



**NEMO|etc.**

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

ENGINEER

EVALUATE

TEST

CONSULT

CERTIFY

**EVALUATION REPORT**

**CertainTeed Corporation**

20 Moores Road  
Malvern, PA 19355  
**(610) 651-5847**

**Evaluation Report C40710.12.13-R6**

**FL16709-R6**

**Date of Issuance: 12/02/2013**

**Revision 6: 06/20/2019**

**SCOPE:**

This Evaluation Report is issued under **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 **6<sup>th</sup> Edition (2017)** Florida Building Code sections noted herein.

**DESCRIPTION: Flintlastic® Modified Bitumen Roof Systems**

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

**CONTINUED COMPLIANCE:** This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO|etc. requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

**ADVERTISEMENT:** The Evaluation Report number preceded by the words "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

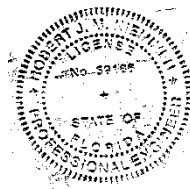
**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 4, plus 14-page Appendix.

**Prepared by:**

**Robert J.M. Nieminen, P.E.**

Florida Registration No. 59166, Florida DCA ANE1983



The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 06/20/2019. This does not serve as an electronically signed document.

**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 evaluation reports 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. nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, 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:** Modified Bitumen Roof Systems  
**Compliance Statement:** Flintlastic® Modified Bitumen Roof Systems, as produced by CertainTeed Corporation, have demonstrated compliance with the following sections of the 6<sup>th</sup> Edition (2017) Florida Building Code through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

**2. STANDARDS:**

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1504.3.1	Wind	FM 4474	2011
1504.7	Impact	FM 4470	2012
1507.11.2	Physical Properties	ASTM D6162	2008
1507.11.2	Physical Properties	ASTM D6163	2008
1507.11.2	Physical Properties	ASTM D6164	2011
1507.11.2	Physical Properties	ASTM D6222	2011
1507.11.2	Physical Properties	ASTM D6509	2009
1519.11	Attachment Requirements	RAS 117	1995

**3. REFERENCES:**

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ERD (TST6049)	Physical Properties	C7290.01.08	01/16/2008
ERD (TST6049)	Physical Properties	C10080.09.08	09/04/2008
ERD (TST6049)	FM 4470/4474	C8370.08.08-R1	10/05/2009
ERD (TST6049)	FM 4470/4474	C30310.12.09	12/17/2009
ERD (TST6049)	FM 4470/4474	C30560.03.10	03/18/2010
ERD (TST6049)	FM 4470/4474	3519.12.03-R1	04/15/2011
ERD (TST6049)	Physical Properties	C42110.08.12	08/13/2012
ERD (TST6049)	FM 4470/4474	C46090.11.13-A	11/20/2013
ERD (TST6049)	FM 4470	CTR-SC9920.01.16-R1	01/20/2016
FM (TST1867)	FM 4470/4474	3048520	09/19/2013
MTI (TST2508)	Physical properties	DX08C4A	03/22/2004
MTI (TST2508)	Physical properties	DX20E3A	03/22/2004
MTI (TST2508)	Physical properties	DX20E3A-001	01/04/2006
MTI (TST2508)	Physical properties	AX31G8A	08/21/2008
MTI (TST2508)	Physical properties	AX31G8D	09/05/2008
MTI (TST2508)	Physical properties	AX31G8F	06/05/2009
MTI (TST2508)	Physical properties	AX21G8C	01/28/2011
NEMO (TST6049)	FM 4474	4L-CTR-18-002.09.18-2	09/21/2018
PRI (TST5878)	Physical Properties	CTC-032-02-01	01/16/2008
PRI (TST5878)	Physical Properties	CTC-034-02-01	11/24/2008
PRI (TST5878)	Physical Properties	CTC-066-02-01	08/08/2011
PRI (TST5878)	Physical Properties	CTC-067-02-01	08/08/2011
PRI (TST5878)	Physical Properties	CTC-068-02-01	08/08/2011
PRI (TST5878)	Physical Properties	CTC-070-02-01	08/08/2011
PRI (TST5878)	Physical Properties	CTC-071-02-01	08/08/2011
PRI (TST5878)	Physical Properties	CTC-093-02-01	08/08/2011
PRI (TST5878)	Physical Properties	CTC-116-02-01	04/03/2012
PRI (TST5878)	Physical Properties	CTC-183-02-01	10/04/2013
PRI (TST5878)	Physical Properties	CTC-259-02-01	12/11/2015
UL, LLC. (QUA9625)	Quality Assurance	Service Confirmation	03/09/2017

**4. PRODUCT DESCRIPTION:**

This Evaluation Report covers **Flintlastic® Modified Bitumen Roof Systems** installed in accordance with **CertainTeed Corporation** published installation instructions and the Limitations / Conditions of Use herein. The following CertainTeed products make up the subject systems.

**TABLE 1: ROLL-GOODS FOR FLINTLASTIC® MODIFIED BITUMEN ROOF SYSTEMS**

Type	Product	Specification		
		Reference	Grade	Type
Base Sheets	Flintlastic® SA NailBase	ASTM D4601	N/A	II
	Glasbase™ Base Sheet	ASTM D4601	N/A	II
	All Weather/Empire™ Base	ASTM D4601	N/A	II
	Flexiglas™ Base	ASTM D4601	N/A	II
	Flintlastic™ Base 20	ASTM D4601	N/A	II
	Flintlastic Poly SMS Base Sheet	ASTM D4601	N/A	II
	Yosemite® Venting Base	ASTM D4897	N/A	II
Ply Sheets	Flintglas® Ply 4	ASTM D2178	N/A	IV
	Flintglas® Premium Ply 6	ASTM D2178	N/A	VI
Base/Ply Membranes (APP)	Flintlastic® APP Base T	ASTM D6509	N/A	N/A
	Flintlastic® STA	ASTM D6222	S	I
	Flintlastic® STA Plus	ASTM D6222	S	I
Cap Membranes (APP)	Flintlastic® STA	ASTM D6222	S	I
	Flintlastic® STA Plus	ASTM D6222	S	I
	Flintlastic® GTA	ASTM D6222	G	I
	Flintlastic® GTA CoolStar™	ASTM D6222	G	I
	Flintlastic® GTA-FR	ASTM D6222	G	I
	Flintlastic® GTA-FR CoolStar™	ASTM D6222	G	I
Base/Ply Membranes (SBS)	Flintlastic® SA PlyBase	ASTM D1970	N/A	N/A
	Black Diamond® Base Sheet	ASTM D1970	N/A	N/A
	Flintlastic® SA Mid Ply	ASTM D6163	S	I
	Flintlastic® Ultra Glass SA	ASTM D6163	S	I
	Flintlastic® Base 20	ASTM D6163	S	I
	Flintlastic® Base 20 T	ASTM D6163	S	I
	Flintlastic® Ultra Poly SMS Base Sheet	ASTM D6164	S	I
Cap Membranes (SBS)	Flintlastic® FR Dual Cap	ASTM D6162	G	I
	Flintlastic® SA Cap FR	ASTM D6163	G	I
	Flintlastic® SA Cap FR CoolStar™	ASTM D6163	G	I
	Flintlastic® FR Cap 30	ASTM D6163	G	I
	Flintlastic® FR Cap 30 CoolStar™	ASTM D6163	G	I
	Flintlastic® FR Cap 30 T	ASTM D6163	G	I
	Flintlastic® FR Cap 30 T CoolStar™	ASTM D6163	G	I
	Flintlastic® SA Cap	ASTM D6164	G	I
	Flintlastic® SA Cap CoolStar™	ASTM D6164	G	I
	Flintlastic® FR-P	ASTM D6164	G	I
	Flintlastic® FR-P CoolStar™	ASTM D6164	G	I
	Flintlastic® GMS	ASTM D6164	G	I
	Flintlastic® GMS CoolStar™	ASTM D6164	G	I
	Flintlastic® GTS-FR	ASTM D6164	G	II
	Flintlastic® GTS-FR CoolStar™	ASTM D6164	G	II
	Flintlastic® Premium FR-P	ASTM D6164	G	II
	Flintlastic® Premium FR-P CoolStar™	ASTM D6164	G	II

## 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 Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This Evaluation Report is not for use in FBC HVHZ jurisdictions.
- 5.3 Refer to a current Roofing Materials Directory for fire ratings of this product.
- 5.4 The roof system evaluation herein 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. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.
- 5.5 For recover installations, the existing roof shall be examined in accordance with **FBC 1511**.
- 5.6 The maximum design pressure for the selected base assembly shall meet or exceed the Zone 1 design pressure determined in accordance with **FBC Chapter 16**. This is already addressed in the Appendix tables via "N/A" reference if the baseline system is "Not Applicable" to Zone 1 design pressure requirements.
- 5.7 For mechanically attached insulation or membrane 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 and analysis shall be in accordance with **ANSI/SPRI FX-1** or **Testing Application Standard TAS 105**.
- 5.8 Metal edge attachment (except gutters), shall be designed and installed for wind loads in accordance with FBC Chapter 16 and tested for resistance in accordance with **ANSI/SPRI ES-1** or **Roofing Application Standard RAS 111**, except the basic wind speed shall be determined from **FBC Figure 1609.3(1), 1609.3(2) or 1609.3(3)**.
- 5.9 All products in the roof assembly shall have quality assurance in accordance with **FAC Rule 61G20-3**.

## 6. INSTALLATION:

- 6.1 **Flintlastic® Modified Bitumen Roof Systems** shall be installed in accordance with **CertainTeed Corporation** published installation instructions, subject to the Limitations / Conditions of Use herein.
- 6.2 System attachment requirements for wind load resistance are set forth in Appendix 1. System listings are based on allowable wind loads per **FBC 1609** and a 2 to 1 margin of safety per **FBC 1504.9**.

## 7. BUILDING PERMIT REQUIREMENTS:

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

## 8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by F.A.C. Rule 61G20-3 QA requirements.

## 9. QUALITY ASSURANCE ENTITY:

UL, LLC. – QUA9625; (414) 248-6409, karen.buchmann@us.ul.com

**- THE 14-PAGES THAT FOLLOW FORM PART OF THIS EVALUATION REPORT -**

**APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE**

TABLE	DECK	APPLICATION	TYPE	DESCRIPTION	PAGE
1	Wood	New or Reroof (Tear-Off)	A-2	Mech. Attached Anchor Sheet, Bonded Insulation, Bonded Roof Cover	4-5
2	Wood	New, Reroof (Tear-Off) or Recover	C	Mech. Attached Insulation, Bonded Roof Cover	6-8
3	Wood	New, Reroof (Tear-Off) or Recover	D	Prelim. Attached Insulation, Mech. Attached Base Sheet, Bonded Roof Cover	9-10
4	Wood	New, Reroof (Tear-Off)	E	Non-Insulated, Mech. Attached Base Sheet, Bonded Roof Cover	11-12
5	Wood	New, Reroof (Tear-Off)	E	Non-Insulated, Mech. Attached Base Sheet, Bonded Roof Cover	13-14

**The following notes apply to the systems outlined herein:**

- The roof system evaluation herein pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the AHJ. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.
- Unless otherwise noted, insulation may be any one layer or combination of polyisocyanurate, polystyrene, wood fiberboard, perlite or gypsum-based roof board that meets the QA requirements of F.A.C. Rule 61G20-3 and is documented as meeting FBC 1505.1 and, for foam plastic, Chapter 26, when installed with the roof cover.
- Bonded polyisocyanurate insulation boards shall be maximum 4 x 4 ft.
- The maximum design pressure for the selected base assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC Chapter 16. This is already addressed in the tables that follow via "N/A" reference if the baseline system is "Not Applicable" to Zone 1 design pressure requirements.
- For existing 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 and analysis shall be in accordance with ANSI/SPRI FX-1 or Testing Application Standard TAS 105.
- For Recover Applications using System Type D, the insulation is optional; however, the existing roof system shall be suitable for a recover application.
- Unless otherwise noted, refer to the following references for bonded base, ply or cap sheet applications.

**TABLE A: CERTAINTEED FLINTLASTIC® MODIFIED BITUMEN COMPONENTS & APPLICATION METHODS**

REFERENCE	LAYER	MATERIAL	APPLICATION
BP-AA (Base and Ply sheets, Asphalt-Applied)	Base	Glasbase; All Weather/Empire Base; Flexiglas Base; Flintlastic Base 20	Hot asphalt at 20-40 lbs/square
	Ply	Flintglas Ply Sheet Type IV; Flintglas Premium Ply Sheet Type VI	
SBS-AA (SBS, Asphalt-Applied)	Base	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	Hot asphalt at 20-40 lbs/square
	Ply	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	
	Cap	Flintlastic FR Cap 30; Flintlastic FR Cap 30 CoolStar; Flintlastic FR Dual Cap; Flintlastic FR-P; Flintlastic FR-P CoolStar; Flintlastic Premium FR-P; Flintlastic Premium FR-P CoolStar; Flintlastic GMS; Flintlastic GMS CoolStar	
SBS-TA (SBS, Torch-Applied)	Base	Flintlastic Base 20 T; Flintlastic FR Base 20 T	Torch-Applied
	Ply	Flintlastic Base 20 T; Flintlastic FR Base 20 T	
	Cap	Flintlastic FR Cap 30 T; Flintlastic FR Cap 30 T CoolStar; Flintlastic GTS-FR; Flintlastic GTS-FR CoolStar	

TABLE A (CONTINUED): CERTAINTEED FLINTLASTIC® MODIFIED BITUMEN COMPONENTS & APPLICATION METHODS			
REFERENCE	LAYER	MATERIAL	APPLICATION
APP-TA (APP, Torch-Applied)	Base	Flintlastic APP Base T; Flintlastic STA; Flintlastic STA Plus	Torch-Applied
	Cap	Flintlastic STA; Flintlastic STA Plus; Flintlastic GTA; Flintlastic GTA CoolStar; Flintlastic GTA-FR; Flintlastic GTA-FR CoolStar	
SBS-SA (SBS, Self-Adhering)	Base	Flintlastic SA PlyBase; Flintlastic SA Mid Ply	Self-Adhering
	Ply	Flintlastic SA PlyBase; Flintlastic SA Mid Ply	
	Cap	Flintlastic SA Cap; Flintlastic SA Cap CoolStar; Flintlastic SA Cap FR; Flintlastic SA Cap FR CoolStar	

8. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609 for determination of design wind loads. The following summary is the basis for the attachment tables herein. Table B assumes a directionality factor  $K_d = 0.85$ , no topographical variations  $K_{zt} = 1.0$ , roof slope  $< 7^\circ$  for enclosed buildings, roof slope  $\leq 2.4^\circ$  for open buildings and unobstructed flow for open buildings, as defined in ASCE 7-10.

TABLE B: ROOF CLADDING DESIGN PRESSURES, ALLOWABLE STRESS DESIGN, PASD (PSF)											
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed - $V_{ult}$ (mph) – FBC Figures 1609A, 1609B or 1609C							
				120	130	140	150	160	170	180	
B	Open slope $\leq 2.4^\circ$ unobstructed flow	$0 < h \leq 30$	1	-12.7	-14.9	-17.2	-19.8	-22.5	-25.4	-28.5	
			2	-19.4	-22.7	-26.4	-30.3	-34.4	-38.9	-43.6	
			3	-38.0	-44.6	-51.7	-59.4	-67.5	-76.2	-85.5	
		$30 < h \leq 40$	1	-13.7	-16.1	-18.7	-21.5	-24.4	-27.6	-30.9	
			2	-21.0	-24.7	-28.6	-32.9	-37.4	-42.2	-47.3	
			3	-41.2	-48.4	-56.1	-64.4	-73.3	-82.8	-92.8	
	Enclosed slope $< 7^\circ$	$0 < h \leq 30$	1	-15.5	-18.2	-21.1	-24.3	-27.6	-31.2	-34.9	
			2	-26.1	-30.6	-35.5	-40.7	-46.3	-52.3	-58.6	
			3	-39.2	-46.0	-53.4	-61.3	-69.7	-78.7	-88.2	
		$30 < h \leq 40$	1	-16.9	-19.8	-22.9	-26.3	-30.0	-33.8	-37.9	
			2	-28.3	-33.2	-38.5	-44.2	-50.3	-56.8	-63.7	
			3	-42.6	-50.0	-58.0	-66.5	-75.7	-85.5	-95.8	
C	Open slope $\leq 2.4^\circ$ unobstructed flow	$0 < h \leq 15$	1	-15.4	-18.0	-20.9	-24.0	-27.3	-30.9	-34.6	
			2	-23.5	-27.6	-32.0	-36.8	-41.8	-47.2	-52.9	
			3	-46.1	-54.1	-62.8	-72.1	-82.0	-92.6	-103.8	
			$15 < h \leq 20$	1	-16.3	-19.1	-22.2	-25.4	-28.9	-32.7	-36.6
				2	-24.9	-29.2	-33.9	-38.9	-44.3	-50.0	-56.0
				3	-48.8	-57.3	-66.5	-76.3	-86.8	-98.0	-109.9
		$20 < h \leq 30$	1	-17.7	-20.8	-24.1	-27.7	-31.5	-35.6	-39.9	
			2	-27.1	-31.8	-36.9	-42.4	-48.2	-54.4	-61.0	
			3	-53.2	-62.4	-72.4	-83.1	-94.6	-106.7	-119.7	
		$30 < h \leq 40$	1	-18.8	-22.1	-25.6	-29.4	-33.4	-37.8	-42.3	
			2	-28.8	-33.8	-39.2	-45.0	-51.2	-57.8	-64.8	
			3	-56.4	-66.2	-76.8	-88.2	-100.3	-113.3	-127.0	

**TABLE B (CONTINUED): ROOF CLADDING DESIGN PRESSURES, ALLOWABLE STRESS DESIGN, PASD (PSF)**

Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed - $V_{ult}$ (mph)						
				120	130	140	150	160	170	180
C	Enclosed slope < 7°	0 < h ≤ 15	1	-18.9	-22.1	-25.7	-29.5	-33.5	-37.8	-42.4
			2	-31.6	-37.1	-43.1	-49.4	-56.3	-63.5	-71.2
			3	-47.6	-55.9	-64.8	-74.4	-84.7	-95.6	-107.1
		15 < h ≤ 20	1	-20.0	-23.4	-27.2	-31.2	-35.5	-40.1	-44.9
			2	-33.5	-39.3	-45.6	-52.3	-59.6	-67.2	-75.4
			3	-50.4	-59.2	-68.6	-78.8	-89.6	-101.2	-113.5
		20 < h ≤ 30	1	-21.7	-25.5	-29.6	-34.0	-38.7	-43.6	-48.9
			2	-36.5	-42.8	-49.7	-57.0	-64.9	-73.2	-82.1
			3	-54.9	-64.4	-74.7	-85.8	-97.6	-110.2	-123.5
		30 < h ≤ 40	1	-23.1	-27.1	-31.4	-36.1	-41.0	-46.3	-51.9
			2	-38.7	-45.4	-52.7	-60.5	-68.8	-77.7	-87.1
			3	-58.3	-68.4	-79.3	-91.0	-103.6	-116.9	-131.1
D	Open slope ≤ 2.4° unobstructed flow	0 < h ≤ 15	1	-18.6	-21.9	-25.4	-29.1	-33.1	-37.4	-41.9
			2	-28.5	-33.5	-38.8	-44.5	-50.7	-57.2	-64.1
			3	-55.9	-65.6	-76.1	-87.3	-99.4	-112.2	-125.8
		15 < h ≤ 20	1	-19.5	-22.9	-26.6	-30.5	-34.7	-39.2	-44.0
			2	-29.9	-35.1	-40.7	-46.7	-53.1	-60.0	-67.3
			3	-58.6	-68.8	-79.8	-91.6	-104.2	-117.6	-131.9
		20 < h ≤ 30	1	-21.0	-24.6	-28.6	-32.8	-37.3	-42.1	-47.2
			2	-32.1	-37.7	-43.7	-50.2	-57.1	-64.4	-72.2
			3	-63.0	-73.9	-85.7	-98.4	-111.9	-126.3	-141.6
		30 < h ≤ 40	1	-22.1	-25.9	-30.0	-34.5	-39.2	-44.3	-49.7
			2	-33.8	-39.6	-46.0	-52.8	-60.0	-67.8	-76.0
			3	-66.2	-77.7	-90.1	-103.5	-117.7	-132.9	-149.0
	Enclosed slope < 7°	0 < h ≤ 15	1	-22.9	-26.8	-31.1	-35.7	-40.6	-45.9	-51.4
			2	-38.3	-45.0	-52.2	-59.9	-68.2	-77.0	-86.3
			3	-57.7	-67.7	-78.5	-90.2	-102.6	-115.8	-129.8
		15 < h ≤ 20	1	-24.0	-28.1	-32.6	-37.4	-42.6	-48.1	-53.9
			2	-40.2	-47.2	-54.7	-62.8	-71.5	-80.7	-90.5
			3	-60.5	-71.0	-82.4	-94.5	-107.6	-121.4	-136.1
20 < h ≤ 30	1	-25.7	-30.2	-35.0	-40.2	-45.7	-51.6	-57.9		
	2	-43.2	-50.7	-58.8	-67.5	-76.8	-86.7	-97.2		
	3	-65.0	-76.3	-88.5	-101.5	-115.5	-130.4	-146.2		
30 < h ≤ 40	1	-27.1	-31.8	-36.8	-42.3	-48.1	-54.3	-60.9		
	2	-45.4	-53.3	-61.8	-71.0	-80.7	-91.1	-102.2		
	3	-68.4	-80.2	-93.0	-106.8	-121.5	-137.2	-153.8		

**TABLE 1: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF); SYSTEM TYPE A: MECHANICALLY ATTACHED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER**

NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

System No.	Deck (See Note 1)	Anchor Sheet						Base Insulation		Top Insulation		Roof Cover			MDP (psf)
		Type	Fasteners	Attach				Type	Attach	Type	Attach	Base	Ply	Cap	
				At Lap		Staggered Center Rows									
				W	X	Y	Z								
W-1	Min. 19/32-inch plywood; See Note 1	Glasbase, All Weather Empire, Flexiglas Base, Poly SMS or Ultra Poly SMS	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	3	8	3	8	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	Hot asphalt, full coverage	Min. 0.25-inch DensDeck primed with ASTM D41 primer or DensDeck Prime	Hot asphalt, full coverage	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-52.5

**SYSTEM W-1; ZONE 2 & 3; PERIMETER & CORNER AREA ANCHOR SHEET ATTACHMENT:**

Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																				
				120			130			140			150			160			170			180		
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
B	Open	0 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	7	3	7	7	3	7	7	4	7	6	4	6	7	5	7
	Enclosed	0 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	7	5	7
30 < h ≤ 40		2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	4	7	7	4	7	
		3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	7	5	7	
C	Open	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	6	4	6	7	5	7	6	5	6
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	6	5	6	6	5	6
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7
			3-Corners	8	3	8	7	3	7	6	3	6	6	4	6	7	5	7	6	5	6	N/A		
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	8	4	8
			3-Corners	7	3	7	6	3	6	7	4	7	6	4	6	6	5	6	N/A			N/A		



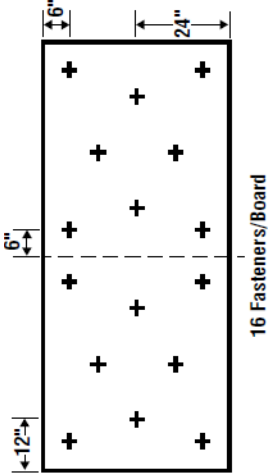
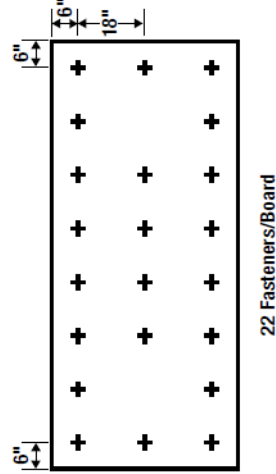
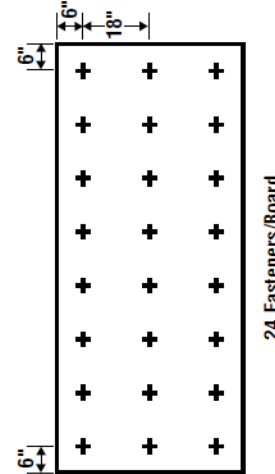
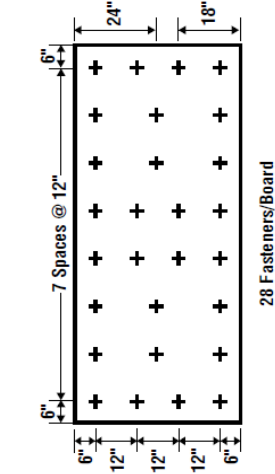
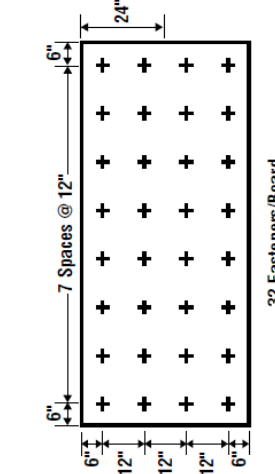
**TABLE 1 (CONTINUED): WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF); SYSTEM TYPE A: MECHANICALLY ATTACHED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER**

NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

SYSTEM W-1; ZONE 2 & 3; PERIMETER & CORNER AREA ANCHOR SHEET ATTACHMENT:																											
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																							
				120			130			140			150			160			170			180					
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z			
C	Enclosed	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7	6	3	6	6	3	6
			3-Corners	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	7	5	7	6	5	6			
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	N/A	N/A	N/A
			3-Corners	8	3	8	7	3	7	6	3	6	7	4	7	7	5	7	6	5	6	N/A					
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	N/A	N/A	N/A
			3-Corners	7	3	7	7	3	7	7	4	7	6	4	6	6	5	6	N/A			N/A					
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	N/A	N/A	N/A
			3-Corners	7	3	7	6	3	6	7	4	7	7	5	7	6	5	6	N/A			N/A					
D	Open	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	8	4	8	N/A	N/A	N/A
			3-Corners	7	3	7	6	3	6	7	4	7	6	4	6	6	5	6	6	5	6	N/A					
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7	8	4	8	N/A	N/A	N/A
			3-Corners	7	3	7	6	3	6	7	4	7	7	5	7	6	5	6	N/A			N/A					
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7	7	4	7	N/A	N/A	N/A
			3-Corners	7	3	7	7	4	7	6	4	6	6	5	6	N/A			N/A			N/A					
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	8	4	8	8	5	8	N/A	N/A	N/A
			3-Corners	6	3	6	7	4	7	6	4	6	6	5	6	N/A			N/A			N/A					
	Enclosed	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	N/A	N/A	N/A
			3-Corners	7	3	7	6	3	6	7	4	7	7	5	7	6	5	6	N/A			N/A					
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	7	3	7	7	3	7	7	4	7	7	4	7	N/A			N/A		
			3-Corners	7	3	7	7	4	7	6	4	6	7	5	7	N/A			N/A			N/A					
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	7	3	7	6	3	6	7	4	7	6	4	6	N/A			N/A		
			3-Corners	6	3	6	7	4	7	7	5	7	6	5	6	N/A			N/A			N/A					
		30 < h ≤ 40	2-Perimeters	8	3	8	7	3	7	7	3	7	7	4	7	7	4	7	N/A			N/A			N/A		
			3-Corners	6	3	6	7	4	7	7	5	7	6	5	6	N/A			N/A			N/A					

**TABLE 2: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER; SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover			MDP (psf)
			Type	Fasteners	Attach	Base	Ply	Cap	
<b>SYSTEM DESCRIPTION WITH ZONE 1 (FIELD AREA) INSULATION ATTACHMENT:</b>									
W-2	Min. 19/32-inch plywood; See Note 1	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch ACfoam II, FlintBoard ISO, H-Shield or FlintBoard ISO H primed with FlintPrime or FlintPrime SA	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14	Pattern #1 1 per 2 ft <sup>2</sup>	SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0
<i>Note: Board and stress plates shall be primed with FlintPrime for all Zone 2 &amp; 3 installations</i>									

<b>INSULATION ATTACHMENT PATTERN REFERENCES:</b>				
PATTERN #1: 1 per 2 ft <sup>2</sup>	PATTERN #2: 1 per 1.45 ft <sup>2</sup>	PATTERN #3: 1 per 1.33 ft <sup>2</sup>	PATTERN #4: 1 per 1.14 ft <sup>2</sup>	PATTERN #5: 1 per 1 ft <sup>2</sup>
 <p>16 Fasteners/Board</p>	 <p>22 Fasteners/Board</p>	 <p>24 Fasteners/Board</p>	 <p>28 Fasteners/Board</p>	 <p>32 Fasteners/Board</p>

<b>SYSTEM W-2; ZONE 1, 2 &amp; 3; FIELD, PERIMETER &amp; CORNER AREA INSULATION ATTACHMENT:</b>										
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)						
				120	130	140	150	160	170	180
B	Open	0 < h ≤ 30	1-Field	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#1	#1	#1
			3-Corners	#1	#1	#2	#2	#4	#5	#5
		30 < h ≤ 40	1-Field	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#1	#1	#2
			3-Corners	#1	#2	#2	#3	#4	#5	#5

**TABLE 2 (CONTINUED): WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER; SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

SYSTEM W-2; ZONE 1, 2 & 3; FIELD, PERIMETER & CORNER AREA INSULATION ATTACHMENT:											
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)							
				120	130	140	150	160	170	180	
B	Enclosed	0 < h ≤ 30	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#2	#2	#2	
			3-Corners	#1	#2	#2	#3	#4	#5	#5	
		30 < h ≤ 40	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#2	#2	#3	
			3-Corners	#1	#2	#2	#4	#4	#5	#5	
C	Open	0 < h ≤ 15	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#1	#2	#2	
			3-Corners	#1	#2	#3	#4	#5	#5	N/A	
		15 < h ≤ 20	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#2	#2	#3	
			3-Corners	#2	#2	#4	#5	#5	N/A	N/A	
		20 < h ≤ 30	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#2	#2	#3	
			3-Corners	#2	#3	#4	#5	#5	N/A	N/A	
		30 < h ≤ 40	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#2	#2	#3	
			3-Corners	#2	#4	#5	#5	N/A	N/A	N/A	
	Enclosed	0 < h ≤ 15	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#2	#2	#3	#4	
			3-Corners	#2	#2	#3	#4	#5	#5	N/A	
		15 < h ≤ 20	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#2	#2	#2	#4	#4	
			3-Corners	#2	#2	#4	#5	#5	N/A	N/A	
		20 < h ≤ 30	1-Field	#1	#1	#1	#1	#1	#1	#2	
			2-Perimeters	#1	#1	#2	#2	#3	#4	#5	
			3-Corners	#2	#3	#4	#5	N/A	N/A	N/A	
		30 < h ≤ 40	1-Field	#1	#1	#1	#1	#1	#2	#2	
			2-Perimeters	#1	#2	#2	#3	#4	#5	#5	
			3-Corners	#2	#4	#5	#5	N/A	N/A	N/A	

**TABLE 2 (CONTINUED): WOOD DECKS – NEW CONSTRUCTION, ReROOF (TEAR-OFF) OR RECOVER; SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

SYSTEM W-2; ZONE 1, 2 & 3; FIELD, PERIMETER & CORNER AREA INSULATION ATTACHMENT:											
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)							
				120	130	140	150	160	170	180	
D	Open	0 < h ≤ 15	1-Field	#1	#1	#1	#1	#1	#1	#1	#1
			2-Perimeters	#1	#1	#1	#1	#2	#2	#3	
			3-Corners	#2	#4	#4	#5	N/A	N/A	N/A	
		15 < h ≤ 20	1-Field	#1	#1	#1	#1	#1	#1	#1	
			2-Perimeters	#1	#1	#1	#2	#2	#2	#4	
			3-Corners	#2	#4	#5	#5	N/A	N/A	N/A	
		20 < h ≤ 30	1-Field	#1	#1	#1	#1	#1	#1	#2	
			2-Perimeters	#1	#1	#1	#2	#2	#3	#4	
			3-Corners	#3	#4	#5	N/A	N/A	N/A	N/A	
		30 < h ≤ 40	1-Field	#1	#1	#1	#1	#1	#1	#2	
			2-Perimeters	#1	#1	#2	#2	#3	#4	#4	
			3-Corners	#4	#5	#5	N/A	N/A	N/A	N/A	
	Enclosed	0 < h ≤ 15	1-Field	#1	#1	#1	#1	#1	#2	#2	
			2-Perimeters	#1	#1	#2	#2	#4	#5	#5	
			3-Corners	#2	#4	#5	#5	N/A	N/A	N/A	
		15 < h ≤ 20	1-Field	#1	#1	#1	#1	#1	#2	#2	
			2-Perimeters	#1	#2	#2	#3	#4	#5	#5	
			3-Corners	#3	#4	#5	#5	N/A	N/A	N/A	
		20 < h ≤ 30	1-Field	#1	#1	#1	#1	#2	#2	#2	
			2-Perimeters	#1	#2	#2	#4	#5	#5	#5	
			3-Corners	#3	#5	#5	N/A	N/A	N/A	N/A	
		30 < h ≤ 40	1-Field	#1	#1	#1	#1	#2	#2	#3	
			2-Perimeters	#2	#2	#3	#4	#5	#5	N/A	
			3-Corners	#4	#5	#5	N/A	N/A	N/A	N/A	

**TABLE 3: WOOD DECKS – NEW CONSTRUCTION, ReROOF (TEAR-OFF) OR RECOVER; SYSTEM TYPE D: INSULATION, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**

NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

System No.	Deck (See Note 1)	Insulation Layer(s)		Base or Anchor Sheet						Roof Cover		MDP (psf)
		Type	Attach	Base	Fasteners	Attach				Ply	Cap	
						At Lap		Staggered Center Rows(s)				
						W	X	Y	Z			
W-3	Min. 15/32-inch plywood; See Note 1	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS Base; Yosemite	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14	4	6	3	6	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-97.5

**SYSTEM W-3; ZONE 2 & 3; PERIMETER & CORNER AREA BASE SHEET ATTACHMENT:**

Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																							
				120			130			140			150			160			170			180					
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z			
B	Open	0 < h ≤ 30	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
		30 < h ≤ 40	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
	Enclosed	0 < h ≤ 30	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
C	Open	0 < h ≤ 15	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	3	6
		15 < h ≤ 20	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	3	6
		20 < h ≤ 30	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	3	6	6	3	6
		30 < h ≤ 40	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	3	6	6	3	6	6	3	6

**TABLE 3 (CONTINUED): WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER; SYSTEM TYPE D: INSULATION, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**  
 NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

SYSTEM W-3; ZONE 2 & 3; PERIMETER & CORNER AREA BASE SHEET ATTACHMENT:																								
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																				
				120			130			140			150			160			170			180		
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
C	Enclosed	0 < h ≤ 15	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7
		15 < h ≤ 20	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6
		20 < h ≤ 30	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6
30 < h ≤ 40	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6		
	3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6	7	5	7		
D	Open	0 < h ≤ 15	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6
		15 < h ≤ 20	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6	7	5	7
		20 < h ≤ 30	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6	6	5	6
	30 < h ≤ 40	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	
		3-Corners	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6	6	4	6	6	5	6	
	Enclosed	0 < h ≤ 15	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6	6	4	6
		15 < h ≤ 20	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6
			3-Corners	6	3	6	6	3	6	6	3	6	6	3	6	6	4	6	6	4	6	6	5	6
20 < h ≤ 30		2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	
		3-Corners	6	3	6	6	3	6	6	3	6	7	4	7	6	4	6	6	4	6	6	5	6	
30 < h ≤ 40	2-Perimeters	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	6	3	6	7	4	7		
	3-Corners	6	3	6	6	3	6	6	3	6	6	4	6	6	4	6	6	5	6	6	5	6		

**TABLE 4: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF); SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**

NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

System No.	Deck (See Note 1)	Base Sheet						Roof Cover		MDP (psf)
		Base	Fasteners	Attachment				Ply	Cap	
				At Lap		Staggered Center Row(s)				
				W	X	Y	Z			
<b>SYSTEM DESCRIPTION WITH ZONE 1 (FIELD AREA) BASE SHEET ATTACHMENT:</b>										
W-4	Min. 19/32-inch plywood; See Note 1	Flintlastic SA NailBase	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	2	8	3	8	(Optional) SBS-SA	SBS-SA	-60.0

**SYSTEM W-4; ZONE 2 & 3; PERIMETER & CORNER AREA BASE SHEET ATTACHMENT:**

Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																							
				120			130			140			150			160			170			180					
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z			
B	Open	0 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	5	4	5			
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7	5	4	5	5	4	5	5	4	5
	Enclosed	0 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	5	3	5	4	3	4	4	3	4
C	Open	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	7	3	7	5	4	5	5	4	5	5	4	5	5	5	5
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	5	4	5	5	4	5	5	4	5	5	5	5
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	7	3	7	7	3	7	5	4	5	5	4	5	5	5	5	5	5	5	4	5	4
30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	6	3	6		
	3-Corners	8	3	8	7	3	7	6	3	6	5	4	5	5	5	5	4	5	4	4	5	4	4	5	4		

**TABLE 4 (CONTINUED): WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF); SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**  
 NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

SYSTEM W-4; ZONE 2 & 3; PERIMETER & CORNER AREA BASE SHEET ATTACHMENT:																											
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																							
				120			130			140			150			160			170			180					
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z			
C	Enclosed	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	4	3	4	4	3	4	4	3	4	4	4	4
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7	5	3	5
			3-Corners	8	3	8	8	3	8	7	3	7	5	3	5	4	3	4	4	3	4	4	3	4	4	4	4
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7	7	3	7	5	3	5
			3-Corners	8	3	8	7	3	7	6	3	6	4	3	4	4	3	4	4	3	4	4	4	4	4	5	4
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	5	3	5	5	3	5	4	3	4
			3-Corners	8	3	8	7	3	7	5	3	5	4	3	4	4	3	4	4	3	4	4	4	4	4	5	4
D	Open	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	6	3	6
			3-Corners	8	3	8	7	3	7	6	3	6	5	4	5	5	4	5	5	4	5	4	5	4	4	5	4
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	5	3	5
			3-Corners	8	3	8	7	3	7	6	4	6	5	4	5	5	4	5	5	4	5	4	5	4	4	5	4
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	6	3	6	6	3	6	6	4	6
			3-Corners	8	3	8	6	3	6	5	4	5	5	4	5	5	4	5	5	4	5	4	5	4	4	5	4
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	4	7	7	4	7	6	4	6
			3-Corners	7	3	7	6	4	6	5	4	5	5	5	5	4	5	4	4	5	4	4	5	4	4	6	4
	Enclosed	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	5	3	5	4	3	4	4	3	4
			3-Corners	8	3	8	7	3	7	5	3	5	4	3	4	4	3	4	4	4	4	4	4	4	4	5	4
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	4	3	4	4	3	4	4	3	4
			3-Corners	8	3	8	7	3	7	6	3	6	5	3	5	4	4	4	4	5	4	4	5	4	4	5	4
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	7	3	7	5	3	5	4	3	4	4	3	4	4	3	4
			3-Corners	7	3	7	5	3	5	4	3	4	4	3	4	4	4	4	4	5	4	4	6	4	4	6	4
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	7	3	7	4	3	4	4	3	4	4	3	4	N/A		
			3-Corners	7	3	7	4	3	4	4	3	4	4	4	4	4	5	4	4	5	4						



**TABLE 5: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF); SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**

NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

System No.	Deck (See Note 1)	Base Sheet						Roof Cover			MDP (psf)
		Base	Fasteners	Attachment				Ply	Cap		
				At Lap		Staggered Center Row(s)					
				W	X	Y	Z				
<b>SYSTEM DESCRIPTION WITH ZONE 1 (FIELD AREA) BASE SHEET ATTACHMENT:</b>											
W-5	Min. 19/32-inch plywood; See Note 1	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	4	8	3	8	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0	

**SYSTEM W-5; ZONE 2 & 3; PERIMETER & CORNER AREA BASE SHEET ATTACHMENT:**

Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																				
				120			130			140			150			160			170			180		
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
B	Open	0 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	5	4	5
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	5	3	5	5	4	5
	Enclosed	0 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	6	3	6	4	3	4
C	Open	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	5	3	5	5	4	5	4	4	4
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	5	4	5	5	4	5	4	5	4
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	7	3	7	6	3	6	5	3	5	5	4	5	5	5	5	4	5	4
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	7	3	7	6	3	6	5	4	5	5	5	5	4	5	4	4	5	4

**TABLE 5 (CONTINUED): WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF); SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER**

NOMENCLATURE: W = MINIMUM SIDE LAP WIDTH (INCH); X = MAXIMUM SIDE LAP FASTENER SPACING (INCH O.C.);  
 Y = MINIMUM # OF STAGGERED CENTER ROWS; Z = MAXIMUM CENTER ROW FASTENER SPACING (INCH O.C.)

SYSTEM W-5; ZONE 2 & 3; PERIMETER & CORNER AREA BASE SHEET ATTACHMENT:																											
Exposure	Enclosure	Roof Height (ft)	Zone	Ultimate Design Wind Speed – V <sub>ult</sub> (mph)																							
				120			130			140			150			160			170			180					
				X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z			
C	Enclosed	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	5	3	5	4	3	4	4	4	4			
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6			
			3-Corners	8	3	8	8	3	8	7	3	7	6	3	6	4	3	4	4	3	4	4	4	4			
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	7	3	7	6	3	6			
			3-Corners	8	3	8	7	3	7	6	3	6	5	3	5	4	3	4	4	4	4	4	5	4			
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	5	3	5			
			3-Corners	8	3	8	7	3	7	6	3	6	4	3	4	4	3	4	4	4	4	4	5	4			
D	Open	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7
			3-Corners	8	3	8	7	3	7	6	3	6	5	4	5	5	4	5	4	5	4	4	5	4			
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7			
			3-Corners	8	3	8	7	3	7	6	3	6	5	4	5	5	5	5	4	5	4	4	6	4			
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	4	6			
			3-Corners	7	3	7	6	3	6	5	4	5	5	4	5	5	6	5	4	6	4	4	6	4			
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	8	3	8	7	4	7	6	4	6			
			3-Corners	7	3	7	6	3	6	5	4	5	4	4	4	4	5	4	4	6	4	N/A					
	Enclosed	0 < h ≤ 15	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	5	3	5			
			3-Corners	8	3	8	7	3	7	6	3	6	4	3	4	4	3	4	4	4	4	4	5	4			
		15 < h ≤ 20	2-Perimeters	8	3	8	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	4	3	4			
			3-Corners	8	3	8	7	3	7	6	3	6	5	3	5	4	4	4	4	5	4	4	5	4			
		20 < h ≤ 30	2-Perimeters	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	5	3	5	4	3	4			
			3-Corners	7	3	7	6	3	6	4	3	4	4	3	4	4	4	4	4	5	4	4	6	4			
		30 < h ≤ 40	2-Perimeters	8	3	8	8	3	8	8	3	8	7	3	7	6	3	6	4	3	4	N/A					
			3-Corners	7	3	7	6	3	6	4	3	4	4	4	4	4	5	4	4	5	4	N/A					