PETITION FOR DECLARATORY STATEMENT

BEFORE THE FLORIDA BUILDING COMMISSION

DS 2025-052

Company: CfiFOAM, Inc.

Address: 5909 Echo Drive

Knoxville, TN 37919

Name: Richard Porter

Title: President

Telephone: 865-588-4465

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Email: richard@cfifoam.com

Statute(s), Agency Rule(s), Agency Order(s) and/or Code Section(s) on which the Declaratory Statement is sought:

The 2023 Florida Building Code, Energy Conservation, Sections C303.1.4 and R303.1.1.1.

> **C303.1.4 Insulation product rating.**
> The thermal resistance (*R*-value) of insulation shall be determined in accordance with the U.S. Federal Trade Commission *R*-value rule (CFR Title 16, Part 460) in units of h · ft² · °F/Btu at a mean temperature of 75°F (24°C).

> **R303.1.1.1 Insulation product rating.**
> The thermal resistance (*R*-value) of insulation shall be determined in accordance with the U.S. Federal Trade Commission *R*-value rule (CFR Title 16, Part 460) in units of h · ft² · °F/Btu at a mean temperature of 75°F (24°C).

Background:

Our company, CfiFOAM, Inc., is a manufacturer of foam-in-place insulation products used to integrally-insulate the hollow cores of concrete block walls for both commercial and residential buildings. We supply authorized installers in Florida with products and specialized equipment to insulate both residential and commercial buildings throughout the state of Florida.

The purpose of this request is to confirm the requirements for complying with the Florida Energy Conservation Code, 8th Edition (2023), referenced in the Florida Building Commission's

ADVISORY letter dated October 30, 2024 that summarizes the "Requirements for Testing R-Value for Building Thermal Envelope Insulation."

Questions:

Is it a requirement:

1. That our company test each of its products in accordance with the requirements outlined in 16 CFR 460 (FTC Rule 460), which requires:

    a. Testing to one of the following ASTM standards for R-value:

        i. ASTM C177-2013, or newer
        ii. ASTM C518-2017, or newer
        iii. ASTM C1363-2011, or newer

    b. That testing cannot be based on older, outdated versions of these standards,

    c. That tests reflect results obtained at a 75 degree Fahrenheit mean test temperature,

    d. And that testing must be performed on a range of sample thicknesses, including 3 ½ inches, not just a single, 1" thick sample?

2. That each product we supply must be supported by a current third-party certification or evaluation report from a nationally accredited agency that certifies the R-value tests are compliant with 16 CFR 460 (FTC Rule 460), and that the Rule's requirements for product labels, fact sheets and other promotional materials are compliant as well?

3. That without a current third-party certification/evaluation report supported by current R-value testing, the product is deemed not to comply with the Florida Building Code, Energy Conservation, and, therefore, will not be approved to insulate either residential or commercial buildings in Florida?

4. And that the testing and independent certification/evaluation requirements apply to all building insulation products and manufacturers including:

a. Foamed-in-place insulation that is spray-applied to the surface of concrete masonry walls or injected into the core cells of concrete masonry walls,

b. Molded foam plastic insulation inserts or loose fill insulation installed on-site in the core cells of concrete masonry walls,

c. Reflective foil insulation,

d. And pre-insulated concrete masonry wall systems that are marketed either in part or in whole on the basis of whole-wall thermal performance (R-value)?

R A Porter

10/29/2025

Richard A. Porter
President
CfiFOAM, Inc.

Date

Cc: Supporting Documentation:

Florida Building Commission ADVISORY Letter dated October 30, 2024
ICC-ESL Reports for CfiFOAM's Insulation Products

Florida dbpr Department of Business & Professional Regulation

Florida Building Commission
Building Codes and Standards
2601 Blair Stone Road
Tallahassee, Florida 32399-0772
Phone: 850.487.1824 Fax: 850.414.8436

Melanie S. Griffin, Secretary

Ron DeSantis, Governor

October 30, 2024

ADVISORY: To All Building Officials

RE: Requirements for Testing R-value for Building Thermal Envelope Insulation

This is to advise that sections C303.1.4 and R303.1.1.1, Florida Building Code, Energy Conservation, 8th Edition (2023), require the thermal resistance (R-value) of insulation to be determined in "accordance with the U.S. Federal Trade Commission (FTC) R-value rule (CFR Title 16, Part 460)" for both commercial and residential construction. The FTC's R-value rule, 16 CRF § 460.5, outlines acceptable R-value tests for products claiming thermal resistance properties.

The Florida Building Code requires manufacturers of insulation products to provide certifications or evaluation reports from nationally accredited certification or evaluation entities to assist Building Code Officials during an inspection. The certifications or evaluation reports should confirm compliance with specific testing standards as prescribed by the Code, include the product's stated R-value, and identify the approved third-party agency certifying the results.

Should you have any questions concerning this advisory please contact the Building Codes and Standards Office at (850) 487-1824.

ICC EVALUATION SERVICE®

www.icc-es.org | (800) 423-6587 | (562) 699-0543 *A Subsidiary of the International Code Council®*

ICC-ES Listing Report
ESL-1648

Issued April 2025
Revised June 2025
This listing is subject to renewal in April 2026.

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

Product Certification System:

The ICC-ES product-certification system includes evaluating evidence in support of test data provided by the listee to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

Product: CORE FOAM MASONRY FOAM INSULATION®

Listee: CFIFOAM INC.

Evaluation: The Core Foam Masonry Foam Insulation was evaluated to the following standards:

- 16 CFR Part 460 [amended February 10, 2025], Labeling and Advertising of Home Insulation, Federal Trade Commission
- ASTM C518-21, Standard Test Method for Steady-State Thermal Transmission Proprieties by Means of the Heat Flow Meter Apparatus, ASTM International.
- UL 723 (-2018, -2008 with revisions through August 2013 and -2008 with revisions through September 2010), Standard for Test for Surface Burning Characteristics for Building Materials, Underwriters Laboratories, LLC.
- ASTM E84 (2021a, -2018B, -2016 and -2013A), Standard Test Method for Surface Burning Characteristics of Building Materials, ASTM International.

Description of Product:

CfiFOAM's Core Foam Masonry Foam Insulation® is a low density, foam-in-place insulation designed for the cores of concrete block walls. The insulation is comprised of two parts, a spray-dried resin and a foaming catalyst concentrate. The insulation manufactured by cfiFOAM when tested in accordance with ASTM C518 at the conditions represented in Table 1, report a thermal resistance (*R*-value) as shown in Table 1.

Findings: CfiFOAM's Core Foam Masonry Foam Insulation® shows compliance in the application sections under 16 CFR §460, where the average thicknesses, average densities, conditioning times, mean test temperatures and temperature differences, report a thermal resistance (*R*-values) tested in accordance with ASTM C518. See Table 1 for results.

CfiFOAM's Core Foam Masonry Foam Insulation® installed within two different CMU assemblies where the average thicknesses, average densities, conditioning times, mean test temperatures and temperature differences, report a thermal resistance (*R*-values) tested in accordance with ASTM C518. See Table 2 for results.

CfiFOAM's Core Foam Masonry Foam Insulation® as noted in Table 3, have a flame-spread index of 25 or less and a smoke-developed index of 450 or less, based on testing in accordance with UL 723 / ASTM E84, as referenced in the applicable sections of the following code editions:

- 2024, 2021, 2018 and 2015 *International Building Code®*
  Applicable Section: 2603.3
- 2024 *International Residential Code®*
  Applicable Section: R303.3
- 2021, 2018 and 2015 *International Residential Code®*
  Applicable Section: R316.3

Approval of the product's use and all other relevant code sections is the sole responsibility of the local code (building) official.

Identification:

1. The ICC-ES mark of conformity, electronic labeling, or the listing report number (ICC-ES ESL-1648) along with the name, registered trademark, or registered logo of the listee must be included in the product label.
2. In addition, packaging of the Core Foam Masonry Foam Insulation® components carry a label indicating the manufacturer's address, the product name, required labeling information in accordance with 16 CFR §460.12, fact sheet in accordance with 16 CFR §460.13 and the ICC-ES Listing Mark.
3. The report holder's contact information is the following:

   CFIFOAM, INC.
   POST OFFICE BOX 10393
   KNOXVILLE,TN 37939
   (865) 588-4465
   www.cfifoam.com
   info@cfifoam.com

Installation: The product must be installed in accordance with the cfiFOAM's published installation instructions and applicable codes.

Conditions of listing:

1. The listing addresses only conformance with the standards and code sections noted above.
2. Approval of the product's use is the sole responsibility of the local code official.
3. The listing applies only to the materials tested and as submitted for review by ICC-ES.
4. Details related to incorporation of the products are outside the scope of this listing report.
5. The CfiFOAM's Core Foam Masonry Foam Insulation® is manufactured under a quality control program with inspections by ICC-ES.

TABLE 1 — THERMAL RESISTANCE (*R*-values)

AVERAGE THICKNESS (inch)	AVERAGE DENSITY (lb/ft^3)	CONDITIONING TIME (hr)	MEAN TEST TEMPERATURE (°F)	TEMPERATURE DIFFERENCE (°F)	THERMAL RESISTANCE, *R*-VALUE (°F ·ft^2·hr/Btu)
1.0	1.31	24	75	40	4.6
2.0	1.32	24	75	40	9.1
3.0	1.33	24	75	40	13
3.5	1.32	24	75	40	15[1]
5.5	1.32	24	75	40	24[1]

For **SI**: 1 inch= 25.4 mm, 1°F ·ft^2·hr/Btu= 0.176110 K.m^2.h/W
[1]Calculated R-values are based on tested K-values at 1- and 3-inch thickness.
*R-values greater than 10 have been rounded to the nearest whole number.

TABLE 2 — THERMAL RESISTANCE (*R*-values) OF CMU INSULATED ASSEMBLIES[1,2]

ASSEMBLIES	THICKNESS (INCH)	CONDITIONING TIME (hr)	MEAN TEST TEMP. (°F)	TEMP. DIFFERENCE (°F)	THERMAL RESISTANCE, *R*-VALUE (°F ·ft²·hr/Btu)	INSULATION NOMINAL DENSITY (lb/ft³)	CMU PROPERTIES		
							NOMINAL DENSITY (lb/ft³)	WEB THICKNESS (inch)	FACE SHELL THICKNESS (inch)
Assembly 1[3]	8.15	24	75	40	11.8	1.0	92	0.76	1.39
Assembly 2[4]	8.15	24	75	40	8.68	1.0	82	1.0	1.25

For **SI**: 1 inch= 25.4 mm, 1°F ·ft²·hr/Btu= 0.176110 K.m².h/W
[1]The R-values reported in this table are not to be used for compliance with 16 CFR Part 460.
[2]The reported test results do not include air film resistance.
[3]See Figure 1 for additional CMU block dimensions.
[4]See Figure 2 for additional CMU block dimensions.

TABLE 3 — SURFACE BURNING CHARACTERISTICS

NOMINAL DENSITY (lb/ft³)	MAXIMUM THICKNESS (inch)	FLAME-SPREAD INDEX (FSI)	SMOKE-DEVELOPED INDEX (SDI)
1.0	3.5	25 or less	450 or less

For **SI**: 1 inch= 25.4 mm, 1lb/ft³=16 kg/m³

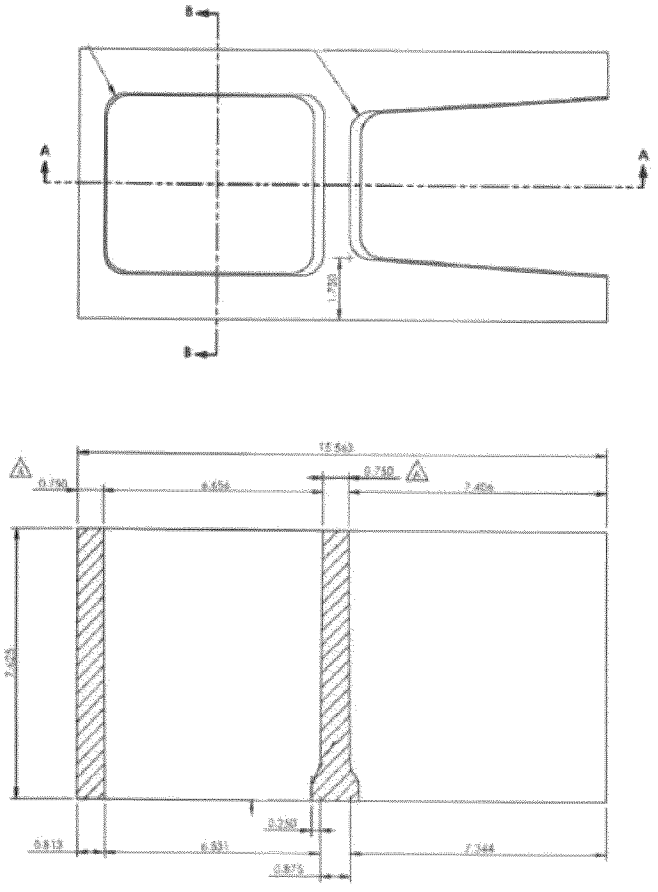

FIGURE 1— 8-INCH PRO BLOCK .75" WEB

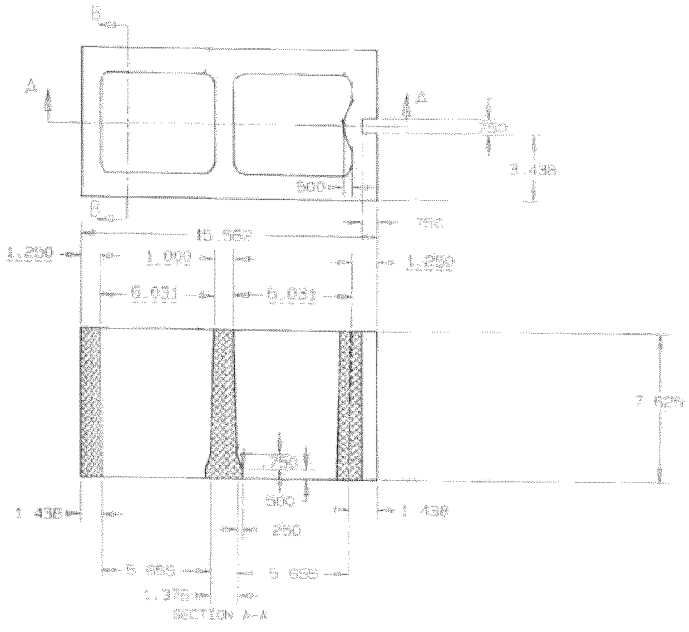

FIGURE 2— 8 INCH X 82 PCF HIGH PERFORMANCE CMU

ICC-ES Listing Report
ESL-1649

Issued June 2025
Revised June 23, 2025
This listing is subject to renewal in June 2026.

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

Product Certification System:

The ICC-ES product-certification system includes evaluating evidence in support of test data provided by the listee to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

Product: SMART FOAM WALL FOAM INSULATION® AND INSUL SMART INTERIOR FOAM INSULATION®

Listee: CFIFOAM, INC.

Evaluation: The Smart Foam Wall Foam Insulation® and Insul Smart Interior Foam Insulation® was evaluated based on the following standards:

- 16 CFR Part 460 [amended February 10, 2025], Labeling and Advertising of Home Insulation, Federal Trade Commission.
- California Department of Public Health (CDPH) Standard Method v1.2-2017 (CDPH CA 01350 v 1.2 2017), Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, California Department of Public Health.
- ASTM E84 (2021a, -2018B, -2016 and -2013A), Standard Test Method for Surface Burning Characteristics of Building Materials, ASTM International.
- ASTM C518-21, Standard Test Method for Steady-State Thermal Transmission Proprieties by Means of the Heat Flow Meter Apparatus, ASTM International.
- UL 723 (-2018, -2008 with revisions through August 2013 and -2008 with revisions through September 2010), Standard for Test for Surface Burning Characteristics for Building Materials, UL Standards & Engagement.

Verified Attribute:

- LEED v4.1 Building Design and Construction (BD+C), EQ Credit: Low-Emitting Materials, U.S Green Building Council (USGBC).
- LEED v5 Building Design and Construction (BC+C), MRc3: Low-Emitting Materials, U.S Green Building Council (USGBC).

Description of Product:

CfiFOAM's Smart Foam Wall Foam Insulation® and Insul Smart Interior Foam Insulation® are a low density, foam-in-place insulation. The insulation is comprised of two parts, a spray-dried resin and a foaming catalyst concentrate. The insulation manufactured by cfiFOAM, when tested in accordance with ASTM C518 at the conditions represented in Table 1, report thermal resistance (*R*-value) as shown in Table 1.

Findings: CfiFOAM's Smart Foam Wall Foam Insulation® and Insul Smart Interior Foam Insulation® shows compliance in the applicable sections under 16 CFR §460, where the average thicknesses, average densities, conditioning

times, mean test temperatures and temperature differences, report thermal resistance (*R*-values) tested in accordance with ASTM C518. See Table 1 for results.

CfiFOAM's Smart FoamWall Foam Insulation® and Insul Smart Interior Foam Insulation® are in compliance to the applicable sections under CDPH CA 01350 v 1.2 2017. The product is also compliant for Total VOC (TVOC) at a range of 0.5 mg/m^3 or less in accordance with LEED v4.1 "Low-Emitting Materials", along with the individual VOC and Formaldehyde limits outlined in Table 4.1 of CA 01359 v 1.2 2017 in accordance with LEED v4.1 and LEED v5 "Low-Emitting Materials". See Table 2 for a summary of results. In addition, see Table 3 for three different standard scenarios as defined by CDPH CA 01350 v 1.2 2017 for the TVOC estimated building concentration, which includes the private office scenario, in accordance with LEED v4.1 and LEED v5 "Low-Emitting Materials".

CfiFOAM's Smart Foam Wall Foam Insulation® and Insul Smart Interior Foam Insulation®, as noted in Table 4, have 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, as referenced in the applicable sections of the following code editions:

- 2024, 2021, 2018 and 2015 *International Building Code®*
  Applicable Section: 2603.3
- 2024 *International Residential Code®*
  Applicable Section: R303.3
- 2021, 2018 and 2015 *International Residential Code®*
  Applicable Section: R316.3

Approval of the product's use and all other relevant code sections is the sole responsibility of the local code (building) official.

TABLE 1— THERMAL RESISTANCE (*R*-values)

AVERAGE THICKNESS (inch)	AVERAGE DENSITY (lb/ft^3)	CONDITIONING TIME (hr)	MEAN TEST TEMPERATURE (°F)	TEMPERATURE DIFFERENCE (°F)	THERMAL RESISTANCE, *R*-VALUE (°F ·ft^2·hr/Btu)
1.0	1.06	24	75	40	4.6
2.0	1.10	24	75	40	9.0
3.0	1.10	24	75	40	13
3.5	1.09	24	75	40	15[1]
5.5	1.09	24	75	40	24[1]

For **SI**: 1 inch= 25.4 mm, 1°F ·ft^2·hr/Btu= 0.176110 K.m^2.h/W
[1]Calculated R-values are based on tested K-values at 1- and 3-inch thickness.
*R-values greater than 10 have been rounded to the nearest whole number.

TABLE 2—CHRONIC INHALATION REFERENCE EXPOSORE LEVEL (CREL) VOLATILE ORGANIC COMPOUND (VOC) CONCENTRATIONS SUMMARY

Compound name	CAS No.	Concentration (ug/m^3)
Acetaldehyde	75-07-0	Less than 5
Benzene	71-43-2	Less than 1
Carbon disulfide	75-15-0	Less than 10
Carbon tetrachloride	56-23-5	Less than 4
Chlorobenzene	108-90-7	Less than 4
Chloroform	67-66-3	Less than 4
Dichlorobenzene (1,4-)	106-46-7	Less than 4
Dichloroethylene (1,1)	75-35-4	Less than 4
Dimethylformamide (N,N-)	68-12-2	Less than 10
Dioxane (1,4-)	123-91-1	Less than 4
Epichlorohydrin	106-89-8	Less than 1
Ethylbenzene	100-41-4	Less than 4
Ethylene glycol	107-21-1	Less than 4
Ethylene glycol monoethyl ether	110-80-5	Less than 4
Ethylene glycol monoethyl ether acetate	111-15-9	Less than 4
Ethylene glycol monomethyl ether	109-86-4	Less than 4
Ethylene glycol monomethyl ether acetate	110-49-6	Less than 4
Formaldehyde	50-00-0	Less than 5
Hexane (n-)	110-54-3	Less than 4
Isophorone	78-59-1	Less than 10
Isopropanol	67-63-0	Less than 10
Methyl chloroform	71-55-6	Less than 4
Methyl chloride	75-09-2	Less than 4
Methyl *t*-butyl ether	1634-04-4	Less than 10
Naphthalene	91-20-3	Less than 4
Phenol	108-95-2	Less than 10
Propylene glycol monomethyl ether	107-98-2	Less than 10
Styrene	100-42-5	Less than 4
Tetrachloroethylene	127-18-4	Less than 4
Toluene	108-88-3	Less than 4
Trichloroethylene	79-01-6	Less than 4
Vinyl acetate	108-05-4	Less than 4
Xylenes technical mixture [m-,o-, p-xylene combined]	108-05-4, 108-39-3, 95-47-6, 106-42-3	Less than 12
TVOC[1]	-	Less than 25

1 mg/m^3=1000 (ug/m^3)

[1]Sum of the concentration of all identified and unidentified VOCs between and including n-pentane through n-heptadecane (i.e: C5-C17) as measured by the GC.MS TIC method and expressed as a toluene equivalent value.

[2]The summary laboratory report submitted is valid until January 9, 2027, for LEED v4.1 and LEED v5 compliance.

TABLE 3—TVOC SUMMARY SCENARIOS

Scenario	Exposed Surface Area of Insulation (m^2)	Flowrate of Outside Ventilation Air (m^3/h)	TVOC-Estimated Building Concentration (mg/m^3)
Classroom	94.6[1]	654	0.004
Residence	284[3]	127	0.05
Private Office	33.4[2]	20.7	0.038

[1]Based upon CDPH CA 01350, Tables 4-2 and Table 4-3; and ASHRAE 62.1-2007 v. 2022, Table 6-1 for classrooms occupied by pupils, ages five and up.
[2]Based upon CDPH CA 01350, Table 4-4; and ASHRAE 62.1-2007 v. 2022, Table 6-1 for offices.
[3]Based upon CDPH CA 01350, Tables B-1 and B-2

TABLE 4 — SURFACE BURNING CHARACTERISTICS

NOMINAL DENSITY (lb/ft^3)	MAXIMUM THICKNESS (inch)	FLAME-SPREAD INDEX (FSI)	SMOKE-DEVELOPED INDEX (SDI)
1.5	3.0	25 or less	450 or less

For **SI**: 1 inch= 25.4 mm, $1 lb/ft^3$=16 kg/m^3

Identification:

1. The ICC-ES mark of conformity, electronic labeling, or the listing report number (ICC-ES ESL-1649), and when application the ICC-ES Listing Mark, along with the name, registered trademark, or registered logo of the listee must be included in the product label.

2. In addition, packaging of the Smart Foam Wall Foam Insulation® and Insul Smart Interior Foam Insulation® components carries a label indicating the manufacturer's address, the product name, required labeling information in accordance with 16 CFR §460.12, and fact sheet in accordance with 16 CFR §460.13.

3. The report holder's contact information is the following:

   CFIFOAM, INC.
   P.O BOX 10393
   KNOXVILLE,TN 37939
   (865) 588-4465
   www.cfifoam.com
   info@cfifoam.com

Installation: The product must be installed in accordance with the cfiFOAM's published installation instructions and applicable codes.

Conditions of listing:

1. The listing addresses only conformance with the standards and code sections noted above.

2. Approval of the product's use is the sole responsibility of the local code official.

3. The listing applies only to the materials tested and as submitted for review by ICC-ES.

4. Details related to incorporation of the product are outside the scope of this listing report.

5. The final interpretation of the specific requirements of the respective green building rating system, standard and/or code rests with the developer of that specific rating system or standard or the Authority Having Jurisdiction, as applicable. The user is advised of the project-specific conditions, and the verification of those conditions is outside the scope of this report.

6. The CfiFOAM's Smart Foam Wall Foam Insulation® and Insul Smart Interior Foam Insulation® is manufactured under a quality control program with inspections by ICC-ES.