



NEMO|etc.

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EVALUATION REPORT

CertainTeed Corporation

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

Evaluation Report C40710.06.12-R4

FL15692-R4

Date of Issuance: 06/16/2012

Revision 4: 04/12/2019

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 and Florida Building Code, Residential Volume. The products described herein have been evaluated for compliance with the **6th Edition (2017) Florida Building Code** sections noted herein.

DESCRIPTION: CertainTeed DiamondDeck® High Performance Synthetic Underlayment

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.

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 04/12/2019. 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 COMPONENT EVALUATION:
1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Compliance Statement: CertainTeed DiamondDeck® High Performance Synthetic Underlayment, as produced by CertainTeed Corporation, has demonstrated compliance with the following sections of the 6th Edition (2017) Florida Building Code through testing in accordance with applicable sections the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

Section	Property	Standard	Year
1507.1.1, R905.1.1 Exception	Unrolling, Breaking Strength, Pliability	ASTM D226	2009
1507.1.1, R905.1.1 Exception	Tear strength	ASTM D1970	2015
TAS 110	Accelerated Weathering	ASTM D4798	2011

3. REFERENCES:

Entity	Examination	Reference	Date
ERD (TST6049)	Physical Properties	C30280.12.09	12/11/2009
ERD (TST6049)	Physical Properties	C30280.12.09-R2	08/20/2010
ERD (TST6049)	Tear strength	CTR-SC16080.17	07/31/2017
NEMO (TST6049)	Comparative rupture (pull-through)	4i-CTR-19-SSCRT	04/10/2019
UL, LLC. (QUA9625)	Quality Control	Service Confirmation	Exp. 03/09/2020

4. PRODUCT DESCRIPTION:

	Product	Specification	Plant(s)	Description
4.1	DiamondDeck®	FBC 1507.1.1 & R905.1.1 (Exception)	Hangzhou, China	scrim-reinforced, polymer-based roof underlayment

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 Fire Classification is not part of this report; refer to current Approved Roofing Materials Directory or test report from accredited testing agency for fire ratings of this product.
- 5.4 **DiamondDeck®** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this evaluation combined with supporting data for the prepared roof covering.
- 5.5 Allowable Roof Covers:

TABLE 1: ROOF COVER OPTIONS

Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Metal	Wood Shakes & Shingles	Slate
DiamondDeck®	Yes	No	No	Yes	Yes	Yes

5.6 Exposure Limitations:

DiamondDeck® shall not be left exposed for longer than 180-days after installation.

6. INSTALLATION:

6.1 DiamondDeck® shall be installed in accordance with CertainTeed Corporation published installation instructions subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.2 DiamondDeck®

6.2.1 Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application.

6.2.2 Fasteners:

Underlayment shall be attached using corrosion resistant, min. 14 gage (0.083-inch shank diameter) ring shank roofing nails with min. 1-inch diameter plastic or metal caps.

Code Reference: The Exception statement for reinforced synthetic underlayments in FBC 1507.1.1 and FBC R905.1.1 states: “...metal cap nails shall be required where the ultimate design wind speed, V_{ult} , equals or exceeds 150 mph.”

CertainTeed Corporation has furnished data to permit the use of 1-inch diameter plastic cap nails in lieu of metal cap nails for these applications, when the **DiamondDeck®** underlayment is installed beneath mechanically fastened prepared roof covers referenced in FBC Table 1507.1.1 or R905.1.1. See Table 2 for attachment requirements.

Ensure fasteners are installed at 90 degree angle to the deck with flush contact between the plastic or metal cap and the upper surface of the underlayment. Fasteners shall be of sufficient length to penetrate through the underside of plywood or OSB decks, or minimum ¾-inch embedment into dimensional lumber / tongue-and-groove wood decks.

6.2.3 Slopes of 4:12 or greater:

End (vertical) laps shall be minimum 6-inches and side (horizontal) laps shall be minimum 4-inches. End (vertical) laps shall be offset from course to course not less than 6 feet. Side (horizontal) laps shall run with the flow of water in a shingling manner.

Minimum attachment shall be not less than Table 2. Note: These patterns have been determined as meeting the intent of those set forth in FBC Table 1507.1.1 or R905.1.1, regardless of whether 1” plastic cap nails or 1” metal cap nails are utilized.

TABLE 2: MINIMUM ATTACHMENT: DIAMONDDÉCK®	
1” diameter plastic or metal cap nails	batten systems
At the diamond-printed pattern: 12-inch o.c. at the 4-inch horizontal laps and 12-inch o.c. at two (2) equally spaced center rows. At end (vertical) laps install 8 fasteners equally spaced at 6-inch o.c. centered in the lap.	When batten systems are to be installed atop the underlayment, the underlayment need only be preliminarily attached pending attachment of the battens

6.2.4 Slopes of 2:12 to less than 4:12:

Double layer application; begin by fastening a 25.5-inch wide starter strip along the eaves. Place a full-width sheet over the starter, completely overlapping the starter course. Continue as noted in 6.2.3, but maintain minimum 25.5-inch side (horizontal) laps, with side-lap fasteners located 2-inch from the downslope edge, resulting in a double-layer application. End (vertical) laps shall be minimum 12-inches and shall be offset from course to course not less than 6 feet.

6.2.5 Consult CertainTeed published recommendations for the installation of a leak barrier of ASTM D1970, such as CertainTeed WinterGuard (FL11288), or equal holding Florida Statewide Product Approval at vulnerable leak areas.

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 manufacturer or the named QA entity for plants covered under Rule 61G20-3 QA requirements. Refer to Section 4 herein for product & production locations having met codified physical properties specifications.

9. QUALITY ASSURANCE ENTITY:

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

- END OF EVALUATION REPORT -