ULTRATITE SOLUTIONS
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ULTRATITE 50 NM

CSI Section:
07 21 00 Thermal Insulation

1.0 RECOGNITION

Ultratite Solutions' Ultratite 50 NM open-cell spray foam recognized in this report has been evaluated for use as thermal insulation. The physical properties, thermal resistance, and surface burning characteristics of Ultratite 50 NM spray foam comply with the intent of the provisions of the following codes and regulations:

- 2024, 2021, 2018, and 2015 International Building Code® (IBC)
- 2024, 2021, 2018, and 2015 International Residential Code® (IRC)
- 2024, 2021, 2018, and 2015 International Energy Conservation Code (IECC)
- 2022 California Building Code (CBC) – attached Supplement
- 2022 California Residential Code (CRC) – attached Supplement
- 2022 California Energy Code (CEC) – attached Supplement
- 2023 Florida Building Code, Building (FBC, Building) – attached Supplement
- 2023 Florida Building Code, Residential (FBC, Residential) – attached Supplement

2.0 LIMITATIONS

Use of Ultratite 50 NM spray foam recognized in this report is subject to the following limitations:

2.1 Ultratite 50 NM spray foam shall be installed in accordance with the applicable code, the manufacturer's published installation instructions, and this report. Where there is a conflict, the most restrictive requirements shall govern.

2.2 In accordance with Section 3.3.2 of this report, the insulation shall be separated from the interior of the building by a code-complying thermal barrier as required by the applicable code.

2.3 The insulation shall not exceed the nominal density and thickness for the installation conditions described in this report.

2.4 During application, the insulation shall be protected from exposure to weather.

2.5 The insulation shall be installed by professional spray polyurethane foam installers approved by Ultratite Solutions.

2.6 Use of the insulation in areas of "very heavy" termite infestation probability shall be in accordance with IBC Section 2603.8 or 2024 IRC Section R305.4, or 2021, 2018, or 2015 IRC Section R318.4, as applicable.

2.7 When required by the applicable code, a Class I vapor retarder shall be installed.

2.8 Labeling and job site certification of the insulation and coatings shall comply with the following code sections as applicable:

- IBC Section 2603.2
- 2024 IRC Section R303.2
- 2021, 2018, and 2015 IRC Section R316.2
- IRC Section N1101.10.1.1
- IECC Sections C303.1.1.1 or R303.1.1.1

2.9 Fire-resistance ratings are beyond the scope of this review. Where fire-resistance rated assemblies are required by the IBC or IRC, documentation shall be provided to the building official showing compliance.

2.10 Use in exterior walls of Types I – IV construction is beyond the scope of this report.

2.11 Foam plastic used in plenums as interior finish or interior trim shall comply with Section 2603.7 of the IBC.

2.12 Ultratite 50 NM spray foam products recognized in this report are produced by Ultratite Solutions.

3.0 PRODUCT USE

3.1 General: Ultratite 50 NM spray foam complies with IBC Section 2603, 2024 IRC Section R303, and 2021, 2018, 2015 IRC Section R316. When installed in accordance with Section 3.3 of this report, the foam plastic insulation can be used in wall cavities, floor assemblies or ceiling assemblies, interior side of vertical foundations, and/or in attics and crawl spaces as nonstructural thermal insulation material. Ultratite 50 NM spray foam is used in Type V construction under the IBC and in one- and two-family dwellings under the IRC.

3.2 Design:

3.2.1 Thermal Resistance (R-Values): Ultratite 50 NM spray foam has thermal resistance (R-Value) at a mean temperature of 75°F ± 5°F (23.8°C ± 2.8°C) as shown in Table 1 of this report.

TABLE 1 - Thermal Resistance (R-Values)	
Thickness (inch)	**Ultratite 50 NM spray foam R-Value** (°F•ft²•h/Btu)
1	3.7
2	7.4
3	11
3.5	13
4	15
5	18
5.5	20
6	22
7	26
7.25	27
8	29
9	33
9.25	34
10	37
11	40
11.25	41
12	44
13	48
14	51

For **SI:** 1 inch = 25.4 mm, 1°F·ft²·h/Btu = 0.176 110 K·m²/W.

3.2.2 Surface Burning Characteristics: At a maximum thickness of 4 inches (102 mm) and a nominal density of 0.5 pcf (8 kg/m^3), the Ultratite 50 NM spray-applied polyurethane foam plastic insulation yields a flame spread index of 25 or less and smoke-developed index of 450 or less when tested in accordance with ASTM E84. Greater thicknesses, depending on the end use, are recognized when installed in accordance with this report.

Foam plastic insulation thicknesses are not limited for ceiling cavities and wall cavities when covered by a code complying prescriptive thermal barrier and installed in accordance with Section 3.3.2 of this report.

3.3 Installation:

3.3.1 Installation General: The manufacturer's published installation instructions for Ultratite 50 NM spray foam and this report shall be available on the job site during installation. Where conflicts occur, the most restrictive governs.

3.3.2 Thermal Barrier:

3.3.2.1 Application with a Prescriptive Thermal Barrier: Ultratite 50 NM spray foam, in any thickness in ceiling cavities and in wall cavities, shall be separated from the interior by an approved thermal barrier of ½-inch-thick (12.7 mm) gypsum wallboard or an equivalent 15-minute Thermal Barrier complying with and installed in accordance with the applicable code.

3.3.3 Attics and Crawl Spaces:

3.3.3.1 Application with a Prescriptive Ignition Barrier: Ultratite 50 NM spray foam may be installed within attics or crawl spaces where entry is made only for service of utilities; an ignition barrier shall be installed in accordance with IBC Section 2603.4.1.6 and 2024 IRC Section R303.5.3, or 2021, 2018, or 2015 IRC Section R316.5.3 and Section R316.5.4, as applicable. The ignition barrier shall be consistent with the requirements for the type of construction required by the applicable code and shall be installed in a manner so that the foam plastic is not exposed. Ultratite 50 NM spray foam, as described in this section, may be installed in unvented attics in accordance with IRC Section R806.4. The attic or crawl space shall be separated from the interior of the building by an approved 15-minute thermal barrier as described in Section 3.3.2 of this report.

3.3.3.2 Application with an Alternative Ignition Barrier Assembly: Ultratite 50 NM spray foam spray-applied polyurethane foam plastic insulation may be installed in attics and crawl spaces without a prescriptive ignition barrier provided as described in Section 3.3.3.1 of this report when the following conditions apply:

a. Entry is only to service utilities in the attic or crawl space and no storage is permitted.
b. Attic or crawl space areas cannot be interconnected.
c. Air from the attic or crawl space cannot be circulated to other parts of the building.
d. Attic ventilation is provided as required by 2024, 2021, and 2018 IBC Section 1202.2 and 2015 IBC Section 1203.2, or IRC Section R806 except where air-impermeable insulation is permitted in unvented attics in accordance with IRC Section R806.5. Under floor (crawl space) ventilation is provided when required by IBC Section 1203.3 or IRC Section R408.1, as applicable.
e. Combustion air is provided in accordance with International Mechanical Code Section 701.
f. Alternative ignition barrier assembly is provided as required in Section 3.3.3.3.

3.3.3.3 Alternative Ignition Barrier Assembly: Ultratite 50 NM spray foam may be spray-applied in attics to the underside of roof sheathing or roof rafters and vertical surfaces and may be spray-applied in crawl spaces to the underside of floors and vertical surfaces as described in this section.

Ultratite 50 NM spray foam shall be covered with a fire retardant intumescent coating described in Table 2 of this report.

3.3.3.4 Unvented Attics:

3.3.3.4.1 General: Ultratite 50 NM spray foam insulation may be installed in unvented attic assemblies and unvented enclosed rafter assemblies in accordance with Section 1202.3

of the 2024, 2021, or 2018 IBC; Section 1203.3 of the 2015 IBC; or Section R806.5 of the IRC, as applicable. The attic shall be protected as required in Sections 3.3.3.2, 3.3.3.3, or 3.3.3.4 as applicable.

3.3.3.4.2 Installation without Prescriptive Ignition Barrier or Coating: Ultratite 50 NM spray foam insulation, when installed in unvented attics at a maximum thickness of 14 inches on wall cavities and 14 inches (356 mm) on ceiling joists and a minimum thickness of 4½ (114 mm) inches, as required by IECC C402.6.2.3.1, on walls and ceilings, is not required to be installed with a prescriptive ignition barrier or alternative ignition barrier assembly as required in Section 3.3.3 of this report when meeting the following limitations as required by Appendix U in AC377: The insulation shall be separated from the interior of the building by an approved thermal barrier as described in Section 3.3.2 of this report.

- Entry to the attic is only to service utilities, and no storage is permitted.
- There are no interconnected attic areas.
- Air in the attic is not circulated to other parts of the building.
- The foam plastic insulation is limited to the maximum thickness and density tested.
- Combustion air is provided in accordance with IMC Section 701.
- If hot work is required to be performed, all necessary procedures, precautions, and limitations must be observed in accordance with OSHA 1926 Subpart J Standard 1926.352 requirements for hot work (welding/cutting) performed in the vicinity of combustible materials.
- A downward opening hatch shall be required. The hatch shall remain closed at all times except for when servicing of utilities is required. The hatch shall be able to be opened freely without disengaging a latching or locking mechanism.

Information shall be provided to the building official to show that the maximum uniform pressure required to open the downward opening attic hatch shall be less than or equal to 10 psf.

3.3.4 Installation Certificate: When meeting installation as required in Sections 3.3.3.3 or 3.3.3.4.2 of this report, an installation certificate shall be posted at each entrance to the attic or crawlspace, as applicable. The certificate shall be made of durable materials and red in color. The installation certificate shall include the following information as required by AC377:

- Ultratite 50 NM spray foam insulation product name and installation thickness.
- Ultratite Solutions' name, address, and contact information, as applicable.
- If coating is used as shown in Table 2 of this report, the coating product name, installation rate, wet and dry film thickness shall be shown as applicable.
- Installation contractor name, address, and contact information.
- Attestation that the spray foam has been installed in accordance with the manufacturer's installation instructions and the requirements of this report.
- A notice that the certificate shall not be removed or altered.
- The following notices shall also be included on the certificate:

1. Entry to the space is only to service utilities, and no storage is permitted.
2. When meeting the requirements of Section 3.3.3.4.2 of this report, notification that the hatch shall always remain closed, except for when servicing of utilities is required. No lock or latches that would prevent the hatch from opening freely may be added to the hatch.
3. **FIRE SAFETY WARNING:** If hot work (welding/cutting) is required to be performed, all necessary procedures, precautions, and limitations shall be observed in accordance with OSHA 1926 Subpart J Standard 1926.352 requirements for hot work performed in the vicinity of combustible materials.
4. When meeting the requirements of Section 3.3.3.4.2 of this report, notification that the space has been designed and constructed / installed as an unvented attic assembly; introduction of any penetrations to the exterior or alterations to the insulation shall be designed by a registered design professional. The design of the change shall be submitted to the building official for approval, as required by the local jurisdiction.

4.0 PRODUCT DESCRIPTION

Ultratite 50 NM spray foam is a light-density, open-cell, spray-applied polyurethane foam plastic insulation in accordance with Section 3.1.1 and Table 1 of AC377. The Ultratite 50 NM spray foam insulation has a nominal in-place density of 0.5 pcf (8 kg/m^3). The two-component spray foam plastic is produced in the field by combining a polymeric isocyanate (A component) and a polymeric resin (B component). The liquid components shall be stored in 55-gallon (208 L) drums at temperatures between 65°F and 80°F (18.3°C and 26.7°C). When Component A and Component B are stored in factory-sealed containers at the recommended temperatures, the shelf life is six months.

5.0 IDENTIFICATION

Ultratite 50 NM spray foam is identified by the following:

a. Manufacturer's name (Ultratite Solutions)
b. Address and telephone number
c. Product trade name (Ultratite 50 NM spray foam)
d. Use instructions
e. Density, flame-spread and smoke-development indices
f. Date of manufacture or batch/run number
g. Thermal resistance values
h. Evaluation report number (IAPMO UES ER-1011)

The IAPMO Uniform Evaluation Service Mark of Conformity may also be used as shown below:

IAPMO UES ER-1011

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with the Acceptance Criteria for Spray-applied Foam Plastic Insulation, AC377, including Appendices U and X, dated June 2023.

6.2 Data in accordance with 2019 ICC 1100 Standard for Spray-applied Polyurethane Foam Plastic Insulation.

6.3 Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Ultratite Solutions' Ultratite 50 NM spray foam to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

TABLE 2 - ALTERNATIVE IGNITION BARRIER ASSEMBLIES

FIRE-PROTECTIVE COATING/COVERING[1]			SPRAY-APPLIED POLYURETHANE FOAM PLASTIC INSULATION	MAXIMUM SPF THICKNESS (inch)	
TYPE	MINIMUM THICKNESS	THEORETICAL APPLICATION RATE (COATINGS ONLY)		WALLS AND VERTICAL SURFACES	CEILING AND OVERHEAD SURFACES
DC315[2]	4 mils WFT 3 mils DFT	0.25 gal/100 ft^2	Ultratite 50 NM spray foam	10	14
No-Burn Plus ThB[3]	6 mils WFT 4 mils DFT	0.37 gal/100 ft^2	Ultratite 50 NM spray foam	10	14

For **SI:** 1 inch = 25.4 mm, 1 gallon = 3.785 L, 1 ft^2 = 0.0929 m^2

[1] Fire-protective coatings and coverings shall be applied over all exposed SPF surfaces in accordance with the coating/covering manufacturer's instructions and this report.
[2] International Fireproof Technology, Inc., recognized in IAPMO UES ER-499.
[3] No-Burn, Inc., recognized in IAPMO UES ER-305.

CALIFORNIA SUPPLEMENT

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ULTRATITE 50 NM

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07 21 00 Thermal Insulation

1.0 RECOGNITION

Ultratite Solutions' Ultratite 50 NM spray foam recognized in IAPMO UES Evaluation Report ER-1011 and with changes as noted in this supplement is a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2022 California Building Code (CBC)
- 2022 California Residential Code (CRC)
- 2022 California Energy Code (CEC)

2.0 LIMITATIONS

Ultratite Solutions' Ultratite 50 NM spray foam spray-applied polyurethane foam plastic insulation, when installed and recognized in this report, are subject to the limitations stated in Evaluation Report ER-1011.

2.1 Justification shall be provided to the building official, to include verification of the certification by The Department of Consumer Affairs, Bureau of Household of Goods and Services. The certification can be confirmed by the bureau's Directory of Certified Insulation materials. The certification shall demonstrate that the insulation conductive thermal performance meets the requirements in accordance with Section 110.8 of the 2022 California Energy Code and California Code of Regulations, Title 23, Part 12, Chapter 12-13, Article 3, titled Standards for Insulating Materials.

2.2. California Building Code: All provisions of ER-1011 referencing the 2021 IBC shall apply to use under the CBC.

2.3. California Residential Code: All provisions of ER-1011 referencing the 2021 IRC shall apply to use under the CRC, along with Section R302 of the CRC, as applicable.

2.4 This supplement expires concurrently with IAPMO UES ER-1011.

FLORIDA SUPPLEMENT

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ULTRATITE 50 NM

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1.0 RECOGNITION

Ultratite 50 NM spray foam recognized in IAPMO UES Evaluation Report ER-1011 has been evaluated for use as thermal insulation. The physical properties, thermal resistance, and surface burning characteristics of Ultratite 50 NM spray foam comply with the intent of the provisions of the following codes and regulations:

- 2023 Florida Building Code, Building (FBC, Building)
- 2023 Florida Building Code, Residential (FBC, Residential)

2.0 LIMITATIONS

Use of Ultratite 50 NM recognized in this report is subject to the following limitations:

2.1. FBC, Building: All provisions of ER-1011 referencing the 2021 IBC shall apply to use under the FBC, Building.

2.2. FBC, Residential: All provisions of ER-1011 referencing the 2021 IRC shall apply to use under the FBC, Residential, along with Section R302 of the FBC, Residential, as applicable.

2.3 This supplement expires concurrently with IAPMO UES ER-1011.

3.0 ADDITIONAL REQUIREMENTS

3.1 Evaluation to the high-velocity hurricane zone provisions in Section 1409 of the FBC, Building and Chapter 44 of the FBC, Residential is outside the scope of this report.

3.2 Verification shall be provided that a quality assurance agency audits the manufacturer's quality assurance program and audits the production quality of products, in accordance with Section (5)(d) of Florida Rule 61G20-3.008. The quality assurance agency shall be approved by the Commission (or the building official when the report holder does not possess an approval by the Commission).

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org