

ICC-ES Evaluation Report


ESR-5252

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<p>DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 21 00 – Thermal Insulation</p>	<p>REPORT HOLDER:</p> <p>CREATIVE POLYMER SOLUTIONS, LLC</p>	<p>EVALUATION SUBJECT:</p> <p>ACCUFOAM CC-HFO SPRAY FOAM INSULATION</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, and 2012 [International Building Code® \(IBC\)](#)
- 2021, 2018, 2015, and 2012 [International Residential Code® \(IRC\)](#)
- 2021, 2018, 2015, and 2012 [International Energy Conservation Code® \(IECC\)](#)

Properties evaluated:

- Surface-burning characteristics
- Physical Properties
- Thermal Resistance
- Attic and Crawl Space Installation

2.0 USES

Accufoam CC-HFO spray foam insulation is a closed cell, nonstructural thermal insulating material for use in buildings of Type V-B construction under the IBC and in dwellings under the IRC. The insulation is intended for use in wall cavities, floor/ceiling assemblies, or attics and crawl spaces when installed in accordance with Section 4.4.

3.0 DESCRIPTION

3.1 General:

Accufoam CC-HFO is a medium density, spray-applied cellular polyurethane foam plastic insulation installed as a component of wall assemblies, ceilings, floors, crawlspaces and attics and cavities of roofs. The foam plastic is a two-component, closed-cell spray foam system with a nominal density of 2.1 pcf (33.6 kg/m³). The insulation is produced in the field by combining a polymeric isocyanate (A component) with a polymeric resin blend (B component). The insulation components have a shelf life of six months when stored in factory-sealed containers at temperatures between 60°F (16°C) and 90°F (32°C).

3.2 Surface-burning Characteristics:

Accufoam CC-HFO spray foam plastic insulation, at a maximum thickness of 3 ½ inches (89 mm) and a nominal density of 2.1 pcf (33.6 kg/m³), 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. There are no thickness limitations when insulation is installed behind a code-prescribed thermal barrier.

3.3 Thermal Resistance (R-Values):

Accufoam CC-HFO spray foam plastic insulation has a thermal resistance (R-value), at a mean temperature of 75°F (24°C), as shown in [Table 1](#).

4.0 DESIGN AND INSTALLATION

4.1 General:

Accufoam CC-HFO spray foam plastic insulation must be installed in accordance with the report holder's published installation instruction and this report. A copy of the report holder's published installation instructions must be available at all times on the jobsite during installation.

4.2 Application:

Accufoam CC-HFO spray foam plastic insulation must be applied on the jobsite using a volumetric positive displacement pump using a component ratio of 1-to-1 in accordance with the manufacturer's published installation instructions. The foam plastic must not be sprayed onto a substrate that is wet, or covered with frost or ice, loose scales, rust, oil, or grease. The foam plastic 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 insulation must be used in areas where the maximum service temperature is no greater than 180°F (82°C). The insulation must be applied when the temperature is at or above 15°F (-9°C) and be protected from the weather during and after application.

Accufoam CC-HFO shall be sprayed in multiple passes having a maximum thickness of 3.5 inches (89 mm) per pass up to the intended thicknesses specified in this report.

4.3 Thermal Barrier:

4.3.1 Application with a Prescriptive Thermal Barrier: Accufoam CC-HFO foam plastic insulations must be separated from the interior of the building by an approved thermal barrier, such as ½-inch (12.7 mm) gypsum wallboard or an equivalent thermal barrier in accordance with IBC Section 2603.4 or IRC Section R316.4, as applicable. 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 foam plastic 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 Prescribed Ignition Barrier:

When Accufoam CC-HFO foam plastic 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 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 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.

Accufoam CC-HFO may be installed in unvented attics under the conditions prescribed in 2021 and 2018 IBC Section 1202.3 (2015 IBC Section 1203.3) or IRC Section R806.5, as applicable.

5.0 CONDITIONS OF USE:

The Accufoam CC-HFO 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 The product must be installed in accordance with the manufacturer's published installations instructions, this evaluation report, and the applicable code. If there are any conflicts between the manufacturer's published installation instructions and this report, the most restrictive governs.
- 5.2 The insulation must be separated from the interior of the building by an approved thermal barrier. A thermal barrier must be installed between the insulation and the interior space above (crawl space) or below (attic).
- 5.3 The insulation must not exceed the thicknesses noted in this report.
- 5.4 The insulation must be protected from the weather during application.
- 5.5 The insulation must be applied by licensed dealers and installers certified by Creative Polymer Solutions.

- 5.6 Use of the insulation in areas where the probability of termite infestation is “very heavy” must be in accordance with IRC Section R318.4 or 2021, 2018 and 2015 IBC Section 2603.8 (2012 IBC Section 2603.9), as applicable.
- 5.7 Jobsite certification and labeling of the insulation must comply with 2021, 2018, and 2015 IRC Sections N1101.10.1 and N1101.10.1.1 (2012 IRC Sections N1101.12.1 and N1101.12.1.1) and IECC Sections C303.1.1, C303.1.1.1, R303.1.1 and R303.1.1.1, as applicable.
- 5.8 A vapor retarder must be installed in accordance with the applicable code.
- 5.9 The insulation components A and B are produced in Birmingham, Alabama 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 February 2023.

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5252) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, all packages, and containers of Accufoam CC-HFO must be labeled with Creative Polymer Solutions, LLC name and address, component designation (A or B); the flame spread index and the smoke-developed index; the expiration date; and the name of the inspection body (ICC-ES).
- 7.3 The report holder’s contact information is the following:

CREATIVE POLYMER SOLUTIONS, LLC
2720 SOUTHEASTERN CIRCLE
BIRMINGHAM, AL 35215
(205) 440-4996
www.creativepolymer.com

TABLE 1 – THERMAL RESISTANCE (R-VALUES)^{1,2}

Table 1: Thermal Resistance (R-Value)	
Thickness (inch)	Accufoam CC-HFO R-Value (°F·ft ² ·h/BTU)
1	7.5
2	14
2.5	17
3	21
3.5	24
4	27
5	34
6	41
7	48
7.25	50
8	55
9	62
10	69
11	75
12	82

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

¹R-Values are calculated based on tested K values at 1- and 3.5-inch thicknesses.

²R-values greater than 10 are rounded down to the nearest whole number.