

ICC-ES Evaluation Report

ESR-5097

Reissued March 2025

This report also contains:

- FL Supplement

Subject to renewal March 2027

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DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION	REPORT HOLDER: AKKIM EUROPE S.R.L.	EVALUATION SUBJECT: AKFIX SPR 330 AND AKFIX SPR 430	
Section: 07 21 00— Thermal Insulation	AKDE KIMYA SAN. VE TIC. A.S.		in sector
	INSULALL CORPORATION		
	NUCLEUS INCORPORATED		
	WIOS GLOBAL TRADE		
	AKKIM YAPI KÌMYASALLARI END. SAN. VE TÌC. A.S.		

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)

Properties evaluated:

- Surface-burning characteristics
- Physical properties
- Thermal resistance (*R*-values)
- Vapor permeability

2.0 USES

Akfix SPR 330 and Akfix SPR 430 insulations are used as a nonstructural thermal insulating material in Type V construction under the IBC and dwellings under the IRC. The insulations are 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 Akfix SPR 330 Insulation:

Akfix SPR 330 insulation is a two-component, medium-density, closed-cell, spray-applied foam plastic with a nominal core density of 2.0 pcf. The polyurethane foam is produced by combining Akfix polymeric MDI



(A component) and Akfix SPR 330 polyol blend (B component). The product has a shelf life of nine (9) months when stored in unopened containers in cool and dry conditions between 50°F and 86°F (10°C and 30°C).

3.2 Akfix SPR 430 Insulation:

Akfix SPR 430 insulation is a two-component, medium-density, closed-cell, spray-applied foam plastic with a nominal core density of 2.2 pcf. The polyurethane foam is produced by combining Akfix polymeric MDI (A component) and Akfix SPR 430 polyol blend (B component). The product has a shelf life of nine (9) months when stored in unopened containers in cool and dry conditions between 50°F and 86°F (10°C and 30°C).

3.3 Surface-burning Characteristics:

The Akfix SPR 330 insulation, at a maximum thickness of 4 inches (102 mm) and a nominal density of 2.0 pcf, has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 (UL 723). There are not any thickness limitations when insulation is covered by a code-prescribed thermal barrier.

The Akfix SPR 430 insulation, at a maximum thickness of 4 inches (102 mm) and a nominal density of 2.2 pcf, has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 (UL 723). There are not any thickness limitations when insulation is covered by a code-prescribed thermal barrier.

3.4 Thermal Resistance:

Akfix SPR 330 and Akfix SPR 430 insulations have thermal resistance, *R*-values, at a mean temperature of 75°F (24°C) as shown in <u>Table 1</u>.

3.5 Vapor Permeability:

Akfix SPR 330 and Akfix SPR 430 insulations have a vapor permeance less than 10 perms $(5.7 \times 10^{-10} \text{ kg/Pa-s-m}^2)$ at a minimum thickness of 1 inch (25.4 mm) and may be used where a Class III vapor retarder is required by the applicable code.

4.0 DESIGN AND INSTALLATION

4.1 General:

4.2 Application:

The insulation must be applied using spray equipment specified by AKKIM. The insulation must not be used in areas that have a maximum service temperature greater than 212°F (100°C). The insulation must not be used in electrical outlet or junction boxes or in contact with rain or water, and must be protected from the weather during and after application. The substrate must be free of moisture, frost or ice, loose scales, rust, oil and grease, or contaminates that will interfere with adhesion of the spray foam insulation. The insulation is applied to the intended thickness, with the first pass being at the maximum thickness set forth in the manufacturer's published installation instructions. Where multiple passes are required, the cure time between each pass is in accordance with the manufacturer's instructions.

4.3 Thermal Barrier:

The insulation must be separated from the interior of the building by an approved thermal barrier of ¹/₂-inchthick (12.7 mm) gypsum wallboard or an equivalent thermal barrier complying with and installed in accordance with the applicable code. When installation is within an attic or crawl space as described 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 Attics and Crawl Spaces:

When the 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, 2024 IRC Sections R303.5.3 and R303.5.4, or 2021, 2018 and 2015 IRC Sections R316.5.3 and R316.5.4, as applicable. The ignition barrier must be consistent with the requirements for the type of construction required by the applicable code, and must be installed in a manner so that the 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.

5.0 CONDITIONS OF USE:

The Akfix SPR 330 and Akfix SPR 430 insulations described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The product must be installed in accordance with the manufacturer's published installation instructions, this evaluation report and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.

- **5.2** The insulation must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2603.4, 2024 IRC Section R303.4 or 2021, 2018 and 2015 IRC Section R316.4.
- **5.3** The insulation must be protected from the weather during and after application.
- **5.4** The insulation must be applied by installers certified by AKKIM.
- **5.5** Use of the insulation in areas where the probability of termite protection is "very heavy" must be in accordance with IBC Section 2603.9, 2024 IRC Section R305.4 or IRC Section R318.4, as applicable.
- **5.6** The A and B components of the insulation are produced under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- **6.1** Data in accordance with ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation (AC377), dated February 2023.
- 6.2 Reports of vapor permeance testing in accordance with ASTM E96.

7.0 IDENTIFICATION

- **7.1** The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5097) 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 A and B components of the Akfix SPR 330 and Akfix SPR 430 are identified by a label bearing the company name [Akkim Europe S.R.L.] or additional listee's name, manufacturing address, product name [Akfix polymeric MDI (A component); or Akfix SPR 330 or Akfix SPR 430 polyol blend (B component)], production date, batch number, product weight and shelf life, and flame spread and smoke developed indices.
- 7.3 The report holder's contact information is the following:

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7.4 The additional listees' contact information is the following:

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TABLE 1—THERMAL RESISTANCE (R-VALUES) OF AKFIX SPR 330 AND AKFIX 430

	AKFIX SPR 330	AKFIX SPR 430
THICKNESS (Inches)	<i>R</i> -VALUE (°F.ft ² .h/Btu) ¹	<i>R</i> -VALUE (°F.ft ² .h/Btu) ¹
1.0	7.2	7.2
2.0	14	14
3.0	21	21
3.5	24	24
4.0	27	27
5.0	34	34
6.0	41	41
7.0	48	48
8.0	54	54
9.0	61	61
10.0	68	68
11.0	75	75
12.0	82	82

For **SI:** 1 inch = 25.4 mm; 1°F.ft².h/Btu = 0.176110K.m².h/W.

 $^{1}\mbox{R-values}$ are calculated based on tested K-values a 1- and 3.5-inch thicknesses. 2

TABLE 2—ADDITIONAL LISTEE PRODUCT NAMES

AKKIM EUROPE S.R.L.	AKDE KIMYA SAN. VE TIC. A.S.	INSULALL CORPORATION	NUCLEUS INCORPORATED	WIOS GLOBAL TRADE
Akfix SPR 330	Whitechem SPR 330	Sprayman SM 330, Insula INS 330	Stanley ST 4330	Kraken Bond KR 33
Akfix SPR 430	Whitechem SPR 430	Sprayman SM 430, Insula INS 430	Stanley ST 4430	Kraken Bond KR 43

TABLE 2—ADDITIONAL LISTEE PRODUCT NAMES (continued)

AKKIM EUROPE S.R.L.	AKKIM YAPI KÌMYASALLARI END. SAN. VE TÌC. A.S.	
Akfix SPR 330	Akfix SPR 330	
Akfix SPR 430	Akfix SPR 430	



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ESR-5097 FL Supplement

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION Section: 07 21 00—Thermal Insulation

REPORT HOLDER:

AKKIM EUROPE S.R.L.

EVALUATION SUBJECT:

AKFIX SPR 330 AND AKFIX SPR 430

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Akfix SPR 330 and Akfix SPR 430, recognized in ICC-ES evaluation report ESR-5097, have 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 Akfix SPR 330 and Akfix SPR 430, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-5097, comply with the *Florida Building Code-Building* and *Florida Building Code-Residential*. The design requirements shall 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-5097 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 the requirements of Section 1403.8 and 2603.8 of the *Florida Building Code-Building* and Sections R318.7 and R318.8 of the *Florida Building Code-Residential*, as applicable.

Use of the Akfix SPR 330 and Akfix SPR 430 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, reissued March 2025.

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