



● Compliance with International Codes  
● Compliance with State Codes

# ICC-ES Evaluation Report

## ESR-4426

Reissued May 2022

Revised June 2022

This report is subject to renewal May 2024.

### DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 21 00—Thermal Insulation

#### REPORT HOLDER:

AMBIT POLYURETHANE LLC

#### EVALUATION SUBJECT:

AMBITITE 201 245FA SPRAY-APPLIED INSULATION

### 1.0 EVALUATION SCOPE

#### 1.1 Compliance with the following codes:

- 2021 and 2018 *International Building Code*® (IBC)
- 2021 and 2018 *International Residential Code*® (IRC)
- 2021 and 2018 *International Energy Conservation Code*® (IECC)

#### Properties evaluated:

- Surface-burning characteristics
- Physical properties
- Thermal resistance
- Air permeability
- Water vapor transmission

#### 1.2 Evaluation to the following green standard:

- 2008 ICC 700 *National Green Building Standard*™ (ICC 700-2008)

#### Attributes verified:

- See Section 3.1

### 2.0 USES

AmbiTite 201 245fa is a closed cell spray foam insulation used as a nonstructural thermal insulating material in Type V construction (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.

Under the IRC and the IBC, the insulation may be used as air-impermeable insulation when installed in accordance with Section 3.5.

### 3.0 DESCRIPTION

#### 3.1 General:

AmbiTite 201 245fa product is a rigid, medium-density, spray-applied cellular polyurethane foam plastic insulation installed as a component of wall assemblies, ceilings, floors, crawlspaces and cavities of roofs. The foam plastic insulation is a two-component, closed-cell, one-to-one by volume spray foam system with a nominal density of 2.7 pcf (43.2 kg/m<sup>3</sup>). 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 50°F (10°C) and 80°F (27°C).

The attributes of the insulation have been verified as conforming to the provisions of ICC 700-2008 Section 703.2.1.1.1(c) as an air impermeable insulation. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

#### 3.2 Surface-burning Characteristics:

AmbiTite 201 245fa, at a maximum thickness of 4 inches (102 mm) and a nominal density of 2.7 pcf (43.2 kg/m<sup>3</sup>), 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.

#### 3.3 Thermal Resistance (R-values):

AmbiTite 201 245fa has thermal resistance (R-value), at a mean temperature of 75°F (24°C), as shown in Table 1.

#### 3.4 Vapor Permeance:

AmbiTite 201 245fa has a vapor permeance of greater than 0.1 perms and less than 1.0 perms when applied at a minimum of 2 inches (51 mm) thickness and may be used where a Class II vapor retarder is required by the applicable code.

#### 3.5 Air Permeability:

AmbiTite 201 245fa foam plastic insulation, at a minimum 2 inches (51 mm) thickness, is considered air-impermeable insulation in accordance with IRC Section R806.5 and IBC

Section 1202.3 based on testing in accordance with ASTM E2178.

## 4.0 INSTALLATION

### 4.1 General:

The AmbiTite 201 245fa product 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 on the jobsite during installation.

### 4.2 Application:

The insulation is spray-applied on the jobsite using equipment identified in the manufacturer's published installation instructions. The AmbiTite 201 245fa product must be applied when the ambient and substrate temperature is between 23°F (-5°C) and 120°F (49°C). The insulation must not be used in areas that have a maximum service temperature greater than 180°F (82°C). The foam plastic insulation must not be used in electrical outlets or junction boxes, or in continuous contact with rain or water. The substrate must be free of moisture, frost or ice, loose scales, rust, oil and grease, or contaminants that will interfere with adhesion of the spray foam insulation. The AmbiTite 201 245fa product is applied in passes having a maximum thickness of 4 inches (102 mm) per pass. When multiple passes are required, a minimum waiting time of 10 minutes is required before subsequent passes can be sprayed.

### 4.3 Thermal Barrier:

#### 4.3.1 Application with a Prescriptive Thermal Barrier:

The AmbiTite 201 245fa must be separated from the interior of the building by an approved thermal barrier of 1/2-inch-thick (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 Ignition Barrier—Attics and Crawl Spaces:

#### 4.4.1 Application with a Prescriptive Ignition Barrier:

When AmbiTite 201 245fa 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.

AmbiTite 201 245fa insulation, as described in this section, may be installed in unvented attics in accordance with IRC Section R806.5 or IBC Section 1202.3.

## 5.0 CONDITIONS OF USE

AmbiTite 201 245fa 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 The AmbiTite 201 245fa 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 The AmbiTite 201 245fa insulation must be separated from the interior of the building by an approved thermal barrier, as described in Section 4.3.1. In attics and crawlspaces the insulation must be separated from the interior of the attic or crawlspace by an ignition barrier, as described in Section 4.4.1.
- 5.4 The AmbiTite 201 245fa insulation must be protected from the weather during application.
- 5.5 The AmbiTite 201 245fa insulation must be applied by installers approved by AMBIT Polyurethane LLC.
- 5.6 Use of AmbiTite 201 245fa insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with IBC Section 2603.8 or IRC Section R318.4, as applicable.
- 5.7 Jobsite certification and labeling of the insulation must comply with 8 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.
- 5.8 The AmbiTite 201 245fa insulation is produced in Arlington, Texas 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 April 2020 (editorially revised July 2020).
- 6.2 Report on air leakage testing in accordance with ASTM E2178.
- 6.3 Reports on water vapor transmission tests in accordance with ASTM E96 (desiccant method).

## 7.0 IDENTIFICATION

- 7.1 Components for AmbiTite 201 245fa insulation are identified with the manufacturer's name (AMBIT Polyurethane LLC), address and telephone number; the product trade name (AmbiTite 201 245fa); product type (A or B component); use instructions; the density; the flame-spread and smoke-developed indices; the evaluation report number (ESR-4426).
- 7.2 The report holder's contact information is the following:

**AMBIT POLYURETHANE LLC**  
**2925 GALLERIA DRIVE**  
**ARLINGTON, TEXAS 76011**  
**(817) 677-1200**  
[www.ambitpu.com](http://www.ambitpu.com)  
[dave.lall@ambitpu.com](mailto:dave.lall@ambitpu.com)

TABLE 1—THERMAL RESISTANCE (R-VALUES)<sup>1</sup>

THICKNESS (inches)	R-VALUE (°F.ft <sup>2</sup> .h/Btu)
1	6.7
2	13
3.5	22
4	25
5	31
6	37
7	43
8	50
9	56
10	62
11	68
12	74

For **SI**: 1 inch = 25.4 mm; 1°F.ft<sup>2</sup>.hr/Btu = 0.176 110 k.m<sup>2</sup>/W.

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

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

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AMBIT POLYURETHANE LLC

**EVALUATION SUBJECT:**

AMBITITE 201 245FA SPRAY-APPLIED INSULATION

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that AmbiTite 201 245fa spray-applied insulation, described in ICC-ES evaluation report ESR-4426, has also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

**2.0 CONCLUSIONS**

The AmbiTite 201 245fa spray-applied insulation, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4426, 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 *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4426 for the 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building*.

Installation must meet the requirements of Sections 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 AmbiTite 201 245fa spray-applied insulation 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 May 2022 and revised June 2022.