



NEMO|etc.

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ENGINEER

EVALUATE

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

Carlisle Coatings & Waterproofing

900 Hensley Lane
Wylie, TX 75098
(717) 245-7000

PEER-CCW-001.A.R8

FL6785-R12 (NON-HVHZ)

Date of Issuance: 12/09/2011

Revision 8: 09/18/2023

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: Carlisle Water & Ice Protection (WIP®) Roof Underlayments (NON-HVHZ)

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein and [FBC 1507.1.1](#).

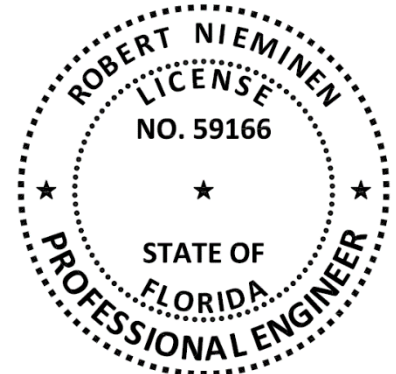
CONTINUED COMPLIANCE: This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our PEERs by the named client constitutes agreement to notify NEMO 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.

Prepared by:



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 COMPONENT EVALUATION:
1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Product Approval Method: Method 1, Option D – Codified Material, Evaluation by Engineer
Compliance Statement: Carlisle Water & Ice Protection (WIP®) Underlayments, as produced by Carlisle Coatings & Waterproofing, 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 |
|---|------------------------|---------------------------|------|
| 1507.1.1, 1507.2.9.2 / R905.1.1, R905.2.8.2 | Material standard | ASTM D1970 | 2017 |
| 1507.3.3 / R905.3.3 | Material standard | FRSA/TRI, Seventh Edition | 2023 |
| TAS 110 | Accelerated Weathering | ASTM D4798 | 2011 |

3. REFERENCES:

| ENTITY | EXAMINATION | REFERENCE | DATE |
|--------------------|-----------------------|-------------------------------------|------------|
| NEMO (TST6049) | FRSA/TRI | 4S-CRL-18-004.12.18-1 | 12/17/2018 |
| NEMO (TST6049) | ASTM D1970, D4798 | 4j-CRL-19-SSUDL-03.A | 05/28/2019 |
| NEMO (TST6049) | ASTM D1970 | 4j-CRL-19-SSUDL-02.A | 06/03/2019 |
| NEMO (TST6049) | ASTM D1970, FRSA/TRI | 4S-CRL-18-004.06.19.A | 06/19/2019 |
| NEMO (TST6049) | ASTM D1970, FRSA/TRI | 4j-CCW-22-SSUDL-01.B | 03/23/2022 |
| NEMO (TST6049) | ASTM D1970 (adhesion) | 4j-CCW-23-SSUDL-02.A | 07/18/2023 |
| PRI (TST5878) | ASTM D1970 | CCW-019-02-01 | 11/19/2014 |
| PRI (TST5878) | ASTM D1970 | CCW-020-02-01 | 11/19/2014 |
| PRI (TST5878) | ASTM D1970 | CCW-021-02-01 | 11/19/2014 |
| UL, LLC. (QUA9625) | Quality Control | TGDY.R18678 Listing | 07/28/2022 |
| UL, LLC. (QUA9625) | Quality Control | Service Confirmation | 04/15/2022 |
| UL, LLC. (QUA9625) | Quality Control | Florida BCIS | Current |

4. PRODUCT DESCRIPTION:

| TABLE 1: EVALUATED MEMBRANES | | | |
|------------------------------|----------------------|--------------|---|
| PRODUCT | MATERIAL STANDARD | PLANT(S) | DESCRIPTION |
| WIP® 100 | ASTM D1970 | Carlisle, PA | self-adhering, fiberglass reinforced, granule surfaced, rubberized asphalt roof underlayment |
| WIP® 100SG | ASTM D1970 | Carlisle, PA | self-adhering, fiberglass reinforced, granule surfaced, rubberized asphalt roof underlayment |
| WIP® 250HT | ASTM D1970, FRSA/TRI | Carlisle, PA | self-adhering, fiberglass reinforced, film surfaced, rubberized asphalt roof underlayment |
| WIP® 300HT | ASTM D1970, FRSA/TRI | Terrell, TX | self-adhering, coated-polyolefin-composite film surfaced, rubberized asphalt roof underlayment |
| WIP® 400HT | ASTM D1970, FRSA/TRI | Terrell, TX | self-adhering, polypropylene film surfaced, rubberized asphalt roof underlayment |
| WIP® GRIP | ASTM D1970 | Carlisle, PA | self-adhering, fiberglass reinforced, film-surfaced, rubberized asphalt roof underlayment |
| WIP® GRIP FR HT | ASTM D1970, FRSA/TRI | Carlisle, PA | self-adhering, fire-rated glass mat reinforced, film-surfaced, rubberized asphalt 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 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 **Carlisle Water & Ice Protection (WIP®) Underlayments** 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.
- 5.6 Allowable Roof Covers:

| TABLE 2: ROOF COVER OPTIONS | | | | | | | |
|-----------------------------|------------------|------------------------|--------------|-------------------|------------------------------|-------------------|-----------------------|
| <i>FBC NON-HVHZ:</i> | 1507.2 | 1507.3 | | 1507.4 AND 1507.5 | 1507.7 | 1507.8 AND 1507.9 | 1507.17 |
| UNDERLAYMENT | ASPHALT SHINGLES | CLAY AND CONCRETE TILE | | METAL | SLATE OR SLATE-TYPE SHINGLES | WOOD | PHOTOVOLTAIC SHINGLES |
| | | MECHANICAL ATTACH | ADHESIVE-SET | | | | |
| WIP 100 | Yes | No | No | No | No | Yes ¹ | Yes ¹ |
| WIP 100SG | Yes | No | No | No | No | Yes ¹ | Yes ¹ |
| WIP 250HT | Yes | Yes | No | Yes | No | Yes ¹ | Yes ¹ |
| WIP 300HT | Yes | Yes | No | Yes | Yes | Yes ¹ | Yes ¹ |
| WIP 400HT | Yes | Yes | No | Yes | Yes | Yes ¹ | Yes ¹ |
| WIP GRIP | Yes | No | No | No | No | Yes ¹ | Yes ¹ |
| WIP GRIP FR HT | Yes | Yes | No | Yes | No | Yes ¹ | Yes ¹ |

- 5.7 Allowable Substrates:

| TABLE 3: SUBSTRATE OPTIONS FOR ADHERED UNDERLAYMENTS | | | |
|--|--|--------------------------------|---|
| UNDERLAYMENT | SUBSTRATES (DESIGNED TO MEET WIND LOADS FOR PROJECT) | | |
| | TYPE | PRIMER | SUBSTRATES |
| WIP 100, WIP 250HT or WIP GRIP FR HT | Deck / Sheathing | (Optional) CCW-702 or CAV-GRIP | Plywood |
| | Base Sheet | None | ASTM D226, Type II felt |
| WIP 100SG | Deck / Sheathing | CCW-702 or CAV-GRIP | Plywood |
| WIP 300HT | Deck / Sheathing | (Optional) CCW-702 or CAV-GRIP | Plywood or OSB |
| | Insulation | CAV-GRIP | H-Shield, H-Shield CG, H-Shield HD, H-Shield HD Composite, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board |
| | Base Sheet | (Optional) CCW-702 or CAV-GRIP | ASTM D226, Type II felt |

¹ Used as min. 3 ¼-inch wide joint-strips per FBC 1507.1.1.1(2) / FBC R905.1.1.1(2) or installed in full-coverage atop ASTM D226, Type II felt mechanically attached in accordance with FBC Table 1507.1.1.1 or FBC Residential Table R905.1.1.1.

| TABLE 3: SUBSTRATE OPTIONS FOR ADHERED UNDERLAYMENTS | | | |
|--|--|---|-------------------------|
| UNDERLAYMENT | SUBSTRATES (DESIGNED TO MEET WIND LOADS FOR PROJECT) | | |
| | TYPE | PRIMER | SUBSTRATES |
| WIP 400HT | Deck / Sheathing | (Optional) CCW-702 or CAV-GRIP | Plywood or OSB |
| | Base Sheet | (Optional) CCW-702 or CAV-GRIP | ASTM D226, Type II felt |
| WIP GRIP | Deck / Sheathing | (Optional) ASTM D41, CCW-550, CCW-702 or CAV-GRIP | Plywood |
| | | ASTM D41, CCW-550, CCW-702 or CAV-GRIP | OSB |

5.8 Attachment Limitations:

5.8.1 For use under mechanically attached NON-TILE prepared roof coverings, attachment shall be in accordance with the manufacturer’s installation instructions, but – for mechanically attached underlayments or base sheets - not less than FBC 1507.1.1 or R905.1.1.

5.8.2 Wind Resistance for Underlayment Systems Tile Roof Applications:

The following wind uplift limitations apply to tile underlayment systems. The Maximum Design Pressure (“MDP”) 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).

5.8.2.1 Direct-to-Deck:

The maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI Manual, 7th Edition**, Appendix A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

| TABLE 4: ALLOWABLE DESIGN PRESSURES, DIRECT-TO-DECK UNDERLAYMENT IN TILE ROOF APPLICATIONS | | | | | | |
|---|--|--------------------------------|-----------------|----------|---|-----------|
| SYSTEM No. | DECK | PRIMER | JOINT TREATMENT | BASE PLY | CAP PLY | MDP (PSF) |
| UDL-1. | Plywood , APA rated sheathing, 40/20, Exposure 1, PS1, 19/32 category | (Optional) CCW 702 or CAV-GRIP | None | None | WIP 250HT, WIP 300HT, WIP 400HT or WIP GRIP FR HT, self-adhered and back-nailed max. 12-inch o.c. | -45.0 |
| UDL-2. | OSB , APA rated sheathing, 40/20, Exposure 1, PS2, 19/32 category | CCW 702 or CAV-GRIP | None | None | WIP 400HT, self-adhered and back-nailed max. 12-inch o.c. | -45.0 |

5.9 Exposure Limitations:

| TABLE 5: EXPOSURE LIMITATIONS | |
|--------------------------------------|-------------------------|
| UNDERLAYMENT | MAXIMUM EXPOSURE (DAYS) |
| WIP 100, WIP 100SG or WIP GRIP FR HT | 30 |
| WIP GRIP | 90 |
| WIP 250HT, WIP 300HT and WIP 400HT | 180 |

5.10 Tile Slippage Limitations:

When loading roof tiles atop WIP 250HT, WIP 300HT, WIP 400HT or WIP GRIP FR HT, the tile shall be staged atop a fastened battens or loading boards, regardless of pitch.

6. INSTALLATION:

- 6.1 **Carlisle Water & Ice Protection (WIP®) Underlayments** shall be installed in accordance with **Carlisle Coatings & Waterproofing** published installation instructions subject to the [Limitations of Use](#) herein and the specifics noted below.
- 6.1.1 Consult **Carlisle Coatings & Waterproofing** requirements for back-nailing at pitch of 2:12 or greater.
- 6.2 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, and prime the substrate (if applicable) with **CCW-702** or **CAV-GRIP** Primer. Priming is required when temperatures are below 40°F.

6.3 **WIP 100, WIP 100SG and WIP GRIP:**

- 6.3.1 Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **FBC Residential R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions.
- When installed over a mechanically attached base sheet of FBC Approved ASTM D226, Type II felt, the base sheet shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.

6.4 **WIP 250HT, WIP 300HT, WIP 400HT and WIP GRIP FR HT:**

- 6.4.1 Non-Tile Applications:
- Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **FBC Residential R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions.
- When installed over a mechanically attached base sheet of FBC Approved ASTM D226, Type II felt, the base sheet shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.
- 6.4.2 Tile Applications:
- Shall be installed in compliance with requirements for a Self-Adhered Membrane in the **FRSA/TRI Manual, 7th Edition**, and the manufacturer's installation instructions.
- Refer to [Section 5.8](#) herein for attachment limitations.
- Refer to [Section 5.10](#) for tile staging limitations.

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. Refer to [Section 4](#) herein for products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

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

- END OF PEER -