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## **ACCUFOAM AF1 SPRAY FOAM INSULATION**

**CSI Section:**  
**07 21 00 Thermal Insulation**

### **1.0 RECOGNITION**

Accufoam AF1 has been evaluated for use as spray foam insulation complying with IBC Section 2603, IRC Section R316, IECC Sections C303, C402, R303, and R402. The surface burning, physical properties, thermal resistance and applications in Type V construction and exterior walls of Types I-IV construction of Accufoam AF1 spray foam insulation was evaluated to comply to the intent 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)

### **2.0 LIMITATIONS**

Use of the Accufoam AF1 spray foam insulation recognized in this report is subject to the following limitations:

**2.1** The insulation shall be installed in accordance with the manufacturer's published installation instructions. They shall also be installed in accordance with this evaluation report and the applicable code, and if there are any conflicts between the manufacturer's published installation instructions and this report, the more restrictive governs.

**2.2** Except as indicated in Section 3.3.3 of this report or by the applicable code, the insulation shall be separated from the interior of the building by a code approved thermal barrier.

**2.3** During installation, the insulation and the surfaces to which it is applied shall be protected from exposure to weather.

**2.4** The contractors that will be installing the insulation shall be approved by Creative Polymer Solutions, LLC or by the Spray Polyurethane Foam Alliance.

**2.5** Use of the insulation in areas of "very heavy" termite infestation shall be in accordance with the IBC Section 2603.8 or IRC Section 318.4, as applicable.

**2.6** Labeling and jobsite certification of the insulation and coatings shall comply with IBC Section 2603.2; IRC Sections N1101.10 and N1101.10.1.1; and IECC Sections C303.1.1 and C303.1.2, as applicable.

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

**2.8** The insulation is produced in Birmingham, Alabama under a quality control program.

### **3.0 PRODUCT USE**

**3.1 General:** When installed in accordance with Section 3.3 of this report, Accufoam AF1 spray foam insulation can be used in wall cavities, floor assemblies or ceiling assemblies, and in attic and crawl spaces as nonstructural thermal insulation material. The spray-applied foam plastic insulation is used in Type V-B construction under the IBC and in dwellings under the IRC.

Accufoam AF1 spray foam insulation may be used in Construction Types I, II, III, or IV when installed in accordance with Section 3.4 of this report.

**3.2 Design:** Accufoam AF1 spray foam insulations shall comply with requirements in IECC Sections C402 and R402.

**3.2.1 Thermal Resistance (R-Values):** Accufoam AF1 spray foam insulation has a thermal resistance (R-Value) at a mean temperature of 75°F (24°C) as shown in Table 1 of this report.



**TABLE 1**  
**Thermal Resistance (R-Value)<sup>1,2</sup>**  
**(°F·ft<sup>2</sup>·h/BTU)**

Thickness (inch)	R-Value
	Accufoam AF1
1	3.7
2	7.0
3	11
3.5	13
4	14
5	18
5.5	20
6	21
7	25
7.5	27
8	29
9	32
10	36
11	39
12	43
14	50
16	57
18	64

For SI: 1 inch = 25.4 mm, 1°F·ft<sup>2</sup>·h/Btu = 0.176 110 K·m<sup>2</sup>/W.

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

<sup>2</sup> R-Values greater than 10 are rounded to the nearest whole number.

**3.2.2 Air Permeance:** When tested in accordance with ASTM E2178 at a minimum thickness of 4 inches (102 mm), Accufoam AF1 spray foam insulation has an air permeability of less than 0.02 L/s·m<sup>2</sup> at 75 Pa, meeting the definition of air-impermeable insulation in accordance with the IBC and IRC.

**3.2.3 Surface Burning Characteristics:** At a maximum thickness of 4 inches (102 mm) and a nominal density of 0.5 pcf (16 kg/m<sup>3</sup>), the Accufoam AF1 spray foam insulation 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. Greater thicknesses, depending on end use, are recognized when installed in accordance with this report.

### 3.3 Installation:

**3.3.1 Installation General:** The manufacturer's published installation instructions for Accufoam AF1 spray foam insulation and this report shall be available and strictly adhered to at all times on the jobsite during installation.

The spray foam insulation shall be spray-applied on the jobsite using a volumetric positive displacement pump in accordance with the manufacturer's published installation instructions. Accufoam AF1 shall be sprayed in multiple passes having a maximum thickness of 6 inches (152 mm) maximum per pass, at the required conditions between passes, up to the maximum insulation thickness specified in this report.

The maximum in-service temperature for all areas shall not exceed 180°F (82°C). The spray-applied foam plastic insulation shall not be used in electrical outlets or junction boxes or in continuous contact with rain or water. The spray-applied foam plastic insulations shall be sprayed onto a substrate that is protected and clean from any debris or weather-related conditions during application.

After the application of the spray foams, a minimum of a 1-hour ventilation period at a minimum of 10 air changes per hour is required before re-entry of the space for unprotected workers and for re-occupancy of the general population.

**3.3.2 Installation with a Prescriptive Thermal Barrier:** Accufoam AF1 spray foam insulation shall be separated from the interior by an approved thermal barrier of minimum ½-inch-thick (12.7 mm) gypsum wallboard or an equivalent thermal barrier. When installed in accordance with this section, the spray foam may be any thickness when installed behind a prescriptive thermal barrier. The barrier shall comply with and be installed in accordance with IBC Section 2603.4 or IRC Section R316.4, as applicable.

**3.3.3 Installation with an Alternative Thermal Barrier Assembly:** Accufoam AF1 spray foam insulation may be installed without a prescriptive thermal barrier as defined in Section 3.3.2 of this report when installed with a fire-protective coating as described in Table 2 of this report.

**3.3.4 Installation for Attics and Crawl Spaces:** When used in an attic or crawl space where entry is made only for service of utilities, Accufoam AF1 spray foam insulation shall be installed in accordance with this section. The insulation shall be separated from the interior of the building by an approved thermal barrier as described in Sections 3.3.2 and 3.3.3 of this report, as applicable, except as noted in Sections 3.3.5 or 3.3.6 of this report.

**3.3.5 Installation with a Prescriptive Ignition Barrier:** Where entry is made only for the service of utilities, Accufoam AF1 spray foam insulation may be installed within attics or crawl spaces with an ignition barrier in accordance with IBC Section 2603.4.1.6, or IRC Sections R316.5.3 and R316.5.4, as applicable, to the maximum thickness addressed in this report. The ignition barrier shall be installed in a manner such that the foam plastic insulation is not exposed and is consistent with the requirements of the type of construction required by the applicable code.

**3.3.6 Installation with an Alternative Ignition Barrier Assembly:** When installation is in accordance with this section, the ignition barrier described in Section 3.3.5 of this report, and as required by Section 2603.4.1.6 of the IBC or Section R316.5.3 and R316.5.4 of the IRC, as applicable, may be omitted.

**3.3.6.1 General:** When Accufoam AF1 spray foam insulation is installed in attics and crawl spaces without a prescriptive ignition barrier, the following conditions apply:



- a. The thickness of the foam plastic insulation applied to the underside of the top of the space shall not exceed values noted in Table 3 or Section 3.6.2 of this report, as applicable.
- b. The thickness of the foam plastic insulation applied to the vertical surfaces shall not exceed values noted in Table 3 of this report, as applicable.
- c. Entry is only to service utilities in the attic or crawl space and no storage is permitted.
- d. Attic or crawl space areas cannot be interconnected.
- e. Air from the attic or crawl space cannot be circulated to other parts of the building.
- f. In accordance with 2024, 2021, or 2018 IBC Section 1202.2, 2015 IBC Section 1203.2, or IRC Section R806, attic ventilation is provided, as applicable.
- g. In accordance with 2024, 2021, or 2018 IBC Section 1202.3, 2015 IBC Section 1203.3, crawl-space ventilation is provided, as applicable.
- h. In accordance with the Uniform Mechanical Code (UMC) Section 701.1 or the International Mechanical Code® (IMC) Section 701, combustion air is provided, as applicable.
- i. Fire-protective coating, noted in this report, is applied in accordance with Table 3.

**3.3.7 Unvented Attics:** Accufoam AF1 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.

### 3.4 Use in Exterior Walls of Types I, II, III, and IV Construction (IBC)

**3.4.1 General:** When Accufoam AF1 spray foam plastic insulation is used in exterior walls of Types I, II, III, or IV construction of any height, the insulation shall comply with IBC Section 2603.5 and Section 3.4 of this report. Walls required to be fire-resistance-rated construction are beyond the scope of this report and shall comply with IBC Section 2603.5.1.

**3.4.2 Complying Exterior Wall Assemblies:** Wall assemblies that comply with Section 2603.5 of the IBC and this report, that may be used in exterior walls of buildings of Type I, II, III, or IV construction of any height, are described in Tables 4 and 5 of this report.

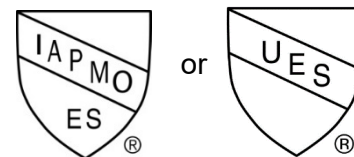
## 4.0 PRODUCT DESCRIPTION

Accufoam AF1 spray foam insulation is a spray-applied, polyurethane open cell foam plastic and complies as a low-density insulation in accordance with Section 3.1.1 and Table 1 of AC377. The insulation is a two-component spray foam plastic with a nominal in-place density of 0.5 pcf (16 kg/m<sup>3</sup>).

The spray-applied insulation is mixed in the field by combining a polymeric isocyanate (A component) and a resin blend (B component). The liquid components shall be stored in 55-gallon (208 L) drums at temperatures between 60°F and 90°F (16°C and 32°C). When Component A and Component B are stored in factory-sealed containers at the recommended temperatures, the maximum shelf life is six months.

## 5.0 IDENTIFICATION

Accufoam AF1 spray foam insulation's containers are identified by the manufacturer's name (Creative Polymer Solutions, LLC) address and telephone number, product name, use instructions, density, flame-spread and smoke-development indices, date of manufacture, and evaluation report number (ER-842). Either IAPMO Mark of Conformity may also be used as shown below:



**IAPMO UES ER-842**

## 6.0 SUBSTANTIATING DATA

**6.1** Manufacturer's descriptive literature and installation instructions.

**6.2** Data in accordance with the Acceptance Criteria for Spray-applied Foam Plastic Insulation, ICC-ES AC377, dated June 2023, including Appendix X.

**6.3** Report of Flammability Testing in accordance with NFPA 286.

**6.4** Report of Air Permeance based on ASTM E2178.

**6.5** Reports of fire propagation characteristics in accordance with NFPA 285

**6.6** Third party engineering analysis for extension of NFPA 285 results.

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

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

## 7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on Accufoam AF1 spray foam insulation to assess its conformance to the codes shown in Section 1.0 of this report and documents the product's certification. Products are manufactured at the location noted in Section 2.8 of this



# EVALUATION REPORT

Number: **842**

Originally Issued: 11/15/2022

Revised: 10/08/2024

Valid Through: 11/30/2024

report under a quality control program with periodic inspections under the supervision of IAPMO UES.

For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email at [info@uniform-es.org](mailto:info@uniform-es.org)

**TABLE 2**  
**ALTERNATIVE THERMAL BARRIER ASSEMBLIES FOR ACCUFOAM AF1<sup>1</sup>**

FIRE-PROTECTIVE COATING/COVERING			MAXIMUM SPF THICKNESS (inch)	
TYPE	MINIMUM THICKNESS (mils)	THEORETICAL APPLICATION RATE	WALLS AND VERTICAL SURFACES	CEILING AND OVERHEAD SURFACES
DC315 <sup>2</sup>	18 WFT (12 DFT)	1.1 gal/100 ft <sup>2</sup>	10	12
60-60A <sup>3</sup>	16 WFT (11 DFT)	1.0 gal/100 ft <sup>2</sup>	10	14
Plus ThB <sup>4</sup>	14 WFT (10 DFT)	0.87 gal/100 ft <sup>2</sup>	10	14

For SI: 1 inch = 25.4 mm, 1 mil = 0.0254 mm

<sup>1</sup> 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.

<sup>2</sup> International Fireproof Technology Inc., recognized in IAPMO UES ER-499.

<sup>3</sup> Flame Control Inc., recognized in IAPMO UES ER-596.

<sup>4</sup> No-Burn, Inc., recognized in IAPMO UES ER-305.

<sup>5</sup> Assemblies were tested to NFPA 286 and comply with the requirements in IBC Section 2603.9.

**TABLE 3**  
**ALTERNATIVE IGNITION BARRIER ASSEMBLIES FOR ACCUFOAM AF1<sup>1</sup>**

FIRE-PROTECTIVE COATING/COVERING			MAXIMUM SPF THICKNESS (inch)	
TYPE	MINIMUM THICKNESS (mils)	THEORETICAL APPLICATION RATE	WALLS AND VERTICAL SURFACES	CEILING AND OVERHEAD SURFACES
DC315 <sup>2</sup>	4 WFT (3 DFT)	0.25 gal/100 ft <sup>2</sup>	8	14
FS-IB <sup>3</sup>	6 WFT (3 DFT)	0.38 gal/100 ft <sup>2</sup>	10	15
Plus ThB <sup>4</sup>	6 WFT (4 DFT)	0.38 gal/100 ft <sup>2</sup>	8	14

For SI: 1 inch = 25.4 mm, 1 mil = 0.0254 mm, 1 gallon = 3.785 L, 1 ft<sup>2</sup> = 0.0929 m<sup>2</sup>

<sup>1</sup> 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.

<sup>2</sup> International Fireproof Technology Inc., recognized in IAPMO UES ER-499.

<sup>3</sup> Flame Seal Products, Inc., recognized in IAPMO UES ER-600.

<sup>4</sup> No Burn, Inc., recognized in IAPMO UES ER-305.



**TABLE 4 – NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES  
ACCUFOAM AF1 APPLIED IN WALL STUD CAVITY**

Wall Component	Material Description
<b>Base Wall (BWS)</b>	Steel Stud Wall - 1 layer of 5/8-inch minimum Type X gypsum wallboard installed on the interior side of minimum 3 3/8-inch deep minimum to 6-inch-deep maximum No. 20 gauge steel studs spaced a maximum of 24 inches on center.
<b>Fire-Stopping in Stud Cavity at Floor Lines</b>	4-inch 4 pcf mineral wool (friction fit or installed with Z-Clips)
<b>Cavity Insulation</b>	Accufoam AF1 1 5/8 inches minimum to 6 inches maximum thickness with a maximum 2-inch air gap for studs ranging from 3 3/8-inch deep minimum to 6-inch-deep maximum.
<b>Exterior Sheathing</b>	Minimum 5/8-inch-thick exterior gypsum sheathing.
<b>Water -resistive Barrier over Base Wall</b>	1) None. 2) Any WRB or alternative vapor barrier that has been approved to be used in a NFPA 285 compliant assembly paired with mineral wool, polyisocyanurate, EPS, or XPS insulation or no exterior insulation for claddings approved for that WRB by an approved evaluation or certification entity.
<b>Exterior Insulation</b> Use either Item 1, 2 or 3	1) None – only where the cladding is listed to be approved with specific water-resistant barrier (WRB). (See Note 1) 2) 2-inch thick minimum 4 pcf mineral fiber insulation allowed for use with any WRB on the base wall surface. (see Note 1) 3) Any polyisocyanurate, EPS or XPS insulation that has been approved (see note 2) to be used in an NFPA 285 compliant assembly paired with the WRBs in Item 2 above and claddings in Item 2 below. (See Note 2)
<b>Exterior Cladding</b>	1) Claddings below may only be used with noncombustible exterior insulation in Item 2 above (mineral fiber) a. Any noncombustible cladding, such as brick, stone, terra cotta, fiber cement, concrete, sheet metal, etc. b. Combustible cladding- Use any cladding that has been successfully tested by the panel manufacturer (or fabricator) via the NFPA 285 test method. (See Note 2) 2) Claddings below may be used with any approved combustible insulation in Exterior Insulation Item 3 above.  Any cladding (combustible or noncombustible) that has been approved to be used in an NFPA 285 compliant assembly paired with approved polyisocyanurate, EPS, XPS, or SPF insulation. Each insulation must be specifically approved for the exact cladding types listed in the approval. (See Note 2)
<b>Window/Door Perimeters</b>	Windows and doors shall be framed as required for the base wall.  The exterior side of the base wall shall use design for specific system being considered. (See Note 1)  Note: EPS and XPS require specific door/window header and jamb details to be compliant with NFPA 285. Polyisocyanurate and spray foam may require specific header/jamb details. Approvals shall be from an approved evaluation or certification entity for the header/jamb detail required for each insulation type.

For SI: 1 inch = 25.4 mm

**Notes to Table 4:** (continued on next page)

**Note 1** Examples for use with no exterior insulation or with mineral wool insulation per table above.

1. Any combustible cladding that has passed NFPA 285 testing (examples below)
  - a. NFPA 285 approved MCM/ACM Metal/Aluminum Composite building panels
  - b. NFPA 285 approved stone/aluminum honeycomb composite
  - c. NFPA 285 approved HPL High-Pressure Laminate Panels.
2. Any noncombustible cladding such as (but not limited to):
  - a. Brick - Nominal 4-inch clay brick or veneer with a maximum 2-inch air gap behind the brick. Brick Ties/Anchors 24 inches o.c. (maximum).
  - b. Stucco - 3/4 - inch exterior cement plaster and lath. A secondary water-resistive barrier can be installed between the insulation and lath. The secondary WRB may not be full coverage asphalt or butyl based self-adhering membranes.
  - c. Natural Stone (granite, limestone marble, sandstone) – 2 inch using any installation technique with a 2-inch air gap (max.).
  - d. Artificial Cast Stone – 1 1/2 – inch using any installation technique with a 2-inch air gap (max)
  - e. Terra Cotta Cladding - 1 1/4-inch using any installation technique with a 2-inch air gap (max)





- f. 1/4-inch (min) fiber cement panels (installed per manufacturer instructions)
- g. Concrete - 2 inches thick with a 2-inch air gap (max)
- h. CMU blocks – 4 inches with a maximum 2-inch air gap
- i. Sheet metals such as aluminum, copper, or zinc – any thickness

**Note 2:** If the base wall is covered with a combustible WRB/insulation and various claddings (combustible or noncombustible) each insulation/WRB/cladding combination allowed must have explicitly been tested or approved to be used with each other by an approved evaluation or certification entity.

**TABLE 5 –NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES  
MASONRY FOR WALLS WITH ACCUFOAM CC EXTERIOR INSULATION AND/OR ACCUFOAM AF1 APPLIED  
IN WALL STUD CAVITY**

Wall Component	Material Description
<b>Base Wall (BWS) Use</b> either Item 1, 2 or 3	<ul style="list-style-type: none"> <li>1) Concrete Wall</li> <li>2) Concrete Masonry Wall</li> <li>3) Steel Stud Wall - 1 layer of 5/8-inch minimum Type X gypsum wallboard installed on the interior side of minimum 3 5/8-inch deep to 6-inch-deep maximum No. 20 gauge steel studs spaced a maximum of 24 inches on center.</li> </ul>
<b>Fire-Stopping in Stud Cavity at Floor Lines</b>	4-inch 4 pcf mineral wool (friction fit or installed with Z-Clips)
<b>Cavity Insulation</b> Use Item 1, 2, 3, 4 or 5	<ul style="list-style-type: none"> <li>1) None</li> <li>2) Accufoam AF1 1 5/8 inches minimum to 6 inches maximum with a maximum 2-inch air gap for studs ranging from 3 5/8-inch deep minimum to 6-inch-deep maximum.</li> <li>3) Any noncombustible insulation per ASTM E136</li> <li>4) Any mineral fiber (faced or unfaced)</li> <li>5) Any fiberglass batt (faced or unfaced)</li> </ul>
<b>Exterior Sheathing</b>	Minimum 1/2-inch-thick exterior gypsum sheathing.
<b>Exterior Insulation</b>	4-inch maximum thickness of Accufoam CC
<b>Exterior Cladding</b>	<ul style="list-style-type: none"> <li>1) Brick – Standard type brick veneer anchors, installed a maximum of 24 inches on center, vertically on each stud with maximum 1-inch air gap between exterior insulation and brick. Brick to be standard nominal 4-inch-thick clay brick installed in a running bond pattern using Type S mortar.</li> <li>2) Stucco – Minimum 3/4-inch thick, exterior plaster and lath. A secondary water resistive barrier (WRB) can be installed between the exterior insulation and lath. The secondary WRB shall not be full coverage asphalt or butyl based self-adhered membranes.</li> <li>3) Minimum 2-inch-thick natural stone (granite, limestone, marble or sandstone). Any standard non-open joint installation technique shall be used.</li> <li>4) Artificial cast stone – 1 1/2 -inch minimum using any standard non-open joint installation technique.</li> <li>5) Terra Cotta Cladding – 1 1/4 - inch minimum using any standard non-open joint installation technique.</li> <li>6) Concrete – 2 inches thick with a maximum 2-inch air gap any standard non-open joint installation technique.</li> <li>7) CMU Blocks – 4 inches minimum with a maximum 2-inch air gap any standard non-open joint installation technique.</li> </ul>
<b>Window/Door Perimeters</b>	Framed as required for base wall. Use 25-gauge sheet steel for flashing area outside of base wall.

For SI: 1 inch = 25.4 mm



## ENERGY STAR – SEAL AND INSULATE SUPPLEMENT

**CREATIVE POLYMER SOLUTIONS, LLC**  
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### ACCUFOAM AF1 SPRAY FOAM INSULATION

CSI Section:  
07 21 00 Thermal Insulation

#### 1.0 PURPOSE

Accufoam AF1 Spray Foam Insulation has been certified for use as thermal *insulation* under the Seal and Insulate with ENERGY STAR® Program. The *insulation* has been evaluated for thermal resistance, surface burning characteristics (flame spread, and smoke-development), and complies with the following codes and regulations:

- EPA Definitions and Testing Requirements for Residential Insulation Version 1.0
- 2024 and 2021 International Building Code® (IBC)
- 2024 and 2021 International Residential Code® (IRC)
- 2024 and 2021 International Energy Conservation Code® (IECC)

#### 2.0 DEFINITIONS

##### 2.1 General Definitions

**Insulation:** Any material mainly used to slow down heat flow. It may be mineral or organic, fibrous, cellular, or reflective (aluminum foil). It may be in rigid, semi-rigid, flexible, or loose-fill form.

**Residential Buildings:** Single family homes (attached or unattached), multifamily buildings with 4 units or fewer, or multifamily buildings (e.g., condominiums and apartments) with 3 stories or less in height above grade.

##### 2.2 Insulation Product Definitions

**Spray or Pour Foam Insulation:** A thermal insulating material that is sprayed or poured (as a gel or foamy liquid) into place and expands or sets into a cellular foam and cures at the point of installation through a chemical reaction. Foamed materials include, but are not limited to, polyurethane, polyisocyanurate, phenolic, and cementitious insulation.

**Board Insulation:** The semi-rigid or rigid insulation is preformed into rectangular units having a degree of

suppleness particularly related to their geometrical dimensions. Typical materials include, but are not limited to, fiberglass, expanded polystyrene (EPS), extruded polystyrene (XPS), polyisocyanurate, and polyurethane. The product may or may not be faced.

#### 2.3 Insulation Performance Definitions

**R-value:** The inverse of the time rate of heat flow through a body from one of its bounding surfaces to the other surface for a unit temperature difference between the two surfaces, under steady state conditions, per unit area. For the purposes of this program, Imperial units will only be accepted [i.e., (h ft<sup>2</sup> °F)/Btu].

**Smoke-Development Index:** The characteristic of a material to emit smoke when exposed to flame or fire compared to red oak and inorganic cement.

**Flame-Spread Index:** The characteristic of a material to resist the spreading of flames when exposed to flame or fire compared to red oak and inorganic cement.

#### 3.0 PRODUCT USE

**3.1 General:** Accufoam AF1 Spray Foam Insulation is a *Spray Foam Insulation for use in residential buildings.*

**3.2 Thermal Resistance:** *R-Values* are provided in Table 1 of this report. These R-Values are taken from testing in accordance with ASTM at a mean temperature of 75°F with a temperature differential of 50°F +/- 10°F.

**TABLE 1**  
**Thermal Resistance (R-Value)<sup>1,2</sup>**  
**(°F·ft<sup>2</sup>·h/BTU)**

Thickness (inch)	R-Value
	Accufoam AF1
1	3.7
2	7.0
3	11
3.5	13
4	14
5	18
5.5	20
6	21
7	25
7.5	27
8	29
9	32
10	36
11	39
12	43
14	50
16	57
18	64

For SI: 1 inch = 25.4 mm, 1°F·ft<sup>2</sup>·h/Btu = 0.176 110 K·m<sup>2</sup>/W.

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



### 3.3 Surface Burning Characteristics:

At a maximum thickness of 4 inches (102 mm) and a nominal density of 0.5 pcf (16 kg/m<sup>3</sup>), the Accufoam AF1 spray foam insulation 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. Greater thicknesses, depending on end use, are recognized when installed in accordance with this report.

### 3.4 Installation:

**3.4.1 Installation General:** Installation shall be in accordance with ER-842 and the manufacturer's published installation instructions. Accufoam AF1 Spray Foam Insulation is mixed and applied on site exclusively by installers approved by Creative Polymer Solutions, LLC or by the Spray Polyurethane Foam Alliance.

**3.4.2 Personal Protection Equipment and Ventilation:** Installation instructions provide the following information on personal protective equipment and ventilation requirements:

Spraying of polyurethane foam results in the atomizing of the components to a fine mist. Inhalation and exposure to the atomized particles must be avoided. Applicators must use personal protective equipment recommended by the Center of Polyurethanes Industry for use in high-pressure spray foam application. Personal protective equipment includes, but not limited to:

- Full-face mask or hood with fresh air source
- Fabric coveralls
- Non-permeable gloves
- Solvent-resistant gloves when handling materials and cleaning solvents

**NOTE:** EXPOSURE MAY OCCUR WHEN NO NOTICEABLE ODOR IS ENCOUNTERED.

Please visit [www.sprayfoam.org](http://www.sprayfoam.org) for additional information on appropriate personal protection equipment selection and use.

**VENTILATION:** The mechanical ventilation instructions state the following. "A mechanical ventilation system is required to be utilized in a workplace where spray-applied polyurethane foam is applied. The mechanical ventilation system to be used in workspace needs to be able to exhaust air directly to the exterior of the building."

**3.4.3 Occupancy Time After Installations:** After the application of the spray foams, a minimum of a 1-hour ventilation period at a minimum of 10 air changes per hour is required before re-entry of the space for unprotected workers and for re-occupancy of the general population.

### 3.4.4 Installation Drawings

Installation Drawings follow at the end of this supplement.

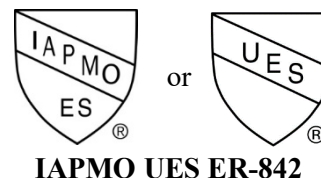
## 4.0 PRODUCT DESCRIPTION

Accufoam AF1 spray foam insulation is a spray-applied, polyurethane open cell foam plastic and complies as a low-density insulation in accordance with Section 3.1.1 and Table 1 of AC377. The insulation is a two-component spray foam plastic with a nominal in-place density of 0.5 pcf (16 kg/m<sup>3</sup>).

The spray-applied insulation is mixed in the field by combining a polymeric isocyanate (A component) and a resin blend (B component). The liquid components shall be stored in 55-gallon (208 L) drums at temperatures between 60°F and 90°F (16°C and 32°C). When Component A and Component B are stored in factory-sealed containers at the recommended temperatures, the maximum shelf life is six months.

## 5.0 IDENTIFICATION

Accufoam AF1 spray foam insulation's containers are identified by the manufacturer's name (Creative Polymer Solutions, LLC), address and telephone number, product name, use instructions, density, flame-spread and smoke-development indices, date of manufacture, and evaluation report number (ER-842). The IAPMO UES Mark of Conformity may also be used as shown below:



## 6.0 SUBSTANTIATING DATA

**6.1** Manufacturer's descriptive literature and installation instructions.

**6.2** Data in accordance with the Acceptance Criteria for Spray-applied Foam Plastic Insulation, ICC-ES AC377, dated June 2023, including Appendix X.

**6.3** Report of Flammability Testing in accordance with NFPA 286.

**6.4** Report of Air Permeance based on ASTM E2178.

**6.5** Reports of fire propagation characteristics in accordance with NFPA 285

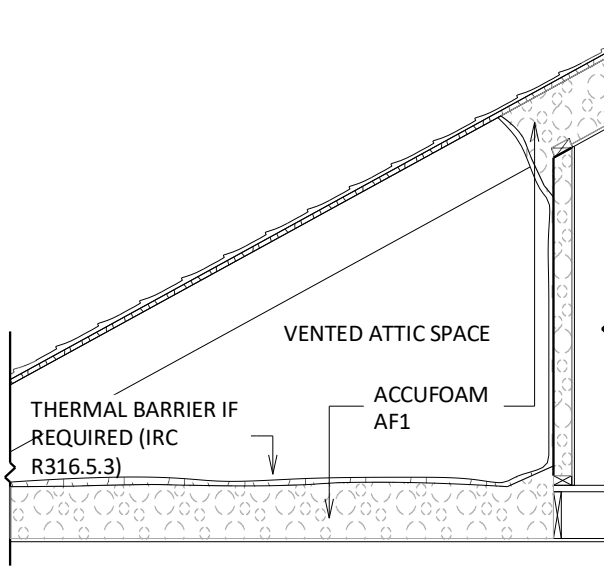
**6.6** Third party engineering analysis for extension of NFPA 285 results.

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

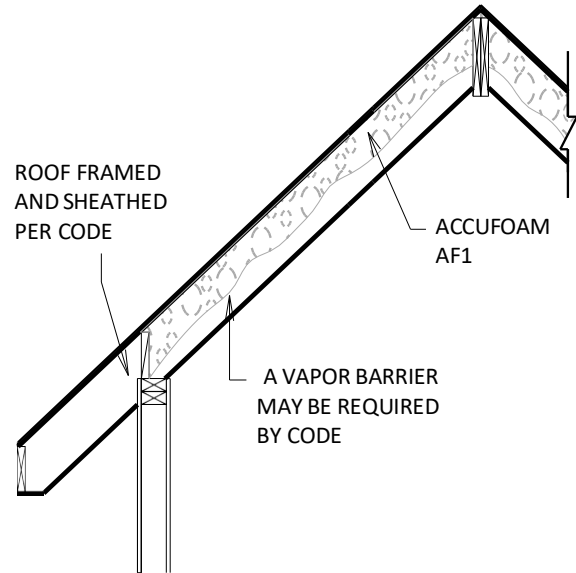
**6.8** Test reports are from laboratories in compliance with ISO/IEC 17025.

For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email at [info@uniform-es.org](mailto:info@uniform-es.org)

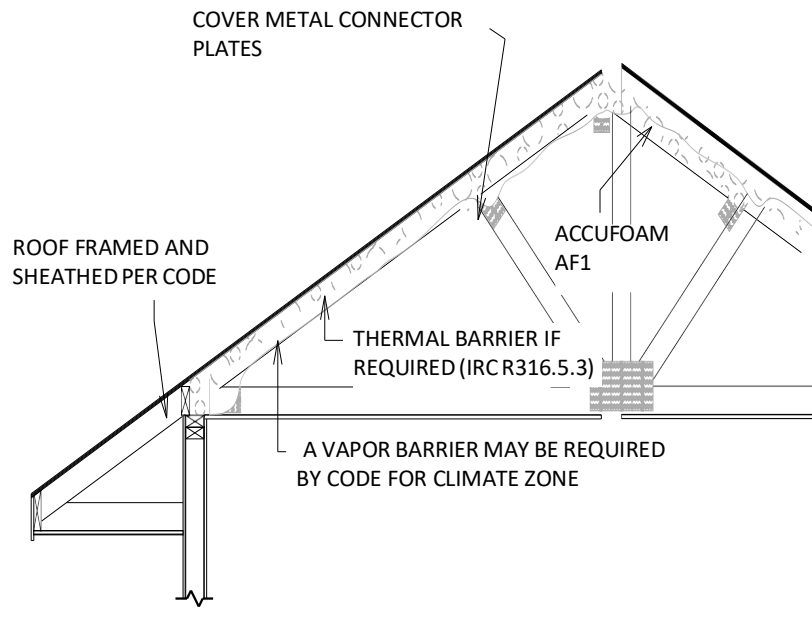




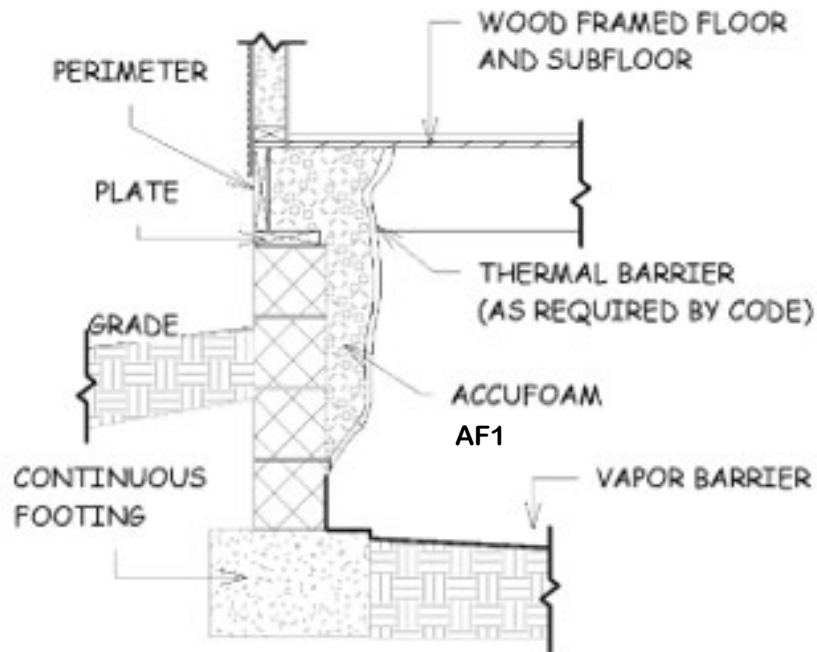
ATTIC KNEE WALL OPEN CELL



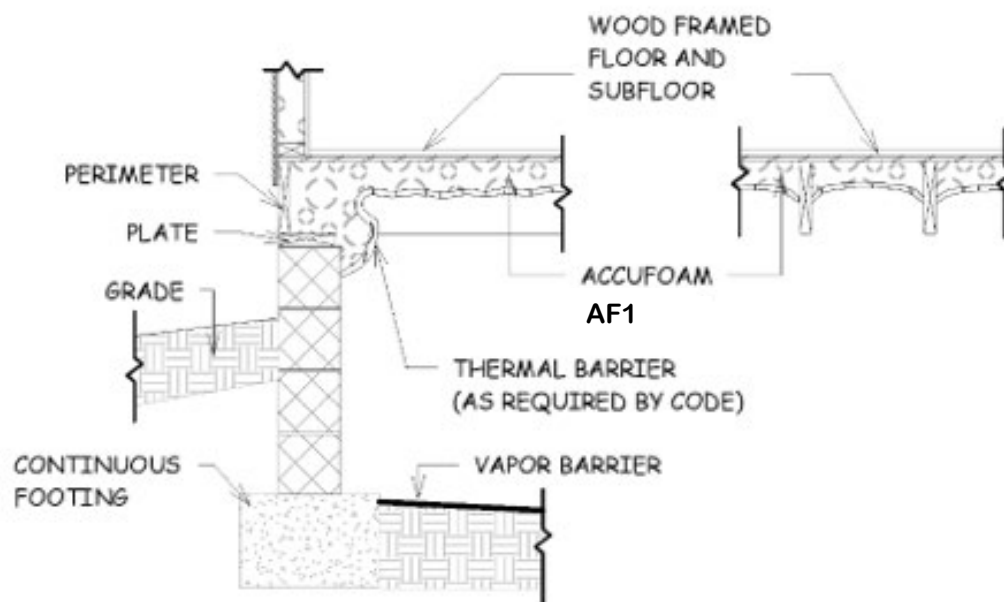
CATHEDRAL CEILING DETAIL OPEN CELL



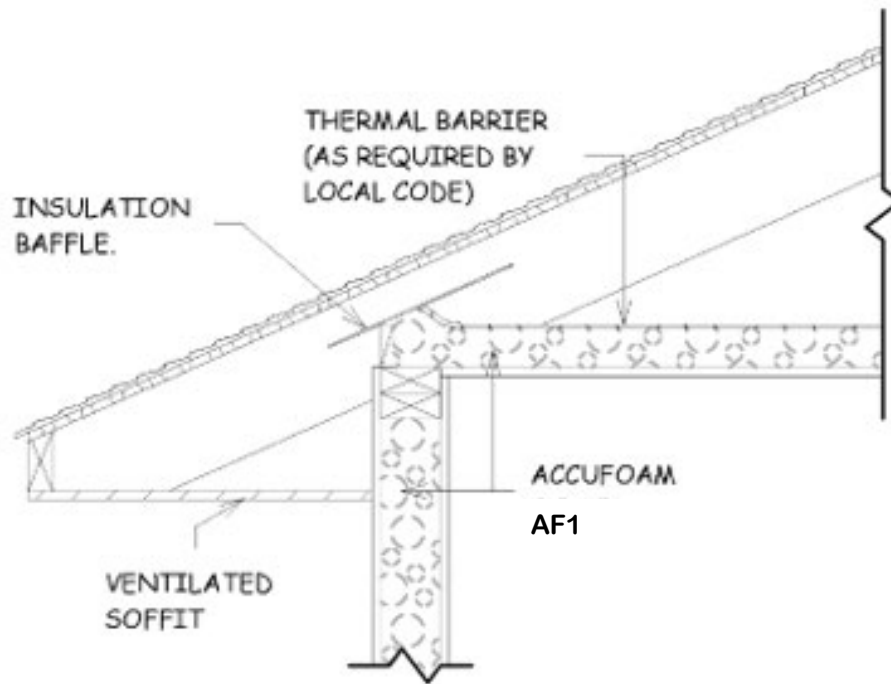
UNVENTED ATTIC INSULATED ROOF DECK OPEN CELL



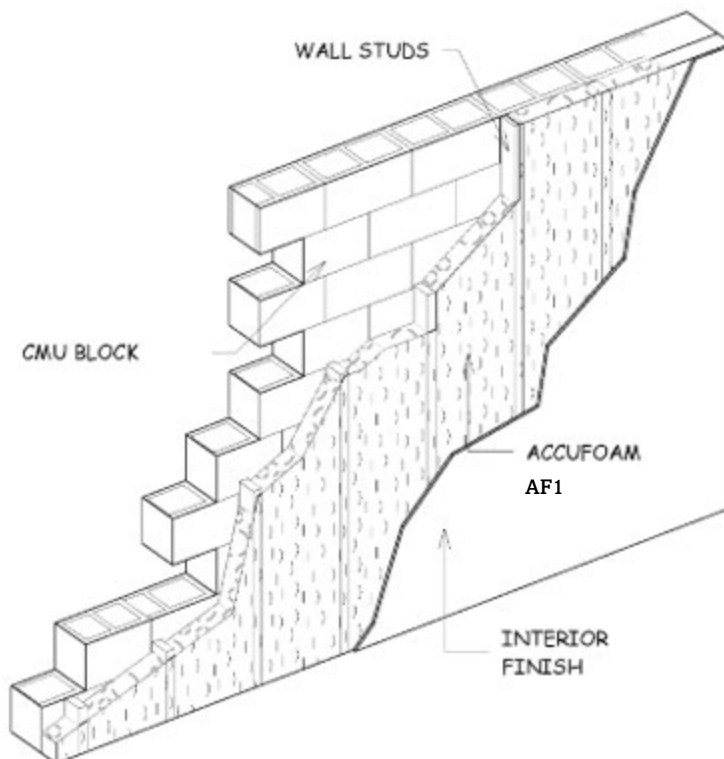
CRAWLSPACE UNVENTED OPEN CELL



CRAWLSPACE VENTED OPEN CELL



VENTED ATTIC FLOOR SOFFIT OPEN CELL



BELOW-GRADE WALL INSULATION OPEN CELL