

ICC-ES Evaluation Report

ESR-5370

Issued September 2024


This report also contains:

- FBC Supplement

Subject to renewal September 2025

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<p>DIVISION: 07 00 00– THERMAL AND MOISTURE</p> <p>Section: 07 21 00 – Thermal Insulation</p>	<p>REPORT HOLDER: GENYK</p>	<p>EVALUATION SUBJECT: ELITE 50</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 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® \(IECC\)](#)

Property evaluated:

- Physical properties
- Surface-burning characteristics
- Thermal resistance (R-values)
- Attic and crawl space installation

2.0 USES

ELITE 50 insulation is an open cell spray foam insulation used as a nonstructural thermal insulating material where nonfire-resistance-rated construction is allowed under the IBC and dwellings under the IRC. The insulation is for use in wall cavities, floor assemblies, ceiling assemblies or attics and crawl spaces when installed in accordance with Section 4.4.

3.0 DESCRIPTION

3.1 ELITE 50 INSULATION:

ELITE 50 insulation is a low-density rigid spray-applied cellular polyurethane insulation. It is a two component, open-cell, one-to-one by volume spray foam system with a nominal density of 0.52 pcf (8.3 kg/m³). The foam is produced by blending a Polymeric Isocyanate (A component) with the ELITE 50 resin (B component). The Polymeric Isocyanate (A component) has a shelf life of 12 months when stored in factory-sealed containers at temperatures between 50°F (10°C) and 100°F (37.8°C). ELITE 50 resin (B component) has a shelf life of 6 months when stored in factory-sealed containers at temperatures between 50°F (10°C) and 100°F (37.8°C).

3.2 Surface-burning Characteristics:

ELITE 50 insulation, at a maximum thickness of 4 inches (102 mm) and a nominal density of 0.52 pcf (8.3 kg/m³), has a flame spread of 25 or less and a smoke-develop index of 450 or less when tested in accordance with ASTM E84 (UL723). There are no thickness limitations when covered by a code-prescribed thermal barrier.

3.3 Thermal Resistance (R-values)

ELITE 50 insulation has a thermal resistance, R-value, at a mean temperature of 75°F (24°C) as shown in [Table 1](#).

3.4 DC315 Coating:

DC 315 Coating, manufactured by International Fireproof Technology, Inc. (ESR-3702), is a single-component, water-based liquid-applied intumescent coating. The coating is supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of one (1) year when stored in factory-sealed containers at temperatures between 50°F (10°C) and 80°F (27°C).

4.0 DESIGN AND INSTALLATION

4.1 General:

ELITE 50 insulation must be installed in accordance with the manufacturer's published installation instructions and this report. A copy of the manufacturer's published installation instructions must be available at all times during installation.

4.2 Application:

ELITE 50 insulation must be applied using spray equipment specified in the manufacturer's published installation instructions. ELITE 50 insulation must be applied when the ambient and substrate temperature is between 32°F (0°C) and 95°F (35°C). The insulation must be used in areas that have a service temperature between -58°F (-50°C) and 176°F (80°C). The foam plastic must not be used in electrical outlets or junction boxes, or in continuous contact with rain or water. The substrate must be clean, dry and free of frost, ice, loose debris or contaminations that will interfere with adhesion of the spray foam insulation. The ELITE 50 product is applied having a maximum thickness of 12 inches (304.8 mm) per pass.

4.3 Thermal Barrier:

ELITE 50 insulation must be separated from the interior of the building by an approved thermal barrier of 1/2-inch-thick (12.7 mm) gypsum wall board, or an equivalent thermal barrier complying with and installed in accordance with, IBC Section 2603.4 or 2024 IRC Section 303.4 (2021, 2018 and 2015 IRC Section 316.4), as applicable. When installation is within an attic or crawl space as describe in Section 4.4, a thermal barrier is not required between the foam plastic and the attic or crawl space, but is required between the insulation and the interior of the building. There is no thickness limit when installed behind a code-prescribed thermal barrier.

4.4 Ignition Barrier – Attics and Crawl Spaces:

4.4.1 Application with a Prescriptive Ignition Barrier: When ELITE 50 insulation is installed within attics or crawl spaces where entry is made only for service of utilities, an ignition barrier must be installed in accordance with IBC Section 2603.4.1.6 and 2024 IRC Section R303.5.3 and R303.5.4 (2021, 2018 and 2015 IRC Sections R316.5.3 and R316.5.4), as applicable. The ignition barrier must be consistent with the requirement for the type of construction required by the applicable code, and must be installed in a manner such that the foam plastic insulation is not exposed. The attic or crawl space area must be separated from the interior of the building by an approved thermal barrier as described in Section 4.3.1.

4.4.2 Application without a Prescriptive Ignition Barrier: ELITE 50 insulation may be installed within an attic or crawl space without a prescriptive ignition barrier when all of the following conditions apply:

1. Entry to the attic or crawl space is only for the service of utilities and no storage is permitted.
2. There are no interconnected attic or crawl space areas.
3. Air in the attic or crawl space is not circulated to other parts of the building.
4. Attic ventilation is provided when required by 2024, 2021 and 2018 IBC Section 1202.2 (2015 IBC Section 1203.2) or IRC Section R806, except when air-impermeable insulation is permitted in unvented attics in accordance with 2024, 2021 and 2018 IBC Section 1202.3 (2015 IBC Section 1203.3 or IRC Section R408.1, as applicable).
5. Combustion air is provided in accordance with IMC (International Mechanical Code®) Section 701.
6. If hot work is 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.
7. An installation certificate with the following information must be posted at each entrance:
 - Product name and installation thickness.
 - Manufacturer name, address and contact information.

- Installation contractor name, address and contact information.
- Attestation that the product(s) have been installed in accordance with the manufacturer's installation instructions and the requirements of the evaluation report.
- Notice that the certificate is not to be removed or altered.
- A list of limitations for the space including the following:
 - o Entry to the space is only to service utilities, and no storage is permitted.
 - o FIRE SAFETY WARNING: If hot work is 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 working (welding / cutting) performed in the vicinity of combustible materials.

In attics and crawl spaces, ELITE 50 insulation may be spray-applied to the underside of the roof sheathing and/or rafters, and to the vertical walls and underside of floors as described. The thickness of the foam plastic applied to the underside of the wood floor or roof sheathing must not exceed 14 inches (356 mm). The thickness of the spray foam insulation applied to vertical wall surfaces in attics and crawl spaces must not exceed 8 inches (203 mm). The insulation must be covered on all surfaces with DC 315 (ESR-3702) at a minimum wet film thickness of 5 mils [0.005-inch (0.127 inches)] [3.35 dry mils [0.00335-inch (0.085 mm)], at a rate of 0.3 gallon (1.14 L) per 100 square feet (9.2 m²). The substrate must be dry, clean and free of dirt and loose debris or other substances that could interfere with the adhesion of the coating. The coating must be applied in accordance with the coating manufacturer's installation instructions when the ambient or surface temperature is below 50°F (10°C) or above 80°F (27°C) and a relative humidity of more than 85%.

5.0 CONDITIONS OF USE:

ELITE 50 insulation described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 This evaluation report and the manufacturer's published installation instructions, when required by the code official, must be submitted at the time of permit application.
- 5.2 ELITE 50 insulation and applicable coating must be installed in accordance with the manufacturer's published installation instructions, this report and the applicable code. The instructions within this report govern if there are any conflicts between the manufacturer's published installation instructions and this report.
- 5.3 ELITE 50 insulation must be separated from the interior of the building by an approved thermal barrier, as described in Section 4.3. In attics and crawl spaces, the installation must be separated from the interior of the attic or crawl space by an ignition barrier, as described in Section 4.4.1 except when installed in accordance with Section 4.4.2.
- 5.4 ELITE 50 insulation must be protected from the weather during application.
- 5.5 ELITE 50 insulation must be applied by installers approved by GENYK.
- 5.6 A vapor retarder must be installed in accordance with the applicable codes.
- 5.7 Use of ELITE 50 insulation in areas where probability of termite infestation is "very heavy" must be in accordance with IBC Section 2603.8 or 2024 IRC Section R305.4 (2021, 2018 and 2015 IRC Section R318.4), as applicable.
- 5.8 Jobsite certification and labeling of the insulation must comply with IRC Sections N1101.10.1 and N1101.10.1.1 and IECC Sections C303.1.1, C303.1.1.1, R303.1.1 and R303.1.1.1, as applicable.
- 5.9 ELITE 50 insulation is produced under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the [ICC-ES Acceptance Criteria for Spray-Applied Foam Plastic Insulation \(AC377\)](#), dated June 2023 (editorially revised June 2024).
- 6.2 Reports of fire testing in accordance with Appendix X of AC377.

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5370) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, the ELITE 50 insulation is identified with the manufacturer's name (GENYK), address and telephone number; the product trade name (ELITE 50); product type (A or B component); use instructions; the density; the flame spread and smoke-developed indices; the evaluation report number (ESR-5370)

7.3 The report holder’s contact information is the following:

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SHAWINIGAN, QUEBEC, G9T2W6
CANADA
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TABLE 1— THERMAL RESISTANCE (R-VALUES)¹

Thickness (inches)	R-VALUE (°F.ft ² .h/Btu)
1	3.7
2	7.4
3.5	13
4	15
5	19
6	22
7	26
8	30
9	33
10	37
11	41
12	45
13	48
14	52

For SI 1 inch- 25.4 mm, 1°F.ft².hr/Btu=0.176 110k.m²/W

¹Calculated R-values are based on tested K-values at 1- and 3.5-inch thickness.

*R-values greater than 10 are rounded to the nearest whole number.

DIVISION: 07 00 00—THERMAL AND MOISTURE

Section: 07 21 00—Thermal Insulation

REPORT HOLDER:

GENYK

EVALUATION SUBJECT:

ELITE 50

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that ELITE 50 insulation, recognized in ICC-ES evaluation report ESR-5370, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 Florida Building Code—Building
- 2023 Florida Building Code—Residential

2.0 CONCLUSIONS

The ELITE 50 insulation, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-5370, complies with the *Florida Building Code—Building* or *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-5370 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable, with the following conditions:

Installation must meet requirements of Section 1403.8 and 2603.8 of the *Florida Building Code—Building* and Section R318.7 and R318.8 of the *Florida Building Code—Residential*, as applicable.

Use of the ELITE 50 for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* or the *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, issued September 2024.