 in. o.c. over Min. 15/32 B-C plywood	OPTIONAL Approved fire barrier or insulation	As required per FBC	Min. 26 ga. GulfRib 36-inch coverage	GulfRib Type 1 attachment with #9-15 HWH WoodZAC screws spaced 24 in. o.c. into wood purlins	-106.75

APPENDIX B

Approved Systems for GulfRib over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier/ Insulation	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
RIB-W-3	Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 26 ga. GulfRib 36-inch coverage	<i>GulfRib Type2</i> attachment with #9-15 HWH WoodZAC screws spaced 12 in. o.c.	-159.25
RIB-W-4	Min. 1x4 No. 2 SYP wood purlins spaced 12 in. o.c. over Min. 15/32 B-C plywood	OPTIONAL <i>Approved</i> fire barrier or insulation	As required per FBC	Min. 26 ga. GulfRib 36-inch coverage	<i>GulfRib Type 1</i> attachment with #9-15 HWH WoodZAC screws spaced 12 in. o.c. into wood purlins	-164.25

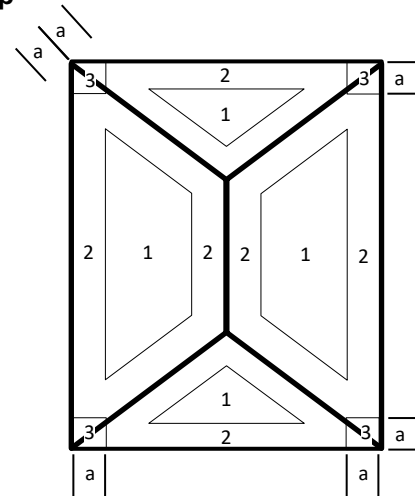
APPENDIX C
DESIGN WIND LOADS

The following tables provide design wind loads for components and cladding in accordance with Section 1620 of the FBC and ASCE 7-16 under the following provisions:

1. Wind speeds for risk category I, II, III, and IV buildings shall be as defined in Section 1620 of the FBC.
2. Exposure C and D shall be as defined in section 1620 of the FBC.
3. Design wind load provided only for gable/hip roofs with roof slopes between 2:12 and 6.1:12
4. All calculations are based on an effective wind area of 10-ft² or less.
5. Topographic factors such as escarpments or hills have been excluded from the analysis
6. Overhangs have been excluded from the analysis.
7. Wind directionality factor, $K_d = 0.85$
8. Design wind loads are calculated using $P_{asd} = 0.6P_{ult}$.
9. Zone 2 is inclusive of Zone 2e, Zone 2n, and Zone 2r
10. Zone 3 is inclusive of Zone 3e and Zone 3r
11. Projects with mean roof heights greater than 60-ft shall be evaluated by a licensed design professional
12. Zones 1, 2, and 3 shall be defined as shown below. Dimension "a" shall be 10% of the least horizontal dimension or (0.4 x *Mean Roof Height*), whichever is smaller, but not less than either 4% of the least horizontal dimension or 3ft

Gable

3	2	3	3	2	3	a
2	1	2	2	1	2	
3	2	3	3	2	3	a
a		a	a		a	

Hip


APPENDIX C

Gable/Hip Roofs in Exposure C in Miami-Dade & Broward County (Roof slopes between 2:12 and 12:12)								
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)					
			Risk Cat I	Risk Cat I	Risk Cat II	Risk Cat II	Risk Cat III, IV	Risk Cat III,IV
			156	165	170	175	180	186
Enclosed/ Partially Open	1	20	-62.3	-69.7	-74.0	-78.5	-83.0	-88.6
		25	-65.1	-72.8	-77.3	-81.9	-86.7	-92.6
		30	-67.9	-75.9	-80.6	-85.4	-90.4	-96.5
		40	-72.0	-80.6	-85.6	-90.7	-95.9	-102.4
		50	-75.5	-84.5	-89.7	-95.0	-100.5	-107.3
		60	-78.3	-87.6	-93.0	-98.5	-104.2	-111.3
	2	20	-90.9	-101.7	-108.0	-114.4	-121.1	-129.3
		25	-95.0	-106.3	-112.8	-119.5	-126.5	-135.0
		30	-99.0	-110.8	-117.6	-124.6	-131.8	-140.8
		40	-105.1	-117.6	-124.8	-132.2	-139.9	-149.4
		50	-110.1	-123.2	-130.8	-138.6	-146.6	-156.6
		60	-114.2	-127.7	-135.6	-143.7	-152.0	-162.3
	3	20	-108.1	-120.9	-128.4	-136.0	-143.9	-153.7
		25	-112.9	-126.3	-134.1	-142.1	-150.3	-160.5
		30	-117.7	-131.7	-139.8	-148.1	-156.7	-167.3
		40	-124.9	-139.7	-148.3	-157.2	-166.3	-177.6
		50	-130.9	-146.5	-155.5	-164.7	-174.3	-186.1
		60	-135.7	-151.8	-161.2	-170.8	-180.7	-192.9
Partially Enclosed	1	20	-72.9	-81.6	-86.6	-91.8	-97.1	-103.7
		25	-76.2	-85.2	-90.4	-95.8	-101.4	-108.3
		30	-79.4	-88.8	-94.3	-99.9	-105.7	-112.9
		40	-84.3	-94.3	-100.1	-106.0	-112.2	-119.8
		50	-88.3	-98.8	-104.9	-111.1	-117.6	-125.5
		60	-91.6	-102.4	-108.7	-115.2	-121.9	-130.2
	2	20	-101.5	-113.6	-120.6	-127.8	-135.2	-144.3
		25	-106.0	-118.6	-125.9	-133.4	-141.2	-150.7
		30	-110.5	-123.7	-131.3	-139.1	-147.2	-157.1
		40	-117.3	-131.2	-139.3	-147.6	-156.2	-166.8
		50	-123.0	-137.5	-146.0	-154.7	-163.7	-174.8
		60	-127.5	-142.6	-151.4	-160.4	-169.7	-181.2
	3	20	-118.7	-132.8	-140.9	-149.3	-158.0	-168.7
		25	-124.0	-138.7	-147.2	-156.0	-165.0	-176.2
		30	-129.2	-144.6	-153.5	-162.6	-172.0	-183.7
		40	-137.1	-153.4	-162.9	-172.6	-182.6	-195.0
		50	-143.7	-160.8	-170.7	-180.9	-191.4	-204.3
		60	-149.0	-166.7	-177.0	-187.5	-198.4	-211.8

APPENDIX C

Gable/Hip Roofs in Exposure D in Miami-Dade & Broward County (Roof slopes between 2:12 and 12:12)								
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)					
			Risk Cat I	Risk Cat I	Risk Cat II	Risk Cat II	Risk Cat III, IV	Risk Cat III,IV
			156	165	170	175	180	186
Enclosed/ Partially Open	1	20	-74.8	-83.7	-88.8	-94.1	-99.6	-106.3
		25	-77.6	-86.8	-92.1	-97.6	-103.3	-110.3
		30	-80.4	-89.9	-95.4	-101.1	-107.0	-114.2
		40	-84.5	-94.5	-100.4	-106.3	-112.5	-120.1
		50	-88.0	-98.4	-104.5	-110.7	-117.1	-125.1
		60	-90.7	-101.5	-107.8	-114.2	-120.8	-129.0
	2	20	-109.1	-122.1	-129.6	-137.3	-145.3	-155.1
		25	-113.2	-126.6	-134.4	-142.4	-150.7	-160.9
		30	-117.2	-131.1	-139.2	-147.5	-156.0	-166.6
		40	-123.3	-137.9	-146.4	-155.1	-164.1	-175.2
		50	-128.3	-143.6	-152.4	-161.5	-170.8	-182.4
		60	-132.4	-148.1	-157.2	-166.6	-176.2	-188.2
	3	20	-129.7	-145.1	-154.0	-163.2	-172.7	-184.4
		25	-134.5	-150.5	-159.7	-169.3	-179.1	-191.2
		30	-139.3	-155.9	-165.4	-175.3	-185.5	-198.1
		40	-146.5	-163.9	-174.0	-184.4	-195.1	-208.3
		50	-152.5	-170.6	-181.1	-192.0	-203.1	-216.8
		60	-157.3	-176.0	-186.8	-198.0	-209.5	-223.7
Partially Enclosed	1	20	-87.5	-97.9	-103.9	-110.1	-116.5	-124.4
		25	-90.7	-101.5	-107.8	-114.2	-120.8	-129.0
		30	-94.0	-105.1	-111.6	-118.3	-125.1	-133.6
		40	-98.8	-110.6	-117.4	-124.4	-131.6	-140.5
		50	-102.9	-115.1	-122.2	-129.5	-137.0	-146.3
		60	-106.1	-118.7	-126.0	-133.6	-141.3	-150.9
	2	20	-121.8	-136.3	-144.7	-153.3	-162.2	-173.2
		25	-126.3	-141.3	-150.0	-159.0	-168.2	-179.6
		30	-130.8	-146.4	-155.4	-164.7	-174.2	-186.0
		40	-137.6	-154.0	-163.4	-173.2	-183.2	-195.6
		50	-143.3	-160.3	-170.1	-180.3	-190.7	-203.6
		60	-147.8	-165.3	-175.5	-186.0	-196.7	-210.1
	3	20	-142.4	-159.3	-169.1	-179.2	-189.6	-202.5
		25	-147.7	-165.2	-175.4	-185.8	-196.6	-210.0
		30	-153.0	-171.1	-181.6	-192.5	-203.6	-217.4
		40	-160.9	-180.0	-191.0	-202.4	-214.2	-228.7
		50	-167.5	-187.3	-198.9	-210.7	-223.0	-238.1
		60	-172.7	-193.2	-205.1	-217.4	-230.0	-245.6