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DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION

Section: 07 30 05 – Roofing Felt and Underlayment

REPORT HOLDER:

National Nail Corp
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REPORT SUBJECT:

EXO25, EXO35, and EXO50 Synthetic Roofing Underlays

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021, and 2018 *International Building Code*® (IBC)
- 2024, 2021, and 2018 *International Residential Code*® (IRC)
- 2023 and 2020 *Florida Building Code* (FBC)

1.2 EXO25, EXO35, and EXO50 underlays have been evaluated for the following properties (see Table 1):

- Physical Properties
- Ice Barrier
- Fire Classification

1.3 EXO25, EXO35, and EXO50 underlays have been evaluated for the following uses (see Table 1):

- Under the 2024 IBC and IRC, the underlays may be used in the field of roofs where ASTM D8257-compliant underlays are required as specified in IBC Chapter 15 and IRC Chapter 9.
- Under the 2021 and 2018 Codes, the underlays may be used as an alternative to the ASTM D226, Type I and Type II, roofing underlays specified in IBC Chapter 15 and IRC Chapter 9.
- In areas of the roof required by IBC Section 1507 or IRC Section R905 to have an ice barrier as described in Section 4.2 of this report.
- As a component of a classified assembly when installed as described in Section 4.1 of this report.

2.0 STATEMENT OF COMPLIANCE

EXO25, EXO35, and EXO50 underlays comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

3.0 DESCRIPTION

3.1 EXO25 is a mechanically attached synthetic underlayment comprised of a cross-woven polypropylene base scrim laminated onto a non-woven scrim. The exposed and sheathing sides of the underlayment are coated. The underlayment has an overall weight of 1.76 pounds per 100 square feet and is available in rolls 48 inches wide by 250 feet long. The product is also available in rolls measuring 24 inches by 250 feet long.

3.2 EXO35 is a mechanically attached synthetic underlayment comprised of a cross-woven polypropylene base scrim laminated onto a non-woven scrim. The exposed and sheathing sides of the underlayment are coated. The underlayment has an overall weight of 2.1 pounds per 100 square feet and is available in rolls 48 inches wide by 250 feet long.

3.3 EXO50 is a mechanically attached synthetic underlayment comprised of a cross-woven polypropylene base scrim laminated onto a non-woven scrim. The exposed and sheathing sides of the underlayment are coated. The underlayment has an overall weight of 2.7 pounds per 100 square feet and is available in rolls 48 inches wide by 250 feet long.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Fire Classification: When installed in accordance with the assembly described in Table 2 of this report, the roofing underlays meet Class A fire classification per ASTM E108. Additionally, the underlays may be used as follows:



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- As a component of a classified roof assembly when specifically recognized as such in a Listing Report approved by the Code official.
- As an alternative to the underlayment specified in the Code for roof coverings permitted under Exceptions 1 - 4 to IBC Section 1505.2 and Exceptions 1 - 4 to IRC Section R902.1.
- Where non-classified roofing is permitted in IBC Section 1505.5.

4.2 Ice Barrier: In areas of the roof required by IBC Section 1507.1.2 or IRC Section R905.1.2 to have an ice barrier, two layers of the roofing underlays solidly cemented together may be used provided the ice barrier extends up the roof a minimum distance of 24 inches inside the exterior wall line of the building.

4.3 Vapor Permeability: The underlays have a permeance of 0.02 perms, based on testing in accordance with ASTM E96.

5.0 INSTALLATION

5.1 General: EXO25, EXO35, and EXO50 underlays must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

The underlays may be installed with the roof coverings specified in IBC Table 1507.1.1(1) and IRC Table R905.1.1(1), where ASTM D8257-compliant underlays are permitted. The underlays must be installed in accordance with IBC Table 1507.1.1(2) and IRC Table R905.1.1(2) and fastened in accordance with IBC Table 1507.1.1(3) and IRC Table R905.1.1(3). The underlays must be laid with the print side up, with laps as required by the applicable Code, evaluation report, or manufacturer's instructions, whichever is more restrictive.

The roof covering may be installed immediately following the underlayment application and the underlayment must be covered within the time designated in the report holder's published installation instructions.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 Installation of underlays with adhered roofing systems is outside the scope of this report.

6.3 Installation is limited to roofs with a slope of 2:12 (17%) or greater.

6.4 Attic ventilation must be provided in accordance with the applicable Code since there are no requirements to evaluate vapor permeability of the underlayment.

6.5 The EXO25, EXO35, and EXO50 underlays are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with ASTM D8257 and ASTM E108.

7.2 Data in accordance with the ICC-ES Acceptance Criteria for Roof Underlays (AC188), dated February 2012 (editorially revised December 2015).

7.3 Intertek Listing Report "National Nail Corp - EXO25, EXO35, and EXO50 Synthetic Roofing Underlays", on the [Intertek Directory of Building Products](#).

8.0 IDENTIFICATION

The EXO25, EXO35, and EXO50 underlays are identified with the manufacturer's name, address and telephone number, the product names, the Intertek Mark as shown below, and the Code Compliance Research Report number (CCRR-0504).



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9.0 OTHER CODES

9.1 Florida Building Code: EXO25, EXO35, and EXO50 underlays, described in Sections 2.0 through 7.0 of this Research Report, comply with the *Florida Building Code – Building* and *Florida Building Code – Residential*, for the editions indicated in Section 1.1 of this report, subject to the following conditions:

9.1.1 For Use Outside HVHZ: The underlays may be installed with the roof coverings specified in FBC (Building) Table 1507.1.1.1 and FBC (Residential) Table R905.1.1.1, where ASTM D8257-compliant underlays are permitted. The underlays must be installed in accordance with the provisions of FBC (Building) Section 1507 and FBC (Residential) R905.

When installed as described in Table 2 of this report, the roofing assembly meets Class A fire classification per ASTM E108. Additionally, the underlays may be used as follows:

- As a component of a classified roof assembly when specifically recognized as such in a Listing Report approved by the Code official.
- As an alternative to the underlayment specified in the Code for roof coverings permitted under Exceptions 1 - 4 to FBC (Building) Section 1505.2 and Exceptions 1 - 4 to FBC (Residential) Section R902.1.
- Where non-classified roofing is permitted in FBC (Building) Section 1505.5.

9.1.2 For Use Inside HVHZ: The underlays may be installed with the roof coverings specified in FBC (Building) Table 1518.2.1, where ASTM D8257-compliant underlays are permitted. The underlayment must be installed in accordance with the provisions of FBC (Building) Section 1518. Evaluation for use with discontinuous roof tile systems in HVHZ is outside the scope of this report.

When installed as described in Table 2 of this report, the roofing assembly may be used where Class A fire classification is required in FBC (Building) Section 1516.2.1. Additionally, the underlays may be used with roof coverings permitted under the Exception to FBC (Building) Section 1516.2.1.

Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – Product Evaluation and Approval.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.

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TABLE 1 – PROPERTIES EVALUATED

PROPERTY	2024 IBC SECTION ¹	2024 IRC SECTION ¹	2023 FBC (BUILDING) ¹	2023 FBC (RESIDENTIAL) ¹
Physical Properties	1507	R905	1507, and 1518.2	R904 and R905
Ice Barrier	1507.1.2	R905.1.2	N/A	N/A
Fire Classification	1505	R902.1	1505 1516.2	R902

¹ Section numbers may be different for earlier versions of the International and Florida Codes

TABLE 2 – FIRE CLASSIFICATION

Classification and Slope	Deck	Underlayment	Roof Covering
Class A 2:12 or greater	Minimum nominal 3/8 in. thick code compliant exterior grade plywood	Single layer of EXO35 or EXO50 roofing underlayment mechanically fastened to the plywood every 12 in. oc in the field and 6 in. oc on the perimeter using plastic cap nails. Single layer of EXO25 roofing underlayment mechanically fastened to the plywood every 12 in. oc in the field and on the perimeter using plastic cap nails 1- 1/4 in. roofing nails. Horizontal joints have 4 in. overlap.	Asphalt shingles Listed per ASTM D3462 with a minimum weight of 180 pounds per 100 square feet installed per manufacturer's installation instructions.



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