NEMO|etc.
Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER EVALUATE TEST CONSULT

P.E. EVALUATION REPORT (PEER)

Delta Building Products
9969 River Way
Delta, British Columbia V4G 1M8 Canada
(604) 953-1000

PEER-DBP-001.A.R6
FL7263-R7 (NON-HVHZ)
Date of Issuance: 10/29/2009
Revision 6: 08/06/2023

SCOPE:
This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been evaluated for compliance with the **8th Edition (2023) Florida Building Code** sections noted herein.

DESCRIPTION: Delta Metal Roof Systems (NON-HVHZ)

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our PEERs by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its PEER relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be done in its entirety.

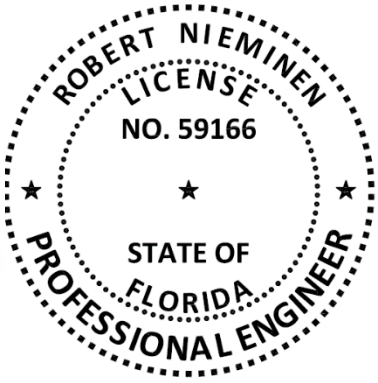
INSPECTION: Upon request, a copy of this entire PEER shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This PEER consists of pages 1 through 5, plus Appendix 1 and 2 (30-pages).

Prepared by:

Digitally signed by Robert Nieminen
Date: 2023.08.06 '12:22:04 -04'00

This item has been digitally signed and sealed by Robert Nieminen, P.E.
Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.
Robert Nieminen, Florida P.E. 59166, FBC ANE1983
NEMO ETC, LLC, Florida CA #32455



CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the PEERs are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING SYSTEMS EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Non-Structural Metal Roofing
Product Approval Method: Method 1, Option D – Codified Material, Evaluation by Engineer
Compliance Statement: Delta Metal Roof Systems, as produced by **Delta Building Products**, have demonstrated compliance with the following sections of the **8th Edition (2023) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations of Use set forth herein.

2. STANDARDS:

SECTION	PROPERTY	STANDARD	YEAR
1504.3.3	Wind resistance	UL 1897	2015
1504.3.3	Wind resistance	UL 580	2018
1504.3.3	Wind resistance	TAS 125	2003
1507.5.5, R905.4.4	Material standards	ASTM A653	2017
1507.5.5, R905.4.4	Material standards	ASTM A792	2015
1507.5.5, R905.4.4	Material standards	ASTM B209	2014

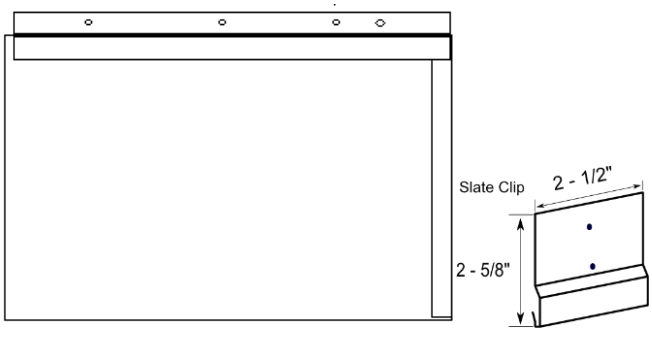
3. REFERENCES:

ENTITY	EXAMINATION	REFERENCE	DATE
ITS (TST 1509)	UL580 / TAS 125	488-1486-1	04/04/2000
ITS (TST 1509)	UL580 / TAS 125	488-1486-2	04/04/2000
ITS (TST 1509)	UL1897	3024168-1	09/04/2002
ITS (TST 1509)	UL1897	3024168-2	09/30/2002
ITS (TST 1509)	UL1897	3024168-3	09/30/2002
ITS (TST 1509)	UL1897	3056818-1	12/09/2004
ITS (TST 1509)	Fastener Withdrawal	3056818-4	04/18/2005
ITS (TST 1509)	UL1897	3056818-2	05/06/2005
ITS (TST 1509)	UL1897	101239909COQ-003B	04/15/2015
ITS (TST 1509)	UL1897	105106666COQ-003	03/29/2023
Metal suppliers	Material standard	Mil certs	Current
UL LLC (QUA 9625)	Quality Assurance	Service confirmation	02/15/2018
UL LLC (QUA 9625)	Quality Assurance	Florida BCIS	Current

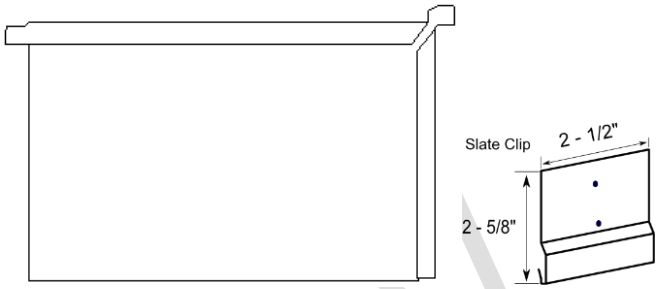
4. PRODUCT DESCRIPTION:

The following Delta non-structural metal roof products are mechanically attached to Approved substrate, as outlined in the Limitations of Use herein.

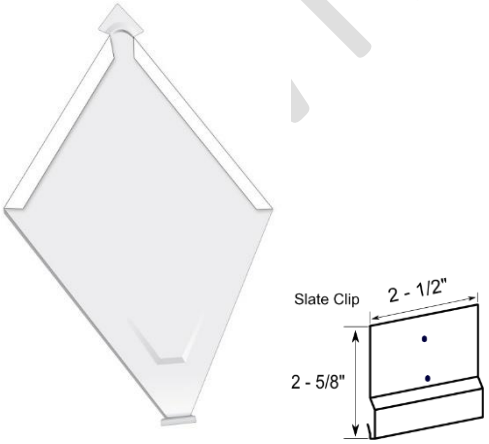
4.1 **Delta Shingle or Slate (nail strip)** are press-formed 0.014-inch thick ASTM A653, Grade 33, G90 galvanized steel or ASTM A792 AZ50 aluminum zinc alloy coated steel or 0.019-inch thick ASTM B209 3105 H24 coated aluminum alloy shingles that are mechanically attached to approved decks. Some applications utilize 0.019-inch thick steel or 0.0276-inch thick aluminum clips (See Appendix 1). Delta Shingle or Slate (nail strip) have an installed exposure of ~8.5 x 17.5 inches. The side of each shingle incorporates formed edges that act as interlocking seals with adjacent shingles.



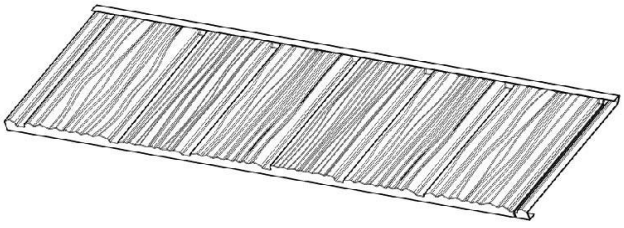
4.2 **Delta Shingle or Slate (nail tab)** are press-formed 0.014-inch thick ASTM A653, Grade 33, G90 galvanized steel or ASTM A792 AZ50 aluminum zinc alloy coated steel or 0.019-inch thick ASTM B209 3105 H24 coated aluminum alloy shingles that are mechanically attached to approved decks. Some applications utilize 0.019-inch thick steel or 0.0276-inch thick aluminum clips (See Appendix 1). Delta Shingle or Slate (nail tab) have an installed exposure of ~8.5 x 17.5 inches. The side of each shingle incorporates formed edges that act as interlocking seals with adjacent shingles.

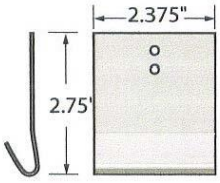


4.3 **Delta Diamond** are press-formed 0.014-inch thick ASTM A653, Grade 33, G90 galvanized steel or ASTM A792 AZ50 aluminum zinc alloy coated steel or 0.019-inch thick ASTM B209 3105 H24 coated aluminum alloy shingles that are mechanically attached to approved decks. Some applications utilize 0.019-inch thick steel or 0.0276-inch thick aluminum clips (See Appendix 1). Delta Diamond measures 13.875 wide x 21.375 inches tall. The sides of each shingle incorporates formed edges that act as interlocks with adjacent shingles.



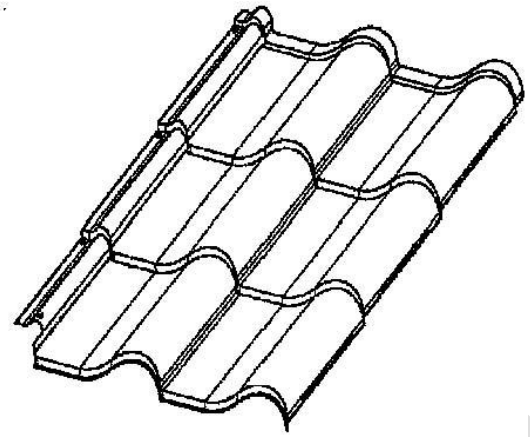
4.4 **Delta Shake** are formed 0.019-inch thick ASTM A653, Grade 33, G90 galvanized steel or ASTM A792 AZ50 aluminum zinc alloy coated steel or 0.027-inch thick ASTM B209 3105-H24 or 3003-H24 coated aluminum alloy panels that are mechanically attached to approved decks using 0.019-inch thick steel or 0.0276-inch thick aluminum clips and fasteners. Delta Shake measures 13.5 x 50 inches with installed exposure of 12.5 x 47 inches. The right-side of each panel incorporates a 3-inch wide side lap. The panels' leading edge is bent down to form a front lip that locks into the up-facing lip formed at the back edge of each panel.





CLIP

4.5 **Delta Hidden Fastener Tile** are formed 0.019-inch thick ASTM A653, Grade 33, G90 galvanized steel or ASTM A792 AZ50 aluminum zinc alloy coated steel or 0.027-inch thick ASTM B209 3105-H24 or 3003-H24 coated aluminum alloy panels that are mechanically attached to approved decks. Delta Hidden Fastener Tile measures 21.5-inches wide with installed horizontal exposure of 18 inches and panel lengths up to 6.4 feet. The panels interlock on the side and overlap at the ends.



5. LIMITATIONS:

5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.

5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions, as defined in FBC Chapter 2 (Broward and Miami-Dade Counties).

5.3 This PEER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.

5.4 This PEER does not include evaluation of fire classification. Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.

5.5 This PEER does not include evaluation of roof edge termination. Refer to **FBC 1504.5** for requirements and limitations regarding edge securement for low-slope roofs.

5.6 Refer to **FBC 1511** or **R908** for requirements and limitations regarding recover installations.

5.6.1 For mechanically attached components over existing roof decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing shall be in accordance with **ANSI/SPRI FX-1** or **Testing Application Standard TAS 105**.

5.7 Refer to Appendix 1 for system attachment requirements for wind load resistance.

5.7.1 "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied). Refer to **FBC 1609** or Appendix 2 for determination of design wind loads.

5.7.2 Appendix 2 outlines roof cladding design wind pressure requirements for gable and hip roofs in accordance with **ASCE 7-22**, multiplied by 0.6 for allowable loads **(P_{asd})**. The MDP for the selected assembly shall meet or exceed the design wind pressure requirements for the project for each pressure zone of the roof.

5.8 Minimum slope shall not be less than that set forth in **FBC 1507.4.2 or 1507.5.2** and **DECRA Roof Systems** minimum requirements.

5.9 Coil metal used to produce the shingles shall comply with **FBC 1507.4.3 or 1507.5.5** and **R905.10.3**.

5.10 All components in the roof assembly shall have quality assurance audit in accordance with **F.A.C.** **Rule 61G20-3**. Refer to the Product Approval of the component manufacturer for components listed in Appendix 1 that are produced by a Product Manufacturer other than the report holder on Page 1 of this PEER.

6. INSTALLATION:

6.1 **Delta Metal Roof Systems** shall be installed in accordance with **Delta Building Products** published installation instructions, subject to the Limitations of Use noted herein.

6.2 System components, including the shingles / panels, clips and fasteners shall be as supplied by **Delta Building Products**.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Delta, BC Canada

9. QUALITY ASSURANCE ENTITY:

UL, LLC – QUA9625: (360) 817-5512; bsai.inspections@ul.com

- THE 30-PAGES THAT FOLLOW FORM PART OF THIS PEER -

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR DESIGN WIND PRESSURE RESISTANCE:

1. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.
2. This PEER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
3. This PEER does not include evaluation of fire classification. Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
   - ✓ Unless otherwise noted, insulation or thermal/fire barrier may be any one layer or combination of FBC Approved (Local or Statewide) board(s) that meet FBC 1505 and, for foam plastic, FBC Chapter 26, when installed with the roof cover.
   - ✓ Unless otherwise noted, underlayment shall be any underlayment holding current Florida Statewide or Local Product Approval, and listed as allowable for use under Metal Roof Panels (FBC 1507.4) or Metal Roof Shingles (FBC 1507.5).
4. This PEER does not include evaluation of roof edge termination.
5. Refer to **FBC 1511** for requirements and limitations regarding recover installations.
   - ✓ For mechanically attached components over existing roof decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing shall be in accordance with **ANSI/SPRI FX-1** or **Testing Application Standard TAS 105**.
6. Refer the tables herein for system attachment requirements for wind load resistance.
   - ✓ "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609 or Appendix 2 for determination of design wind pressures.
   - ✓ Appendix 2 outlines roof cladding design wind pressure requirements for gable or hip roofs in accordance with ASCE 7-22, multiplied by 0.6 for allowable loads (P_{asd}). The MDP for the selected assembly shall meet or exceed the design wind pressure requirements for the project for each pressure zone of the roof.
7. Fasteners shall be corrosion resistant and shall be of sufficient length to penetrate through the underside of the roof deck by not less than ½-inch.

TABLE 1A: DELTA SHINGLE OR SLATE (NAIL STRIP)
WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER

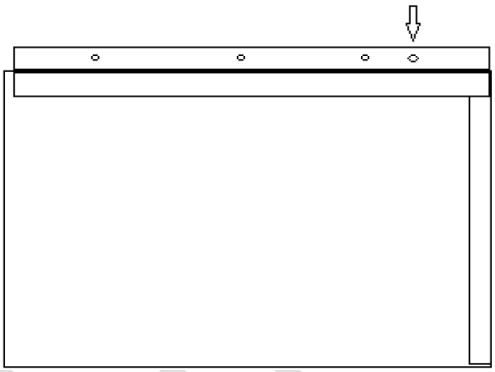
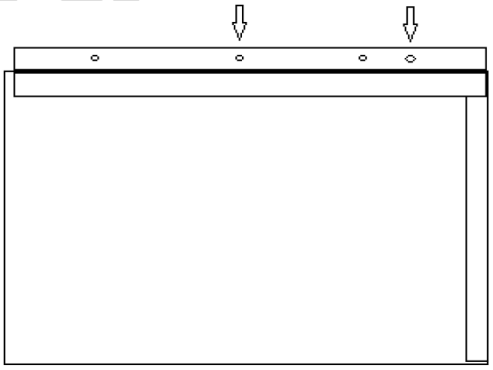
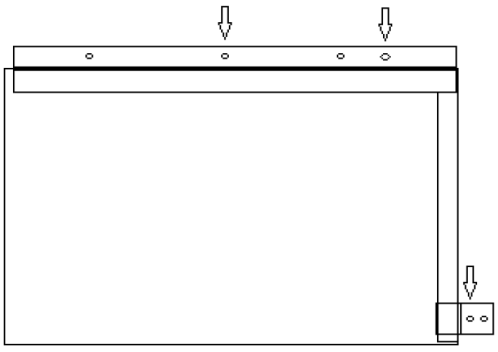
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment				MDP (psf)
				Fasteners (Notes 5 & Note 7)	Clips	Fasteners per Clip	Fasteners per Nail Strip	
1.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	None	N/A	1	-30.0
								
2.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	None	N/A	2	-67.5
								
3.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	1	1	2	-97.5
								

TABLE 1A: DELTA SHINGLE OR SLATE (NAIL STRIP)
WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER

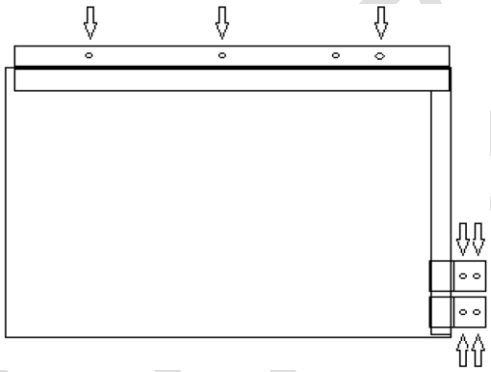
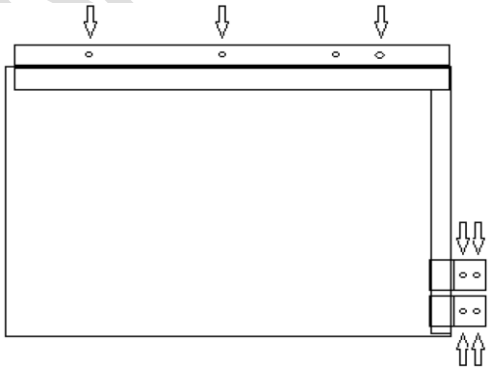
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment				MDP (psf)
				Fasteners (Notes 5 & Note 7)	Clips	Fasteners per Clip	Fasteners per Nail Strip	
4.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	2	2	3	-172.5
								
5.	Min. 19/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	2	2	3	-187.5
								

TABLE 1B: DELTA SHINGLE OR SLATE (NAIL TAB)
WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER

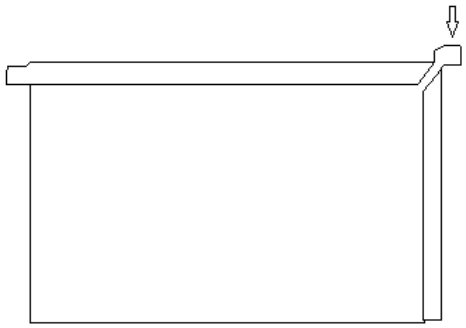
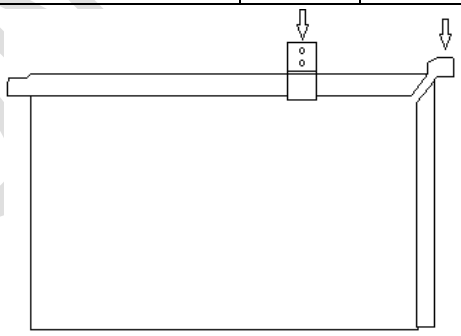
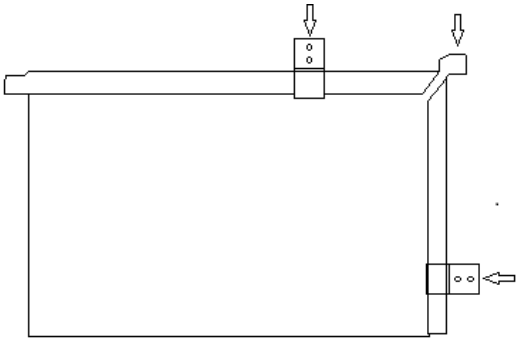
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment				MDP (psf)
				Fasteners (Notes 5 & Note 7)	Clips	Fasteners per Clip	Fasteners per Tab	
6.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	None	N/A	1	-30.0
								
7.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	1	1	1	-70.0
								
8.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	2	1	1	-105.0
								

TABLE 1B: DELTA SHINGLE OR SLATE (NAIL TAB)
WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER

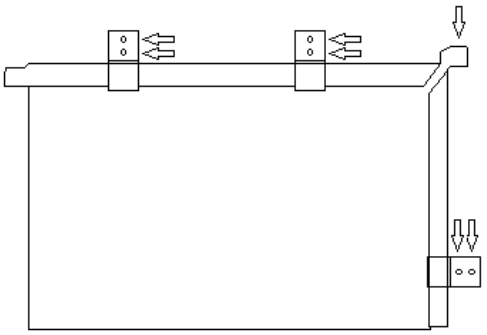
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment				MDP (psf)
				Fasteners (Notes 5 & Note 7)	Clips	Fasteners per Clip	Fasteners per Tab	
9.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.155" diameter aluminum ring shank nails with min. ½" diameter heads or Min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	3	2	1	-180.0
								

TABLE 2: DELTA DIAMOND
WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER

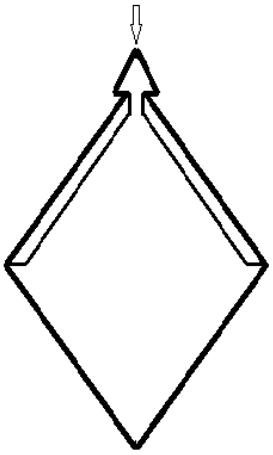
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment					MDP (psf)
				Fasteners (Notes 5 & Note 7)	Clips	Fasteners per Clip	Fasteners per Shingle Tab	Drawing	
10.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.148" diameter aluminum ring shank nails with min. ½" diameter heads or min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	None	N/A	1		-30.0

TABLE 2: DELTA DIAMOND
WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER

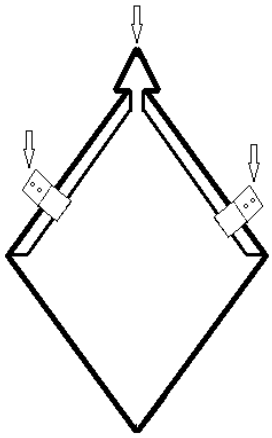
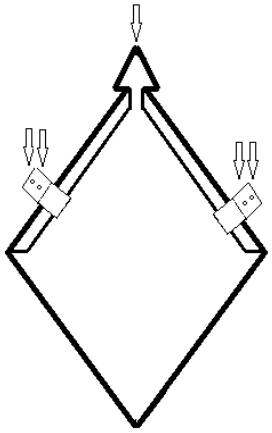
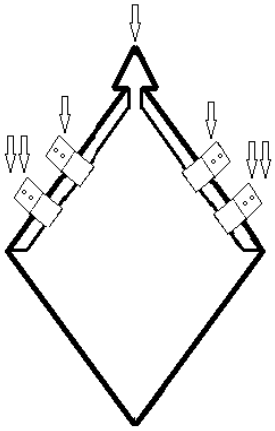
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment					MDP (psf)
				Fasteners (Notes 5 & Note 7)	Clips	Fasteners per Clip	Fasteners per Shingle Tab	Drawing	
11.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.148" diameter aluminum ring shank nails with min. ½" diameter heads or min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	2	1	1		-105.0
12.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.148" diameter aluminum ring shank nails with min. ½" diameter heads or min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	2	2	1		-130.0
13.	Min. 19/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.148" diameter aluminum ring shank nails with min. ½" diameter heads or min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	2	2	1		-148.5
14.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 1.5" x 0.148" diameter aluminum ring shank nails with min. ½" diameter heads or min. 1.5" x 0.122" diameter galvanized ring shank nails with 7/16" diameter heads	4	2 in lower clips 1 in upper clips	1		-180.0

TABLE 3: DELTA SHAKE
WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER

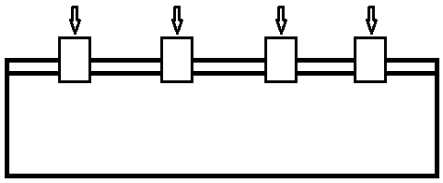
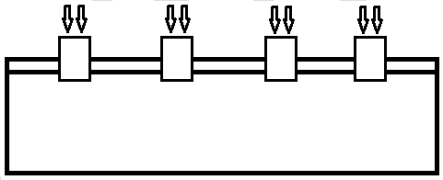
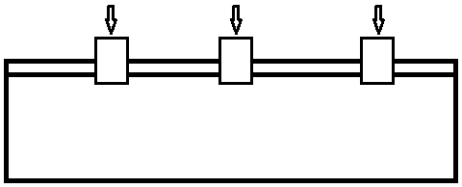
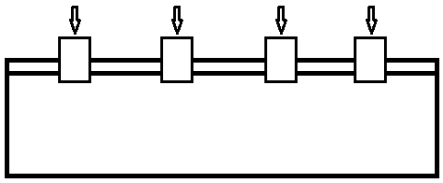
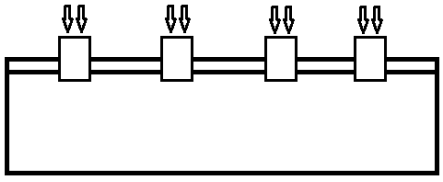
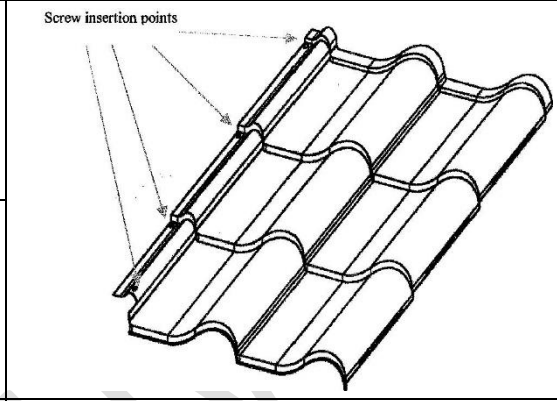
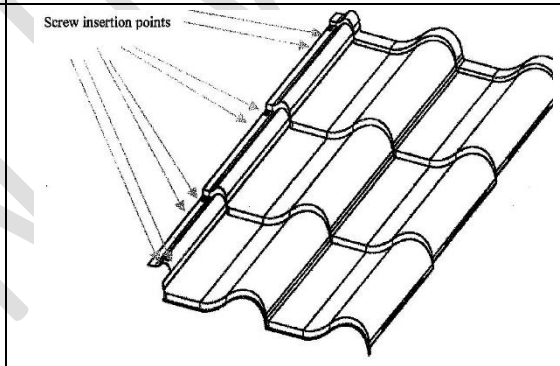
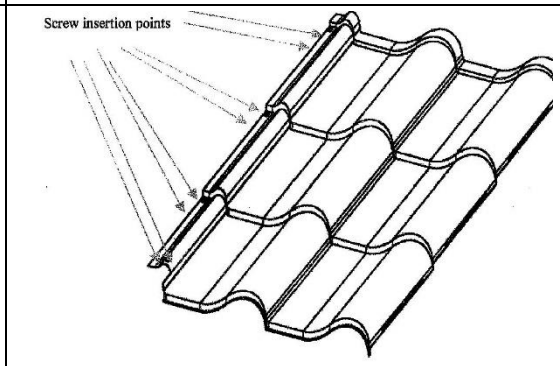
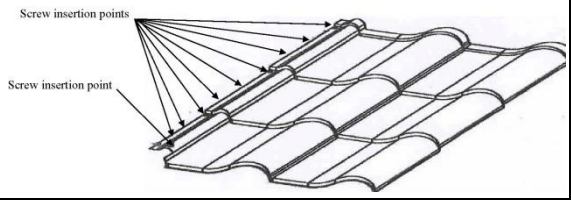
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment			MDP (psf)
				Clips	Fasteners (Notes 5 & Note 7)	Fasteners per Clip	
15.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	4 per panel equally spaced	Min. 1.5" x 0.139" diameter aluminum ring shank **nails** with min. ½" diameter heads or min. 1.5" x 0.135" diameter galvanized ring shank **nails** with min. 3/8" diameter heads	1	-37.5
							
16.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	4 per panel equally spaced	Min. 1.5" x 0.139" diameter aluminum ring shank **nails** with min. ½" diameter heads or min. 1.5" x 0.135" diameter galvanized ring shank **nails** with min. 3/8" diameter heads	2	-80.0
							
17.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	3 per panel equally spaced	Min. 1.5" x No. 10 S/S wood **screws** with ¼-inch hex head and 0.59" S/S washer or min. 1.5" x No. 10 galvanized wood **screws** with ¼-inch hex head and 0.46" galvanized washer	1	-45.0
							
18.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	4 per panel equally spaced	Min. 1.5" x No. 10 S/S wood **screws** with ¼-inch hex head and 0.59" S/S washer or min. 1.5" x No. 10 galvanized wood **screws** with ¼-inch hex head and 0.46" galvanized washer	1	-60.0
							
19.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	4 per panel equally spaced	Min. 1.5" x No. 10 S/S wood **screws** with ¼-inch hex head and 0.59" S/S washer or min. 1.5" x No. 10 galvanized wood **screws** with ¼-inch hex head and 0.46" galvanized washer	2	-110.5
							

TABLE 4: DELTA HIDDEN FASTENER TILE WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OF) OR RECOVER						
System No.	Deck (Note 1)	Fire Barrier / Underlay	Panel	Panel Attachment		MDP (psf)
				Fasteners (Notes 5 & Note 7)	Spacing	
20.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	No. 10 S/S or galvanized wood screws with ¼-inch hex head and 0.5" washer with rubber gasket Min. 1.5" long at left edge and min. 3" long at crest of bottom left.		-53.0
21.	Min. 19/32" APA rated plywood	Note 3	Aluminum or Steel	No. 10 S/S or galvanized wood screws with ¼-inch hex head and 0.5" washer with rubber gasket Min. 1.5" long at left edge and min. 3" long at crest of bottom left.		-57.5
22.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	Min. 3" x No. 10 S/S or galvanized wood screws with ¼-inch hex head and 0.5" washer with rubber gasket Min. 1.5" long at left edge and min. 3" long at crest of bottom left.		-64.5
23.	Min. nominal 1 x 4 Douglas fir lumber with spec. gravity of 0.51	Note 3	Aluminum or Steel	No. 10 S/S or galvanized wood screws with ¼-inch hex head and 0.5" washer with rubber gasket Min. 1.5" long at left edge and min. 3" long at crest of bottom right edge.		-92.0
24.	Min. 15/32" APA rated plywood	Note 3	Aluminum or Steel	No. 10 S/S or galvanized wood screws with ¼-inch hex head and 0.5" washer with rubber gasket. Min. 1.5" long at left edge and min. 3" long at crest of bottom left.		-142.5

APPENDIX 2: DESIGN WIND PRESSURE REQUIREMENTS, ASCE 7-22 PER 8TH EDITION (2023) FBC CHAPTER 16:

1. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

2. Roof cladding design wind pressure requirements are for gable or hip roofs in accordance with ASCE 7-22, multiplied by 0.6 for allowable loads (P_{asd}).

3. The tables herein assume the following design parameters as defined in ASCE 7-22. Analysis for buildings falling outside these constraints shall be on a project-by-project basis to the satisfaction of the Authority Having Jurisdiction.

PARAMETER	REFERENCE	SYMBOL	VALUE
Roof slope*	N/A	*Θ*	Various
Design wind speed (mph)*	FBC 1609.3	*Vult*	Various
Exposure Category*	FBC 1609.4.3	*N/A*	B, C or D
Topographical factor	Section 26.8.2	*Kzt*	1.0
Wind directionality factor	Section 26.6	*Kd*	0.85
Ground elevation factor	Table 26.9-1	*Ke*	1.0

**Selection of the appropriate slope, design wind speed and exposure category is the responsibility of the user, subject to acceptance by the Authority Having Jurisdiction.*

4. The zone dimension 'a' is defined as 10% of the least horizontal plan-view dimension or 40% of the mean roof height, whichever is smaller, but not less than either 4% of the least horizontal plan-view dimension or 3 feet, as outlined in Figures 30.3-2B through 30.3-2I of ASCE 7-22. If an overhang exists, the edge distance shall be measured from the outside edge of the overhang. The horizontal dimension used to compute the edge distance shall not include any overhang distances.

TABLE 1A: EXPOSURE B, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1 & 2e	-21	-23	-26	-30	-35	-40	-45	-57	-71
	Roof 2n, 2r & 3e	-31	-34	-37	-44	-51	-58	-66	-84	-103
	Roof 3r	-37	-41	-44	-52	-60	-69	-79	-100	-123
	Overhang 1 & 2e	-25	-27	-29	-34	-40	-46	-52	-66	-81
	Overhang 2n & 2r	-34	-38	-41	-48	-56	-64	-73	-92	-114
	Overhang 3e	-40	-44	-48	-56	-65	-75	-85	-108	-133
	Overhang 3r	-46	-51	-55	-65	-75	-86	-98	-124	-153
20 < h ≤ 30	Roof 1 & 2e	-24	-26	-29	-34	-39	-45	-51	-65	-80
	Roof 2n, 2r & 3e	-35	-38	-42	-49	-57	-65	-74	-94	-116
	Roof 3r	-42	-46	-50	-58	-68	-78	-88	-112	-138
	Overhang 1 & 2e	-28	-30	-33	-39	-45	-51	-58	-74	-91
	Overhang 2n & 2r	-39	-42	-46	-54	-63	-72	-82	-104	-128
	Overhang 3e	-45	-50	-54	-63	-73	-84	-96	-121	-150
	Overhang 3r	-52	-57	-62	-73	-84	-97	-110	-139	-172
30 < h ≤ 40	Roof 1 & 2e	-26	-29	-31	-37	-43	-49	-56	-70	-87
	Roof 2n, 2r & 3e	-38	-42	-46	-54	-62	-71	-81	-103	-127
	Roof 3r	-46	-50	-54	-64	-74	-85	-96	-122	-151
	Overhang 1 & 2e	-30	-33	-36	-42	-49	-56	-64	-81	-100
	Overhang 2n & 2r	-42	-46	-50	-59	-68	-78	-89	-113	-139
	Overhang 3e	-49	-54	-59	-69	-80	-92	-105	-132	-163
	Overhang 3r	-57	-62	-67	-79	-92	-105	-120	-152	-187
40 < h ≤ 50	Roof 1 & 2e	-28	-31	-33	-39	-45	-52	-59	-75	-92
	Roof 2n, 2r & 3e	-41	-45	-49	-57	-66	-76	-86	-109	-135
	Roof 3r	-48	-53	-58	-68	-79	-90	-103	-130	-160
	Overhang 1 & 2e	-32	-35	-38	-45	-52	-60	-68	-86	-106
	Overhang 2n & 2r	-45	-49	-53	-63	-73	-83	-95	-120	-148
	Overhang 3e	-53	-57	-63	-73	-85	-98	-111	-141	-174
	Overhang 3r	-60	-66	-72	-84	-98	-112	-128	-161	-199
50 < h ≤ 60	Roof 1 & 2e	-29	-32	-35	-41	-48	-55	-62	-79	-97
	Roof 2n, 2r & 3e	-43	-47	-51	-60	-69	-80	-91	-115	-142
	Roof 3r	-51	-56	-61	-71	-83	-95	-108	-137	-169
	Overhang 1 & 2e	-34	-37	-40	-47	-55	-63	-71	-90	-111
	Overhang 2n & 2r	-47	-52	-56	-66	-76	-88	-100	-126	-156
	Overhang 3e	-55	-60	-66	-77	-90	-103	-117	-148	-183
	Overhang 3r	-63	-69	-75	-89	-103	-118	-134	-170	-210

TABLE 1B: EXPOSURE B, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 20° < SLOPE < 27°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1 & 2e	-17	-18	-20	-23	-27	-31	-35	-44	-55
	Roof 2n, 2r & 3e	-26	-29	-31	-37	-43	-49	-56	-71	-87
	Roof 3r	-37	-41	-44	-52	-60	-69	-79	-100	-123
	Overhang 1 & 2e	-20	-22	-23	-27	-32	-37	-42	-53	-65
	Overhang 2n & 2r	-30	-32	-35	-41	-48	-55	-62	-79	-98
	Overhang 3e	-35	-39	-42	-49	-57	-66	-75	-95	-117
	Overhang 3r	-46	-51	-55	-65	-75	-86	-98	-124	-153
20 < h ≤ 30	Roof 1 & 2e	-19	-20	-22	-26	-30	-35	-39	-50	-61
	Roof 2n, 2r & 3e	-30	-32	-35	-41	-48	-55	-63	-79	-98
	Roof 3r	-42	-46	-50	-58	-68	-78	-88	-112	-138
	Overhang 1 & 2e	-22	-24	-26	-31	-36	-41	-47	-59	-73
	Overhang 2n & 2r	-33	-36	-39	-46	-54	-62	-70	-89	-110
	Overhang 3e	-40	-44	-47	-56	-64	-74	-84	-107	-132
	Overhang 3r	-52	-57	-62	-73	-84	-97	-110	-139	-172
30 < h ≤ 40	Roof 1 & 2e	-20	-22	-24	-28	-33	-38	-43	-54	-67
	Roof 2n, 2r & 3e	-32	-35	-38	-45	-52	-60	-68	-86	-107
	Roof 3r	-46	-50	-54	-64	-74	-85	-96	-122	-151
	Overhang 1 & 2e	-24	-26	-29	-34	-39	-45	-51	-65	-80
	Overhang 2n & 2r	-36	-40	-43	-51	-59	-67	-77	-97	-120
	Overhang 3e	-43	-47	-52	-61	-70	-81	-92	-116	-143
	Overhang 3r	-57	-62	-67	-79	-92	-105	-120	-152	-187
40 < h ≤ 50	Roof 1 & 2e	-22	-24	-26	-30	-35	-40	-46	-58	-71
	Roof 2n, 2r & 3e	-34	-38	-41	-48	-56	-64	-73	-92	-114
	Roof 3r	-48	-53	-58	-68	-79	-90	-103	-130	-160
	Overhang 1 & 2e	-26	-28	-31	-36	-42	-48	-54	-69	-85
	Overhang 2n & 2r	-38	-42	-46	-54	-62	-72	-81	-103	-127
	Overhang 3e	-46	-50	-55	-64	-75	-86	-98	-124	-153
	Overhang 3r	-60	-66	-72	-84	-98	-112	-128	-161	-199
50 < h ≤ 60	Roof 1 & 2e	-23	-25	-27	-32	-37	-42	-48	-61	-75
	Roof 2n, 2r & 3e	-36	-40	-43	-50	-59	-67	-76	-97	-120
	Roof 3r	-51	-56	-61	-71	-83	-95	-108	-137	-169
	Overhang 1 & 2e	-27	-29	-32	-38	-44	-50	-57	-72	-89
	Overhang 2n & 2r	-40	-44	-48	-57	-66	-75	-86	-108	-134
	Overhang 3e	-49	-53	-58	-68	-79	-90	-103	-130	-161
	Overhang 3r	-63	-69	-75	-89	-103	-118	-134	-170	-210

TABLE 1C: EXPOSURE B, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 27° < SLOPE < 45°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1, 2e & 2r	-19	-21	-23	-27	-32	-36	-41	-52	-64
	Roof 2n & 3r	-21	-23	-26	-30	-35	-40	-45	-57	-71
	Roof 3e	-33	-36	-40	-46	-54	-62	-70	-89	-110
	Overhang 1, 2e & 2r	-26	-28	-30	-36	-41	-48	-54	-69	-85
	Overhang 2n & 3r	-28	-30	-33	-38	-45	-51	-58	-74	-91
	Overhang 3e	-39	-43	-47	-55	-64	-73	-83	-105	-130
20 < h ≤ 30	Roof 1, 2e & 2r	-22	-24	-26	-31	-35	-41	-46	-59	-72
	Roof 2n & 3r	-24	-26	-29	-34	-39	-45	-51	-65	-80
	Roof 3e	-37	-41	-44	-52	-61	-70	-79	-100	-124
	Overhang 1, 2e & 2r	-29	-31	-34	-40	-47	-53	-61	-77	-95
	Overhang 2n & 3r	-31	-34	-37	-43	-50	-58	-66	-83	-102
	Overhang 3e	-44	-48	-53	-62	-72	-82	-94	-118	-146
30 < h ≤ 40	Roof 1, 2e & 2r	-24	-26	-28	-33	-39	-44	-50	-64	-79
	Roof 2n & 3r	-26	-29	-31	-37	-43	-49	-56	-70	-87
	Roof 3e	-41	-45	-48	-57	-66	-76	-86	-109	-135
	Overhang 1, 2e & 2r	-31	-34	-37	-44	-51	-58	-66	-84	-104
	Overhang 2n & 3r	-34	-37	-40	-47	-55	-63	-71	-90	-112
	Overhang 3e	-48	-53	-57	-67	-78	-90	-102	-129	-159
40 < h ≤ 50	Roof 1, 2e & 2r	-25	-28	-30	-35	-41	-47	-54	-68	-84
	Roof 2n & 3r	-28	-31	-33	-39	-45	-52	-59	-75	-92
	Roof 3e	-43	-47	-52	-61	-70	-81	-92	-116	-143
	Overhang 1, 2e & 2r	-33	-36	-40	-47	-54	-62	-71	-89	-110
	Overhang 2n & 3r	-36	-39	-43	-50	-58	-67	-76	-96	-119
	Overhang 3e	-51	-56	-61	-72	-83	-95	-109	-137	-170
50 < h ≤ 60	Roof 1, 2e & 2r	-27	-29	-32	-37	-43	-50	-57	-72	-88
	Roof 2n & 3r	-29	-32	-35	-41	-48	-55	-62	-79	-97
	Roof 3e	-46	-50	-54	-64	-74	-85	-96	-122	-151
	Overhang 1, 2e & 2r	-35	-38	-42	-49	-57	-65	-74	-94	-116
	Overhang 2n & 3r	-38	-41	-45	-53	-61	-70	-80	-101	-125
	Overhang 3e	-54	-59	-64	-75	-87	-100	-114	-145	-178

TABLE 1D: EXPOSURE B, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof with h/B > 0.8 for Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	Zone	Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)								
		110	115	120	130	140	150	160	180	200
h ≤ 20	Roof 1	-19	-21	-23	-27	-32	-36	-41	-52	-64
	Roof 2r	-25	-28	-30	-35	-41	-47	-54	-68	-84
	Roof 2e & 3	-27	-30	-33	-38	-44	-51	-58	-73	-90
	Overhang 1	-23	-25	-27	-32	-37	-42	-48	-61	-75
	Overhang 2r	-29	-31	-34	-40	-46	-53	-60	-76	-94
	Overhang 2c	-31	-33	-36	-43	-49	-57	-65	-82	-101
	Overhang 3	-36	-40	-43	-51	-59	-68	-77	-98	-120
20 < h ≤ 30	Roof 1	-22	-24	-26	-31	-35	-41	-46	-59	-72
	Roof 2r	-29	-31	-34	-40	-46	-53	-60	-76	-94
	Roof 2e & 3	-31	-34	-37	-43	-50	-57	-65	-82	-102
	Overhang 1	-25	-28	-30	-36	-41	-47	-54	-68	-84
	Overhang 2r	-32	-35	-38	-45	-52	-60	-68	-86	-106
	Overhang 2c	-34	-37	-41	-48	-56	-64	-73	-92	-113
	Overhang 3	-41	-45	-49	-57	-66	-76	-87	-110	-135
30 < h ≤ 40	Roof 1	-24	-26	-28	-33	-39	-44	-50	-64	-79
	Roof 2r	-31	-34	-37	-43	-50	-58	-66	-83	-103
	Roof 2e & 3	-34	-37	-40	-47	-54	-62	-71	-90	-111
	Overhang 1	-28	-30	-33	-39	-45	-52	-59	-74	-92
	Overhang 2r	-35	-38	-42	-49	-57	-65	-74	-94	-116
	Overhang 2c	-37	-41	-44	-52	-61	-69	-79	-100	-124
	Overhang 3	-45	-49	-53	-62	-72	-83	-94	-119	-147
40 < h ≤ 50	Roof 1	-25	-28	-30	-35	-41	-47	-54	-68	-84
	Roof 2r	-33	-36	-39	-46	-54	-62	-70	-89	-109
	Roof 2e & 3	-36	-39	-42	-50	-58	-66	-75	-95	-118
	Overhang 1	-30	-32	-35	-41	-48	-55	-62	-79	-98
	Overhang 2r	-37	-41	-44	-52	-60	-69	-79	-100	-123
	Overhang 2c	-40	-43	-47	-56	-64	-74	-84	-106	-131
	Overhang 3	-47	-52	-56	-66	-77	-88	-100	-127	-157
50 < h ≤ 60	Roof 1	-27	-29	-32	-37	-43	-50	-57	-72	-88
	Roof 2r	-35	-38	-41	-49	-56	-65	-74	-93	-115
	Roof 2e & 3	-38	-41	-45	-52	-61	-70	-79	-100	-124
	Overhang 1	-31	-34	-37	-43	-50	-58	-66	-83	-103
	Overhang 2r	-39	-43	-47	-55	-63	-73	-83	-105	-129
	Overhang 2c	-42	-46	-50	-58	-68	-78	-88	-112	-138
	Overhang 3	-50	-55	-59	-70	-81	-93	-106	-134	-165

TABLE 1E: EXPOSURE B, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof with for h/B < 0.5 / Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1	-17	-18	-20	-23	-27	-31	-35	-44	-55
	Roof 2e & 3	-26	-29	-31	-37	-43	-49	-56	-71	-87
	Roof 2r	-37	-41	-44	-52	-60	-69	-79	-100	-123
	Overhang 1	-18	-19	-21	-25	-29	-33	-37	-47	-59
	Overhang 2e	-23	-25	-27	-32	-37	-42	-48	-61	-75
	Overhang 2r	-29	-31	-34	-40	-46	-53	-60	-76	-94
	Overhang 3	-29	-31	-34	-40	-46	-53	-60	-76	-94
20 < h ≤ 30	Roof 1	-19	-20	-22	-26	-30	-35	-39	-50	-61
	Roof 2e & 3	-30	-32	-35	-41	-48	-55	-63	-79	-98
	Roof 2r	-42	-46	-50	-58	-68	-78	-88	-112	-138
	Overhang 1	-20	-22	-24	-28	-32	-37	-42	-53	-66
	Overhang 2e	-25	-28	-30	-36	-41	-47	-54	-68	-84
	Overhang 2r	-32	-35	-38	-45	-52	-60	-68	-86	-106
	Overhang 3	-32	-35	-38	-45	-52	-60	-68	-86	-106
30 < h ≤ 40	Roof 1	-20	-22	-24	-28	-33	-38	-43	-54	-67
	Roof 2e & 3	-32	-35	-38	-45	-52	-60	-68	-86	-107
	Roof 2r	-46	-50	-54	-64	-74	-85	-96	-122	-151
	Overhang 1	-22	-24	-26	-30	-35	-40	-46	-58	-72
	Overhang 2e	-28	-30	-33	-39	-45	-52	-59	-74	-92
	Overhang 2r	-35	-38	-42	-49	-57	-65	-74	-94	-116
	Overhang 3	-35	-38	-42	-49	-57	-65	-74	-94	-116
40 < h ≤ 50	Roof 1	-22	-24	-26	-30	-35	-40	-46	-58	-71
	Roof 2e & 3	-34	-38	-41	-48	-56	-64	-73	-92	-114
	Roof 2r	-48	-53	-58	-68	-79	-90	-103	-130	-160
	Overhang 1	-23	-25	-27	-32	-37	-43	-49	-62	-76
	Overhang 2e	-30	-32	-35	-41	-48	-55	-62	-79	-98
	Overhang 2r	-37	-41	-44	-52	-60	-69	-79	-100	-123
	Overhang 3	-37	-41	-44	-52	-60	-69	-79	-100	-123
50 < h ≤ 60	Roof 1	-23	-25	-27	-32	-37	-42	-48	-61	-75
	Roof 2e & 3	-36	-40	-43	-50	-59	-67	-76	-97	-120
	Roof 2r	-51	-56	-61	-71	-83	-95	-108	-137	-169
	Overhang 1	-24	-27	-29	-34	-39	-45	-51	-65	-80
	Overhang 2e	-31	-34	-37	-43	-50	-58	-66	-83	-103
	Overhang 2r	-39	-43	-47	-55	-63	-73	-83	-105	-129
	Overhang 3	-39	-43	-47	-55	-63	-73	-83	-105	-129

TABLE 1F: EXPOSURE B, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof / Slope Range 20° < SLOPE < 27°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1	-16	-17	-19	-22	-25	-29	-33	-42	-51
	Roof 2e, 2r & 3	-21	-23	-26	-30	-35	-40	-45	-57	-71
	Overhang 1	-19	-20	-22	-26	-30	-35	-40	-50	-62
	Overhang 2e & 2r	-25	-27	-29	-34	-40	-46	-52	-66	-81
	Overhang 3	-31	-33	-36	-43	-49	-57	-65	-82	-101
20 < h ≤ 30	Roof 1	-17	-19	-21	-24	-28	-32	-37	-47	-58
	Roof 2e, 2r & 3	-24	-26	-29	-34	-39	-45	-51	-65	-80
	Overhang 1	-21	-23	-25	-29	-34	-39	-44	-56	-69
	Overhang 2e & 2r	-28	-30	-33	-39	-45	-51	-58	-74	-91
	Overhang 3	-34	-37	-41	-48	-56	-64	-73	-92	-113
30 < h ≤ 40	Roof 1	-19	-21	-23	-27	-31	-35	-40	-51	-63
	Roof 2e, 2r & 3	-26	-29	-31	-37	-43	-49	-56	-70	-87
	Overhang 1	-23	-25	-27	-32	-37	-43	-48	-61	-76
	Overhang 2e & 2r	-30	-33	-36	-42	-49	-56	-64	-81	-100
	Overhang 3	-37	-41	-44	-52	-61	-69	-79	-100	-124
40 < h ≤ 50	Roof 1	-20	-22	-24	-28	-33	-38	-43	-54	-67
	Roof 2e, 2r & 3	-28	-31	-33	-39	-45	-52	-59	-75	-92
	Overhang 1	-24	-27	-29	-34	-39	-45	-52	-65	-81
	Overhang 2e & 2r	-32	-35	-38	-45	-52	-60	-68	-86	-106
	Overhang 3	-40	-43	-47	-56	-64	-74	-84	-106	-131
50 < h ≤ 60	Roof 1	-21	-23	-25	-30	-35	-40	-45	-57	-70
	Roof 2e, 2r & 3	-29	-32	-35	-41	-48	-55	-62	-79	-97
	Overhang 1	-26	-28	-31	-36	-42	-48	-54	-69	-85
	Overhang 2e & 2r	-34	-37	-40	-47	-55	-63	-71	-90	-111
	Overhang 3	-42	-46	-50	-58	-68	-78	-88	-112	-138

TABLE 1G: EXPOSURE B, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof / Slope Range 27° < SLOPE < 45°										
Mean Roof Height (ft)	Zone	Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)								
		110	115	120	130	140	150	160	180	200
h ≤ 20	Roof 1	-17	-18	-20	-23	-27	-31	-35	-44	-55
	Roof 2r	-28	-31	-34	-40	-46	-53	-60	-76	-94
	Roof 2e	-29	-32	-35	-41	-48	-55	-62	-79	-97
	Roof 3	-37	-41	-44	-52	-60	-69	-79	-100	-123
	Overhang 1	-23	-25	-27	-32	-37	-42	-48	-61	-75
	Overhang 2r	-34	-38	-41	-48	-56	-64	-73	-92	-114
	Overhang 2e	-35	-39	-42	-49	-57	-66	-75	-95	-117
	Overhang 3	-43	-47	-52	-60	-70	-81	-92	-116	-143
20 < h ≤ 30	Roof 1	-19	-20	-22	-26	-30	-35	-39	-50	-61
	Roof 2r	-32	-35	-38	-44	-52	-59	-67	-85	-105
	Roof 2e	-33	-36	-39	-46	-53	-61	-70	-88	-109
	Roof 3	-42	-46	-50	-58	-68	-78	-88	-112	-138
	Overhang 1	-25	-28	-30	-36	-41	-47	-54	-68	-84
	Overhang 2r	-39	-42	-46	-54	-63	-72	-82	-104	-128
	Overhang 2e	-40	-44	-47	-56	-64	-74	-84	-107	-132
	Overhang 3	-49	-53	-58	-68	-79	-90	-103	-130	-161
30 < h ≤ 40	Roof 1	-20	-22	-24	-28	-33	-38	-43	-54	-67
	Roof 2r	-35	-38	-41	-48	-56	-65	-73	-93	-115
	Roof 2e	-36	-39	-43	-50	-58	-67	-76	-96	-119
	Roof 3	-46	-50	-54	-64	-74	-85	-96	-122	-151
	Overhang 1	-28	-30	-33	-39	-45	-52	-59	-74	-92
	Overhang 2r	-42	-46	-50	-59	-68	-78	-89	-113	-139
	Overhang 2e	-43	-47	-52	-61	-70	-81	-92	-116	-143
	Overhang 3	-53	-58	-63	-74	-86	-99	-112	-142	-175
40 < h ≤ 50	Roof 1	-22	-24	-26	-30	-35	-40	-46	-58	-71
	Roof 2r	-37	-40	-44	-52	-60	-69	-78	-99	-122
	Roof 2e	-38	-42	-45	-53	-62	-71	-81	-102	-126
	Roof 3	-48	-53	-58	-68	-79	-90	-103	-130	-160
	Overhang 1	-30	-32	-35	-41	-48	-55	-62	-79	-98
	Overhang 2r	-45	-49	-53	-63	-73	-83	-95	-120	-148
	Overhang 2e	-46	-50	-55	-64	-75	-86	-98	-124	-153
	Overhang 3	-56	-62	-67	-79	-91	-105	-119	-151	-187
50 < h ≤ 60	Roof 1	-23	-25	-27	-32	-37	-42	-48	-61	-75
	Roof 2r	-39	-42	-46	-54	-63	-72	-82	-104	-128
	Roof 2e	-40	-44	-48	-56	-65	-75	-85	-108	-133
	Roof 3	-51	-56	-61	-71	-83	-95	-108	-137	-169
	Overhang 1	-31	-34	-37	-43	-50	-58	-66	-83	-103
	Overhang 2r	-47	-52	-56	-66	-76	-88	-100	-126	-156
	Overhang 2e	-49	-53	-58	-68	-79	-90	-103	-130	-161
	Overhang 3	-59	-65	-71	-83	-96	-110	-126	-159	-196

TABLE 2A: EXPOSURE C, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1 & 2e	-31	-34	-37	-43	-50	-58	-66	-83	-103
	Roof 2n, 2r & 3e	-45	-50	-54	-63	-73	-84	-96	-121	-150
	Roof 3r	-54	-59	-64	-75	-87	-100	-114	-144	-178
	Overhang 1 & 2e	-36	-39	-42	-50	-58	-66	-75	-95	-118
	Overhang 2n & 2r	-50	-55	-59	-70	-81	-93	-106	-134	-165
	Overhang 3e	-58	-64	-70	-82	-95	-109	-124	-157	-193
	Overhang 3r	-67	-73	-80	-94	-109	-125	-142	-180	-222
20 < h ≤ 30	Roof 1 & 2e	-34	-37	-40	-47	-55	-63	-71	-90	-112
	Roof 2n, 2r & 3e	-49	-54	-59	-69	-80	-92	-104	-132	-163
	Roof 3r	-59	-64	-70	-82	-95	-109	-124	-157	-193
	Overhang 1 & 2e	-39	-42	-46	-54	-63	-72	-82	-104	-128
	Overhang 2n & 2r	-54	-59	-64	-76	-88	-101	-115	-145	-179
	Overhang 3e	-63	-69	-76	-89	-103	-118	-134	-170	-210
	Overhang 3r	-73	-80	-87	-102	-118	-135	-154	-195	-241
30 < h ≤ 40	Roof 1 & 2e	-36	-39	-43	-50	-58	-67	-76	-96	-119
	Roof 2n, 2r & 3e	-52	-57	-62	-73	-85	-97	-111	-140	-173
	Roof 3r	-62	-68	-74	-87	-101	-116	-132	-167	-206
	Overhang 1 & 2e	-41	-45	-49	-58	-67	-77	-87	-110	-136
	Overhang 2n & 2r	-58	-63	-69	-81	-93	-107	-122	-154	-191
	Overhang 3e	-68	-74	-80	-94	-109	-126	-143	-181	-223
	Overhang 3r	-77	-85	-92	-108	-125	-144	-164	-207	-256
40 < h ≤ 50	Roof 1 & 2e	-38	-41	-45	-53	-61	-70	-80	-101	-124
	Roof 2n, 2r & 3e	-55	-60	-65	-77	-89	-102	-116	-147	-181
	Roof 3r	-65	-71	-78	-91	-106	-121	-138	-175	-216
	Overhang 1 & 2e	-43	-47	-51	-60	-70	-80	-91	-115	-143
	Overhang 2n & 2r	-60	-66	-72	-84	-98	-112	-128	-162	-200
	Overhang 3e	-71	-77	-84	-99	-115	-132	-150	-189	-234
	Overhang 3r	-81	-89	-96	-113	-131	-151	-172	-217	-268
50 < h ≤ 60	Roof 1 & 2e	-39	-43	-46	-55	-63	-73	-83	-105	-129
	Roof 2n, 2r & 3e	-57	-62	-68	-80	-92	-106	-121	-153	-188
	Roof 3r	-68	-74	-81	-95	-110	-126	-143	-181	-224
	Overhang 1 & 2e	-45	-49	-53	-63	-73	-83	-95	-120	-148
	Overhang 2n & 2r	-63	-69	-75	-88	-102	-117	-133	-168	-207
	Overhang 3e	-73	-80	-87	-103	-119	-137	-155	-197	-243
	Overhang 3r	-84	-92	-100	-118	-136	-157	-178	-225	-278

TABLE 2B: EXPOSURE C, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 20° < SLOPE < 27°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1 & 2e	-24	-26	-29	-33	-39	-45	-51	-64	-79
	Roof 2n, 2r & 3e	-38	-42	-45	-53	-62	-71	-81	-102	-126
	Roof 3r	-54	-59	-64	-75	-87	-100	-114	-144	-178
	Overhang 1 & 2e	-29	-31	-34	-40	-46	-53	-60	-76	-94
	Overhang 2n & 2r	-43	-47	-51	-60	-69	-80	-91	-115	-141
	Overhang 3e	-51	-56	-61	-72	-83	-95	-109	-138	-170
	Overhang 3r	-67	-73	-80	-94	-109	-125	-142	-180	-222
20 < h ≤ 30	Roof 1 & 2e	-26	-28	-31	-36	-42	-48	-55	-70	-86
	Roof 2n, 2r & 3e	-41	-45	-49	-58	-67	-77	-88	-111	-137
	Roof 3r	-59	-64	-70	-82	-95	-109	-124	-157	-193
	Overhang 1 & 2e	-31	-34	-37	-43	-50	-58	-66	-83	-102
	Overhang 2n & 2r	-46	-51	-55	-65	-75	-86	-98	-124	-154
	Overhang 3e	-56	-61	-66	-78	-90	-104	-118	-149	-184
	Overhang 3r	-73	-80	-87	-102	-118	-135	-154	-195	-241
30 < h ≤ 40	Roof 1 & 2e	-28	-30	-33	-39	-45	-51	-59	-74	-92
	Roof 2n, 2r & 3e	-44	-48	-53	-62	-72	-82	-93	-118	-146
	Roof 3r	-62	-68	-74	-87	-101	-116	-132	-167	-206
	Overhang 1 & 2e	-33	-36	-39	-46	-53	-61	-70	-88	-109
	Overhang 2n & 2r	-49	-54	-59	-69	-80	-92	-105	-132	-163
	Overhang 3e	-59	-65	-71	-83	-96	-110	-125	-159	-196
	Overhang 3r	-77	-85	-92	-108	-125	-144	-164	-207	-256
40 < h ≤ 50	Roof 1 & 2e	-29	-32	-34	-40	-47	-54	-61	-78	-96
	Roof 2n, 2r & 3e	-46	-51	-55	-65	-75	-86	-98	-124	-153
	Roof 3r	-65	-71	-78	-91	-106	-121	-138	-175	-216
	Overhang 1 & 2e	-35	-38	-41	-48	-56	-64	-73	-92	-114
	Overhang 2n & 2r	-52	-57	-62	-72	-84	-96	-109	-139	-171
	Overhang 3e	-62	-68	-74	-87	-101	-115	-131	-166	-205
	Overhang 3r	-81	-89	-96	-113	-131	-151	-172	-217	-268
50 < h ≤ 60	Roof 1 & 2e	-30	-33	-36	-42	-49	-56	-64	-81	-99
	Roof 2n, 2r & 3e	-48	-52	-57	-67	-78	-89	-102	-129	-159
	Roof 3r	-68	-74	-81	-95	-110	-126	-143	-181	-224
	Overhang 1 & 2e	-36	-39	-43	-50	-58	-67	-76	-96	-118
	Overhang 2n & 2r	-54	-59	-64	-75	-87	-100	-114	-144	-178
	Overhang 3e	-64	-70	-77	-90	-104	-120	-136	-173	-213
	Overhang 3r	-84	-92	-100	-118	-136	-157	-178	-225	-278

TABLE 2C: EXPOSURE C, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 27° < SLOPE < 45°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1, 2e & 2r	-28	-31	-34	-39	-46	-53	-60	-76	-93
	Roof 2n & 3r	-31	-34	-37	-43	-50	-58	-66	-83	-103
	Roof 3e	-48	-53	-57	-67	-78	-90	-102	-129	-159
	Overhang 1, 2e & 2r	-37	-41	-44	-52	-60	-69	-78	-99	-123
	Overhang 2n & 3r	-40	-44	-48	-56	-65	-74	-85	-107	-132
	Overhang 3e	-57	-62	-68	-80	-92	-106	-121	-153	-189
20 < h ≤ 30	Roof 1, 2e & 2r	-31	-34	-36	-43	-50	-57	-65	-82	-101
	Roof 2n & 3r	-34	-37	-40	-47	-55	-63	-71	-90	-112
	Roof 3e	-52	-57	-62	-73	-85	-97	-111	-140	-173
	Overhang 1, 2e & 2r	-40	-44	-48	-56	-65	-75	-85	-108	-133
	Overhang 2n & 3r	-43	-47	-52	-61	-70	-81	-92	-116	-143
	Overhang 3e	-62	-68	-74	-86	-100	-115	-131	-166	-205
30 < h ≤ 40	Roof 1, 2e & 2r	-33	-36	-39	-46	-53	-61	-69	-87	-108
	Roof 2n & 3r	-36	-39	-43	-50	-58	-67	-76	-96	-119
	Roof 3e	-56	-61	-66	-78	-90	-104	-118	-149	-184
	Overhang 1, 2e & 2r	-43	-47	-51	-60	-69	-80	-91	-115	-142
	Overhang 2n & 3r	-46	-50	-55	-64	-75	-86	-98	-124	-153
	Overhang 3e	-66	-72	-78	-92	-107	-123	-139	-176	-218
40 < h ≤ 50	Roof 1, 2e & 2r	-34	-37	-41	-48	-55	-64	-72	-91	-113
	Roof 2n & 3r	-38	-41	-45	-53	-61	-70	-80	-101	-124
	Roof 3e	-58	-64	-69	-81	-94	-108	-123	-156	-193
	Overhang 1, 2e & 2r	-45	-49	-53	-63	-73	-83	-95	-120	-148
	Overhang 2n & 3r	-48	-53	-57	-67	-78	-90	-102	-129	-160
	Overhang 3e	-69	-75	-82	-96	-112	-128	-146	-185	-228
50 < h ≤ 60	Roof 1, 2e & 2r	-35	-39	-42	-50	-57	-66	-75	-95	-117
	Roof 2n & 3r	-39	-43	-46	-55	-63	-73	-83	-105	-129
	Roof 3e	-61	-66	-72	-85	-98	-113	-128	-162	-200
	Overhang 1, 2e & 2r	-47	-51	-55	-65	-75	-87	-99	-125	-154
	Overhang 2n & 3r	-50	-55	-60	-70	-81	-93	-106	-134	-166
	Overhang 3e	-72	-78	-85	-100	-116	-133	-152	-192	-237

TABLE 2D: EXPOSURE C, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof with h/B > 0.8 for Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	Zone	Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)								
		110	115	120	130	140	150	160	180	200
h ≤ 20	Roof 1	-25	-27	-30	-35	-41	-47	-53	-67	-83
	Roof 2r	-33	-36	-39	-46	-53	-61	-69	-88	-108
	Roof 2e & 3	-35	-39	-42	-49	-57	-66	-75	-95	-117
	Overhang 1	-29	-32	-35	-41	-47	-54	-62	-78	-97
	Overhang 2r	-37	-40	-44	-51	-60	-68	-78	-99	-122
	Overhang 2c	-39	-43	-47	-55	-64	-73	-83	-105	-130
	Overhang 3	-47	-51	-56	-66	-76	-87	-99	-126	-155
20 < h ≤ 30	Roof 1	-31	-34	-36	-43	-50	-57	-65	-82	-101
	Roof 2r	-40	-44	-48	-56	-65	-74	-85	-107	-132
	Roof 2e & 3	-43	-47	-51	-60	-70	-80	-91	-115	-142
	Overhang 1	-36	-39	-42	-50	-58	-66	-75	-95	-118
	Overhang 2r	-45	-49	-53	-63	-73	-83	-95	-120	-148
	Overhang 2c	-48	-52	-57	-67	-78	-89	-102	-129	-159
	Overhang 3	-57	-63	-68	-80	-93	-107	-121	-153	-189
30 < h ≤ 40	Roof 1	-36	-39	-42	-50	-58	-66	-75	-95	-118
	Roof 2r	-46	-51	-55	-65	-75	-86	-98	-124	-153
	Roof 2e & 3	-50	-55	-59	-70	-81	-93	-106	-134	-165
	Overhang 1	-41	-45	-49	-58	-67	-77	-87	-111	-137
	Overhang 2r	-52	-57	-62	-73	-84	-97	-110	-139	-172
	Overhang 2c	-56	-61	-66	-78	-90	-104	-118	-149	-184
	Overhang 3	-66	-73	-79	-93	-108	-124	-141	-178	-220
40 < h ≤ 50	Roof 1	-40	-43	-47	-55	-64	-74	-84	-106	-131
	Roof 2r	-52	-56	-61	-72	-84	-96	-109	-138	-171
	Roof 2e & 3	-56	-61	-66	-78	-90	-103	-118	-149	-184
	Overhang 1	-46	-50	-55	-64	-75	-86	-97	-123	-152
	Overhang 2r	-58	-63	-69	-81	-94	-108	-123	-155	-192
	Overhang 2c	-62	-68	-74	-87	-100	-115	-131	-166	-205
	Overhang 3	-74	-81	-88	-103	-120	-138	-157	-198	-245
50 < h ≤ 60	Roof 1	-43	-47	-52	-60	-70	-80	-92	-116	-143
	Roof 2r	-56	-62	-67	-79	-91	-105	-119	-151	-186
	Roof 2e & 3	-61	-66	-72	-85	-98	-113	-129	-163	-201
	Overhang 1	-50	-55	-60	-70	-81	-93	-106	-135	-166
	Overhang 2r	-63	-69	-75	-89	-103	-118	-134	-170	-210
	Overhang 2c	-68	-74	-81	-95	-110	-126	-143	-181	-224
	Overhang 3	-81	-88	-96	-113	-131	-150	-171	-217	-267

TABLE 2E: EXPOSURE C, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof with for h/B < 0.5 / Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	Zone	Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)								
		110	115	120	130	140	150	160	180	200
h ≤ 20	Roof 1	-21	-23	-25	-30	-35	-40	-45	-57	-71
	Roof 2e & 3	-34	-37	-40	-48	-55	-63	-72	-91	-112
	Roof 2r	-48	-52	-57	-67	-78	-89	-102	-129	-159
	Overhang 1	-23	-25	-27	-32	-37	-42	-48	-61	-76
	Overhang 2e	-29	-32	-35	-41	-47	-54	-62	-78	-97
	Overhang 2r	-37	-40	-44	-51	-60	-68	-78	-99	-122
	Overhang 3	-37	-40	-44	-51	-60	-68	-78	-99	-122
20 < h ≤ 30	Roof 1	-26	-28	-31	-36	-42	-48	-55	-70	-86
	Roof 2e & 3	-41	-45	-49	-58	-67	-77	-88	-111	-137
	Roof 2r	-59	-64	-70	-82	-95	-109	-124	-157	-193
	Overhang 1	-28	-30	-33	-39	-45	-52	-59	-75	-92
	Overhang 2e	-36	-39	-42	-50	-58	-66	-75	-95	-118
	Overhang 2r	-45	-49	-53	-63	-73	-83	-95	-120	-148
	Overhang 3	-45	-49	-53	-63	-73	-83	-95	-120	-148
30 < h ≤ 40	Roof 1	-30	-33	-36	-42	-49	-56	-64	-81	-100
	Roof 2e & 3	-48	-53	-57	-67	-78	-90	-102	-129	-159
	Roof 2r	-68	-74	-81	-95	-110	-126	-144	-182	-224
	Overhang 1	-32	-35	-38	-45	-52	-60	-68	-87	-107
	Overhang 2e	-41	-45	-49	-58	-67	-77	-87	-111	-137
	Overhang 2r	-52	-57	-62	-73	-84	-97	-110	-139	-172
	Overhang 3	-52	-57	-62	-73	-84	-97	-110	-139	-172
40 < h ≤ 50	Roof 1	-34	-37	-40	-47	-54	-63	-71	-90	-111
	Roof 2e & 3	-54	-59	-64	-75	-87	-100	-113	-144	-177
	Roof 2r	-76	-83	-90	-106	-123	-141	-160	-203	-250
	Overhang 1	-36	-39	-43	-50	-58	-67	-76	-96	-119
	Overhang 2e	-46	-50	-55	-64	-75	-86	-97	-123	-152
	Overhang 2r	-58	-63	-69	-81	-94	-108	-123	-155	-192
	Overhang 3	-58	-63	-69	-81	-94	-108	-123	-155	-192
50 < h ≤ 60	Roof 1	-37	-40	-44	-51	-59	-68	-78	-98	-121
	Roof 2e & 3	-59	-64	-70	-82	-95	-109	-124	-157	-194
	Roof 2r	-83	-90	-98	-115	-134	-154	-175	-221	-273
	Overhang 1	-39	-43	-47	-55	-64	-73	-83	-105	-130
	Overhang 2e	-50	-55	-60	-70	-81	-93	-106	-135	-166
	Overhang 2r	-63	-69	-75	-89	-103	-118	-134	-170	-210
	Overhang 3	-63	-69	-75	-89	-103	-118	-134	-170	-210

TABLE 2F: EXPOSURE C, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof / Slope Range 20° < SLOPE < 27°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1	-20	-22	-24	-28	-32	-37	-42	-54	-66
	Roof 2e, 2r & 3	-28	-30	-33	-39	-45	-51	-59	-74	-91
	Overhang 1	-24	-26	-29	-34	-39	-45	-51	-65	-80
	Overhang 2e & 2r	-32	-35	-38	-44	-51	-59	-67	-85	-105
	Overhang 3	-39	-43	-47	-55	-64	-73	-83	-105	-130
20 < h ≤ 30	Roof 1	-24	-27	-29	-34	-40	-45	-52	-65	-81
	Roof 2e, 2r & 3	-34	-37	-40	-47	-55	-63	-71	-90	-112
	Overhang 1	-29	-32	-35	-41	-48	-55	-62	-79	-97
	Overhang 2e & 2r	-39	-42	-46	-54	-63	-72	-82	-104	-128
	Overhang 3	-48	-52	-57	-67	-78	-89	-102	-129	-159
30 < h ≤ 40	Roof 1	-28	-31	-34	-40	-46	-53	-60	-76	-94
	Roof 2e, 2r & 3	-39	-43	-47	-55	-63	-73	-83	-105	-129
	Overhang 1	-34	-37	-41	-48	-55	-63	-72	-91	-113
	Overhang 2e & 2r	-45	-49	-53	-63	-73	-83	-95	-120	-148
	Overhang 3	-56	-61	-66	-78	-90	-104	-118	-149	-184
40 < h ≤ 50	Roof 1	-32	-35	-38	-44	-51	-59	-67	-85	-105
	Roof 2e, 2r & 3	-44	-48	-52	-61	-71	-81	-92	-117	-144
	Overhang 1	-38	-42	-45	-53	-62	-71	-80	-102	-126
	Overhang 2e & 2r	-50	-55	-60	-70	-81	-93	-106	-134	-165
	Overhang 3	-62	-68	-74	-87	-100	-115	-131	-166	-205
50 < h ≤ 60	Roof 1	-35	-38	-41	-48	-56	-64	-73	-92	-114
	Roof 2e, 2r & 3	-48	-52	-57	-67	-77	-89	-101	-128	-158
	Overhang 1	-42	-45	-49	-58	-67	-77	-88	-111	-137
	Overhang 2e & 2r	-55	-60	-65	-76	-89	-102	-116	-146	-181
	Overhang 3	-68	-74	-81	-95	-110	-126	-143	-181	-224

TABLE 2G: EXPOSURE C, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof / Slope Range 27° < SLOPE < 45°										
Mean Roof Height (ft)	Zone	Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)								
		110	115	120	130	140	150	160	180	200
h ≤ 20	Roof 1	-21	-23	-25	-30	-35	-40	-45	-57	-71
	Roof 2r	-37	-40	-44	-51	-59	-68	-77	-98	-121
	Roof 2e	-38	-41	-45	-53	-61	-70	-80	-101	-125
	Roof 3	-48	-52	-57	-67	-78	-89	-102	-129	-159
	Overhang 1	-29	-32	-35	-41	-47	-54	-62	-78	-97
	Overhang 2r	-44	-49	-53	-62	-72	-83	-94	-119	-147
	Overhang 2e	-46	-50	-54	-64	-74	-85	-97	-122	-151
	Overhang 3	-56	-61	-66	-78	-90	-104	-118	-150	-185
20 < h ≤ 30	Roof 1	-26	-28	-31	-36	-42	-48	-55	-70	-86
	Roof 2r	-45	-49	-53	-62	-72	-83	-94	-119	-147
	Roof 2e	-46	-50	-55	-64	-75	-86	-98	-124	-153
	Roof 3	-59	-64	-70	-82	-95	-109	-124	-157	-193
	Overhang 1	-36	-39	-42	-50	-58	-66	-75	-95	-118
	Overhang 2r	-54	-59	-64	-76	-88	-101	-115	-145	-179
	Overhang 2e	-56	-61	-66	-78	-90	-104	-118	-149	-184
	Overhang 3	-68	-74	-81	-95	-110	-127	-144	-182	-225
30 < h ≤ 40	Roof 1	-30	-33	-36	-42	-49	-56	-64	-81	-100
	Roof 2r	-52	-57	-62	-72	-84	-96	-109	-139	-171
	Roof 2e	-54	-58	-64	-75	-87	-100	-113	-143	-177
	Roof 3	-68	-74	-81	-95	-110	-126	-144	-182	-224
	Overhang 1	-41	-45	-49	-58	-67	-77	-87	-111	-137
	Overhang 2r	-63	-69	-75	-88	-102	-117	-133	-168	-208
	Overhang 2e	-65	-71	-77	-90	-105	-120	-137	-173	-214
	Overhang 3	-79	-86	-94	-110	-128	-147	-167	-212	-261
40 < h ≤ 50	Roof 1	-34	-37	-40	-47	-54	-63	-71	-90	-111
	Roof 2r	-58	-63	-69	-80	-93	-107	-122	-154	-191
	Roof 2e	-60	-65	-71	-83	-97	-111	-126	-160	-197
	Roof 3	-76	-83	-90	-106	-123	-141	-160	-203	-250
	Overhang 1	-46	-50	-55	-64	-75	-86	-97	-123	-152
	Overhang 2r	-70	-77	-83	-98	-113	-130	-148	-188	-232
	Overhang 2e	-72	-79	-86	-101	-117	-134	-152	-193	-238
	Overhang 3	-88	-96	-105	-123	-143	-164	-186	-236	-291
50 < h ≤ 60	Roof 1	-37	-40	-44	-51	-59	-68	-78	-98	-121
	Roof 2r	-63	-69	-75	-88	-102	-117	-133	-169	-208
	Roof 2e	-65	-71	-78	-91	-106	-121	-138	-174	-215
	Roof 3	-83	-90	-98	-115	-134	-154	-175	-221	-273
	Overhang 1	-50	-55	-60	-70	-81	-93	-106	-135	-166
	Overhang 2r	-76	-84	-91	-107	-124	-142	-162	-205	-253
	Overhang 2e	-79	-86	-94	-110	-127	-146	-166	-211	-260
	Overhang 3	-96	-105	-114	-134	-156	-179	-203	-258	-318

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TABLE 3A: EXPOSURE D, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1 & 2e	-37	-41	-44	-52	-61	-69	-79	-100	-124
	Roof 2n, 2r & 3e	-55	-60	-65	-76	-88	-101	-115	-146	-180
	Roof 3r	-65	-71	-77	-90	-105	-120	-137	-173	-214
	Overhang 1 & 2e	-43	-47	-51	-60	-69	-80	-91	-115	-142
	Overhang 2n & 2r	-60	-66	-71	-84	-97	-112	-127	-161	-198
	Overhang 3e	-70	-77	-84	-98	-114	-131	-149	-188	-232
	Overhang 3r	-81	-88	-96	-113	-130	-150	-170	-216	-266
20 < h ≤ 30	Roof 1 & 2e	-40	-44	-48	-56	-65	-74	-85	-107	-132
	Roof 2n, 2r & 3e	-58	-64	-69	-82	-95	-109	-124	-156	-193
	Roof 3r	-69	-76	-83	-97	-112	-129	-147	-186	-229
	Overhang 1 & 2e	-46	-50	-55	-64	-74	-85	-97	-123	-152
	Overhang 2n & 2r	-64	-70	-76	-90	-104	-119	-136	-172	-212
	Overhang 3e	-75	-82	-90	-105	-122	-140	-159	-202	-249
	Overhang 3r	-86	-94	-103	-121	-140	-160	-183	-231	-285
30 < h ≤ 40	Roof 1 & 2e	-42	-46	-50	-59	-68	-78	-89	-112	-139
	Roof 2n, 2r & 3e	-61	-67	-73	-85	-99	-114	-129	-164	-202
	Roof 3r	-73	-79	-87	-102	-118	-135	-154	-195	-240
	Overhang 1 & 2e	-48	-53	-57	-67	-78	-89	-102	-129	-159
	Overhang 2n & 2r	-67	-74	-80	-94	-109	-125	-142	-180	-223
	Overhang 3e	-79	-86	-94	-110	-128	-147	-167	-211	-261
	Overhang 3r	-90	-99	-108	-126	-146	-168	-191	-242	-299
40 < h ≤ 50	Roof 1 & 2e	-44	-48	-52	-61	-71	-81	-92	-117	-144
	Roof 2n, 2r & 3e	-64	-70	-76	-89	-103	-118	-135	-170	-210
	Roof 3r	-76	-83	-90	-106	-123	-141	-160	-203	-250
	Overhang 1 & 2e	-50	-55	-60	-70	-81	-93	-106	-134	-165
	Overhang 2n & 2r	-70	-77	-83	-98	-113	-130	-148	-188	-232
	Overhang 3e	-82	-90	-98	-115	-133	-153	-174	-220	-271
	Overhang 3r	-94	-103	-112	-131	-152	-175	-199	-252	-311
50 < h ≤ 60	Roof 1 & 2e	-45	-49	-54	-63	-73	-84	-95	-121	-149
	Roof 2n, 2r & 3e	-66	-72	-78	-92	-107	-122	-139	-176	-217
	Roof 3r	-78	-85	-93	-109	-127	-145	-165	-209	-258
	Overhang 1 & 2e	-52	-57	-62	-72	-84	-96	-109	-138	-171
	Overhang 2n & 2r	-72	-79	-86	-101	-117	-135	-153	-194	-239
	Overhang 3e	-85	-93	-101	-118	-137	-158	-179	-227	-280
	Overhang 3r	-97	-106	-116	-136	-157	-181	-206	-260	-321

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TABLE 3B: EXPOSURE D, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 20° < SLOPE < 27°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1 & 2e	-29	-31	-34	-40	-47	-54	-61	-77	-95
	Roof 2n, 2r & 3e	-46	-50	-55	-64	-74	-85	-97	-123	-152
	Roof 3r	-65	-71	-77	-90	-105	-120	-137	-173	-214
	Overhang 1 & 2e	-34	-37	-41	-48	-56	-64	-73	-92	-113
	Overhang 2n & 2r	-51	-56	-61	-72	-83	-96	-109	-138	-170
	Overhang 3e	-62	-67	-73	-86	-100	-115	-131	-165	-204
	Overhang 3r	-81	-88	-96	-113	-130	-150	-170	-216	-266
20 < h ≤ 30	Roof 1 & 2e	-31	-34	-37	-43	-50	-57	-65	-83	-102
	Roof 2n, 2r & 3e	-49	-54	-59	-69	-80	-91	-104	-132	-163
	Roof 3r	-69	-76	-83	-97	-112	-129	-147	-186	-229
	Overhang 1 & 2e	-37	-40	-44	-51	-59	-68	-78	-98	-121
	Overhang 2n & 2r	-55	-60	-66	-77	-89	-102	-117	-147	-182
	Overhang 3e	-66	-72	-79	-92	-107	-123	-140	-177	-218
	Overhang 3r	-86	-94	-103	-121	-140	-160	-183	-231	-285
30 < h ≤ 40	Roof 1 & 2e	-32	-35	-38	-45	-52	-60	-68	-87	-107
	Roof 2n, 2r & 3e	-52	-56	-61	-72	-84	-96	-109	-138	-170
	Roof 3r	-73	-79	-87	-102	-118	-135	-154	-195	-240
	Overhang 1 & 2e	-38	-42	-46	-54	-62	-72	-81	-103	-127
	Overhang 2n & 2r	-58	-63	-69	-81	-94	-107	-122	-155	-191
	Overhang 3e	-69	-76	-82	-97	-112	-129	-147	-185	-229
	Overhang 3r	-90	-99	-108	-126	-146	-168	-191	-242	-299
40 < h ≤ 50	Roof 1 & 2e	-34	-37	-40	-47	-54	-63	-71	-90	-111
	Roof 2n, 2r & 3e	-54	-59	-64	-75	-87	-100	-113	-144	-177
	Roof 3r	-76	-83	-90	-106	-123	-141	-160	-203	-250
	Overhang 1 & 2e	-40	-44	-48	-56	-65	-74	-85	-107	-132
	Overhang 2n & 2r	-60	-66	-71	-84	-97	-112	-127	-161	-199
	Overhang 3e	-72	-79	-86	-101	-117	-134	-152	-193	-238
	Overhang 3r	-94	-103	-112	-131	-152	-175	-199	-252	-311
50 < h ≤ 60	Roof 1 & 2e	-35	-38	-41	-49	-56	-65	-74	-93	-115
	Roof 2n, 2r & 3e	-55	-61	-66	-77	-90	-103	-117	-148	-183
	Roof 3r	-78	-85	-93	-109	-127	-145	-165	-209	-258
	Overhang 1 & 2e	-41	-45	-49	-58	-67	-77	-88	-111	-137
	Overhang 2n & 2r	-62	-68	-74	-87	-100	-115	-131	-166	-205
	Overhang 3e	-74	-81	-89	-104	-121	-138	-158	-199	-246
	Overhang 3r	-97	-106	-116	-136	-157	-181	-206	-260	-321

TABLE 3C: EXPOSURE D, Allowable Roof Cladding Design Pressures - Pasd (psf) Gable Roof / Slope Range 27° < SLOPE < 45°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1, 2e & 2r	-34	-37	-40	-47	-55	-63	-72	-91	-112
	Roof 2n & 3r	-37	-41	-44	-52	-61	-69	-79	-100	-124
	Roof 3e	-58	-63	-69	-81	-94	-108	-123	-155	-192
	Overhang 1, 2e & 2r	-45	-49	-53	-62	-72	-83	-94	-119	-147
	Overhang 2n & 3r	-48	-52	-57	-67	-78	-89	-102	-129	-159
	Overhang 3e	-69	-75	-82	-96	-111	-127	-145	-184	-227
20 < h ≤ 30	Roof 1, 2e & 2r	-36	-40	-43	-51	-59	-68	-77	-97	-120
	Roof 2n & 3r	-40	-44	-48	-56	-65	-74	-85	-107	-132
	Roof 3e	-62	-68	-74	-87	-101	-115	-131	-166	-205
	Overhang 1, 2e & 2r	-48	-52	-57	-67	-77	-89	-101	-128	-158
	Overhang 2n & 3r	-51	-56	-61	-72	-83	-96	-109	-138	-170
	Overhang 3e	-73	-80	-87	-103	-119	-137	-155	-197	-243
30 < h ≤ 40	Roof 1, 2e & 2r	-38	-42	-45	-53	-62	-71	-81	-102	-126
	Roof 2n & 3r	-42	-46	-50	-59	-68	-78	-89	-112	-139
	Roof 3e	-65	-71	-77	-91	-105	-121	-138	-174	-215
	Overhang 1, 2e & 2r	-50	-55	-60	-70	-81	-93	-106	-134	-165
	Overhang 2n & 3r	-54	-59	-64	-75	-87	-100	-114	-144	-178
	Overhang 3e	-77	-84	-92	-107	-125	-143	-163	-206	-254
40 < h ≤ 50	Roof 1, 2e & 2r	-40	-43	-47	-55	-64	-74	-84	-106	-131
	Roof 2n & 3r	-44	-48	-52	-61	-71	-81	-92	-117	-144
	Roof 3e	-68	-74	-81	-94	-110	-126	-143	-181	-224
	Overhang 1, 2e & 2r	-52	-57	-62	-73	-84	-97	-110	-139	-172
	Overhang 2n & 3r	-56	-61	-67	-78	-91	-104	-119	-150	-185
	Overhang 3e	-80	-88	-95	-112	-130	-149	-169	-214	-265
50 < h ≤ 60	Roof 1, 2e & 2r	-41	-45	-49	-57	-66	-76	-87	-110	-135
	Roof 2n & 3r	-45	-49	-54	-63	-73	-84	-95	-121	-149
	Roof 3e	-70	-76	-83	-98	-113	-130	-148	-187	-231
	Overhang 1, 2e & 2r	-54	-59	-64	-75	-87	-100	-114	-144	-178
	Overhang 2n & 3r	-58	-63	-69	-81	-94	-108	-123	-155	-191
	Overhang 3e	-83	-90	-98	-116	-134	-154	-175	-221	-273

TABLE 3D: EXPOSURE D, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof with h/B > 0.8 for Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1	-30	-33	-36	-42	-49	-56	-64	-81	-100
	Roof 2r	-39	-43	-47	-55	-64	-73	-83	-105	-130
	Roof 2e & 3	-42	-46	-50	-59	-69	-79	-90	-114	-140
	Overhang 1	-35	-38	-42	-49	-57	-65	-74	-94	-116
	Overhang 2r	-44	-48	-53	-62	-72	-82	-94	-118	-146
	Overhang 2c	-47	-52	-56	-66	-77	-88	-100	-127	-156
	Overhang 3	-56	-62	-67	-79	-91	-105	-119	-151	-187
20 < h ≤ 30	Roof 1	-36	-40	-43	-51	-59	-68	-77	-97	-120
	Roof 2r	-47	-52	-56	-66	-77	-88	-100	-127	-157
	Roof 2e & 3	-51	-56	-61	-71	-83	-95	-108	-137	-169
	Overhang 1	-42	-46	-50	-59	-68	-79	-89	-113	-140
	Overhang 2r	-53	-58	-63	-74	-86	-99	-113	-143	-176
	Overhang 2c	-57	-62	-68	-79	-92	-106	-120	-152	-188
	Overhang 3	-68	-74	-81	-95	-110	-126	-144	-182	-225
30 < h ≤ 40	Roof 1	-42	-45	-49	-58	-67	-77	-88	-111	-137
	Roof 2r	-54	-59	-64	-76	-88	-101	-114	-145	-179
	Roof 2e & 3	-58	-64	-69	-81	-94	-108	-123	-156	-193
	Overhang 1	-48	-53	-57	-67	-78	-90	-102	-129	-159
	Overhang 2r	-61	-66	-72	-85	-99	-113	-129	-163	-201
	Overhang 2c	-65	-71	-77	-91	-105	-121	-138	-174	-215
	Overhang 3	-78	-85	-92	-108	-126	-144	-164	-208	-257
40 < h ≤ 50	Roof 1	-46	-50	-55	-64	-74	-85	-97	-123	-152
	Roof 2r	-60	-65	-71	-84	-97	-111	-127	-160	-198
	Roof 2e & 3	-65	-71	-77	-90	-105	-120	-137	-173	-213
	Overhang 1	-53	-58	-64	-75	-87	-99	-113	-143	-177
	Overhang 2r	-67	-74	-80	-94	-109	-125	-142	-180	-223
	Overhang 2c	-72	-79	-86	-101	-117	-134	-152	-193	-238
	Overhang 3	-86	-94	-102	-120	-139	-160	-182	-230	-284
50 < h ≤ 60	Roof 1	-50	-55	-59	-70	-81	-93	-106	-134	-165
	Roof 2r	-65	-71	-77	-91	-105	-121	-138	-174	-215
	Roof 2e & 3	-70	-77	-83	-98	-114	-130	-148	-188	-232
	Overhang 1	-58	-63	-69	-81	-94	-108	-123	-155	-192
	Overhang 2r	-73	-80	-87	-102	-119	-136	-155	-196	-242
	Overhang 2c	-78	-85	-93	-109	-127	-145	-165	-209	-259
	Overhang 3	-93	-102	-111	-130	-151	-174	-197	-250	-309

TABLE 3E: EXPOSURE D, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof with for h/B < 0.5 / Slope Range 14° < SLOPE < 20°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1	-26	-28	-31	-36	-42	-48	-54	-69	-85
	Roof 2e & 3	-41	-45	-49	-57	-66	-76	-86	-109	-135
	Roof 2r	-58	-63	-69	-81	-93	-107	-122	-154	-191
	Overhang 1	-27	-30	-33	-38	-44	-51	-58	-74	-91
	Overhang 2e	-35	-38	-42	-49	-57	-65	-74	-94	-116
	Overhang 2r	-44	-48	-53	-62	-72	-82	-94	-118	-146
	Overhang 3	-44	-48	-53	-62	-72	-82	-94	-118	-146
20 < h ≤ 30	Roof 1	-31	-34	-37	-43	-50	-57	-65	-83	-102
	Roof 2e & 3	-49	-54	-59	-69	-80	-91	-104	-132	-163
	Roof 2r	-69	-76	-83	-97	-112	-129	-147	-186	-229
	Overhang 1	-33	-36	-39	-46	-54	-61	-70	-88	-109
	Overhang 2e	-42	-46	-50	-59	-68	-79	-89	-113	-140
	Overhang 2r	-53	-58	-63	-74	-86	-99	-113	-143	-176
	Overhang 3	-53	-58	-63	-74	-86	-99	-113	-143	-176
30 < h ≤ 40	Roof 1	-35	-39	-42	-49	-57	-66	-75	-94	-116
	Roof 2e & 3	-56	-61	-67	-79	-91	-105	-119	-151	-186
	Roof 2r	-79	-87	-94	-111	-128	-147	-168	-212	-262
	Overhang 1	-38	-41	-45	-53	-61	-70	-80	-101	-125
	Overhang 2e	-48	-53	-57	-67	-78	-90	-102	-129	-159
	Overhang 2r	-61	-66	-72	-85	-99	-113	-129	-163	-201
	Overhang 3	-61	-66	-72	-85	-99	-113	-129	-163	-201
40 < h ≤ 50	Roof 1	-39	-43	-46	-54	-63	-73	-83	-104	-129
	Roof 2e & 3	-62	-68	-74	-87	-101	-116	-132	-167	-206
	Roof 2r	-88	-96	-104	-123	-142	-163	-186	-235	-290
	Overhang 1	-42	-46	-50	-58	-68	-78	-88	-112	-138
	Overhang 2e	-53	-58	-64	-75	-87	-99	-113	-143	-177
	Overhang 2r	-67	-74	-80	-94	-109	-125	-142	-180	-223
	Overhang 3	-67	-74	-80	-94	-109	-125	-142	-180	-223
50 < h ≤ 60	Roof 1	-42	-46	-50	-59	-69	-79	-90	-113	-140
	Roof 2e & 3	-68	-74	-80	-94	-110	-126	-143	-181	-224
	Roof 2r	-95	-104	-113	-133	-154	-177	-202	-255	-315
	Overhang 1	-45	-50	-54	-63	-74	-84	-96	-122	-150
	Overhang 2e	-58	-63	-69	-81	-94	-108	-123	-155	-192
	Overhang 2r	-73	-80	-87	-102	-119	-136	-155	-196	-242
	Overhang 3	-73	-80	-87	-102	-119	-136	-155	-196	-242

TABLE 3F: EXPOSURE D, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof / Slope Range 20° < SLOPE < 27°										
Mean Roof Height (ft)	**Zone**	**Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)**								
		110	**115**	**120**	**130**	**140**	**150**	**160**	**180**	**200**
h ≤ 20	Roof 1	-24	-26	-29	-34	-39	-45	-51	-65	-80
	Roof 2e, 2r & 3	-33	-36	-40	-46	-54	-62	-70	-89	-110
	Overhang 1	-29	-32	-34	-40	-47	-54	-61	-78	-96
	Overhang 2e & 2r	-38	-42	-45	-53	-62	-71	-81	-102	-126
	Overhang 3	-47	-52	-56	-66	-77	-88	-100	-127	-156
20 < h ≤ 30	Roof 1	-29	-32	-35	-41	-47	-54	-61	-78	-96
	Roof 2e, 2r & 3	-40	-44	-48	-56	-65	-74	-85	-107	-132
	Overhang 1	-35	-38	-42	-49	-56	-65	-74	-93	-115
	Overhang 2e & 2r	-46	-50	-55	-64	-74	-85	-97	-123	-152
	Overhang 3	-57	-62	-68	-79	-92	-106	-120	-152	-188
30 < h ≤ 40	Roof 1	-33	-36	-39	-46	-54	-62	-70	-89	-110
	Roof 2e, 2r & 3	-46	-50	-54	-64	-74	-85	-97	-122	-151
	Overhang 1	-40	-44	-47	-56	-65	-74	-84	-107	-132
	Overhang 2e & 2r	-52	-57	-62	-73	-85	-98	-111	-140	-173
	Overhang 3	-65	-71	-77	-91	-105	-121	-138	-174	-215
40 < h ≤ 50	Roof 1	-37	-40	-44	-51	-59	-68	-78	-98	-121
	Roof 2e, 2r & 3	-51	-55	-60	-71	-82	-94	-107	-136	-167
	Overhang 1	-44	-48	-53	-62	-71	-82	-93	-118	-146
	Overhang 2e & 2r	-58	-63	-69	-81	-94	-108	-123	-155	-192
	Overhang 3	-72	-79	-86	-101	-117	-134	-152	-193	-238
50 < h ≤ 60	Roof 1	-40	-44	-47	-56	-65	-74	-84	-107	-132
	Roof 2e, 2r & 3	-55	-60	-65	-77	-89	-102	-116	-147	-182
	Overhang 1	-48	-52	-57	-67	-78	-89	-101	-128	-158
	Overhang 2e & 2r	-63	-69	-75	-88	-102	-117	-133	-169	-209
	Overhang 3	-78	-85	-93	-109	-127	-145	-165	-209	-259

NEMO|etc.®

TABLE 3G: EXPOSURE D, Allowable Roof Cladding Design Pressures - Pasd (psf) Hip Roof / Slope Range 27° < SLOPE < 45°										
Mean Roof Height (ft)	Zone	Ultimate Design Wind Speed - Vult (mph) – FBC Figures 1609.3(1) through 1609.3(4)								
		110	115	120	130	140	150	160	180	200
h ≤ 20	Roof 1	-26	-28	-31	-36	-42	-48	-54	-69	-85
	Roof 2r	-44	-48	-52	-61	-71	-82	-93	-118	-145
	Roof 2e	-45	-50	-54	-63	-74	-85	-96	-122	-150
	Roof 3	-58	-63	-69	-81	-93	-107	-122	-154	-191
	Overhang 1	-35	-38	-42	-49	-57	-65	-74	-94	-116
	Overhang 2r	-53	-58	-64	-75	-86	-99	-113	-143	-177
	Overhang 2e	-55	-60	-65	-77	-89	-102	-116	-147	-182
	Overhang 3	-67	-73	-80	-94	-109	-125	-142	-180	-222
20 < h ≤ 30	Roof 1	-31	-34	-37	-43	-50	-57	-65	-83	-102
	Roof 2r	-53	-58	-63	-74	-86	-98	-112	-142	-175
	Roof 2e	-55	-60	-65	-76	-89	-102	-116	-146	-181
	Roof 3	-69	-76	-83	-97	-112	-129	-147	-186	-229
	Overhang 1	-42	-46	-50	-59	-68	-79	-89	-113	-140
	Overhang 2r	-64	-70	-76	-90	-104	-119	-136	-172	-212
	Overhang 2e	-66	-72	-79	-92	-107	-123	-140	-177	-218
	Overhang 3	-81	-88	-96	-113	-131	-150	-171	-216	-267
30 < h ≤ 40	Roof 1	-35	-39	-42	-49	-57	-66	-75	-94	-116
	Roof 2r	-60	-66	-72	-84	-98	-112	-128	-162	-200
	Roof 2e	-63	-68	-74	-87	-101	-116	-132	-167	-207
	Roof 3	-79	-87	-94	-111	-128	-147	-168	-212	-262
	Overhang 1	-48	-53	-57	-67	-78	-90	-102	-129	-159
	Overhang 2r	-73	-80	-87	-103	-119	-137	-155	-197	-243
	Overhang 2e	-76	-83	-90	-105	-122	-140	-160	-202	-250
	Overhang 3	-92	-101	-110	-129	-149	-172	-195	-247	-305
40 < h ≤ 50	Roof 1	-39	-43	-46	-54	-63	-73	-83	-104	-129
	Roof 2r	-67	-73	-80	-93	-108	-124	-141	-179	-221
	Roof 2e	-69	-76	-82	-97	-112	-129	-146	-185	-229
	Roof 3	-88	-96	-104	-123	-142	-163	-186	-235	-290
	Overhang 1	-53	-58	-64	-75	-87	-99	-113	-143	-177
	Overhang 2r	-81	-89	-97	-114	-132	-151	-172	-218	-269
	Overhang 2e	-84	-91	-99	-117	-135	-155	-177	-224	-276
	Overhang 3	-102	-112	-122	-143	-165	-190	-216	-274	-338
50 < h ≤ 60	Roof 1	-42	-46	-50	-59	-69	-79	-90	-113	-140
	Roof 2r	-73	-79	-86	-101	-118	-135	-154	-195	-240
	Roof 2e	-75	-82	-89	-105	-122	-140	-159	-201	-249
	Roof 3	-95	-104	-113	-133	-154	-177	-202	-255	-315
	Overhang 1	-58	-63	-69	-81	-94	-108	-123	-155	-192
	Overhang 2r	-88	-97	-105	-123	-143	-164	-187	-236	-292
	Overhang 2e	-91	-99	-108	-127	-147	-169	-192	-243	-300
	Overhang 3	-111	-121	-132	-155	-180	-206	-235	-297	-367