

# ICC-ES Evaluation Report

**ESR-4477**

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**DIVISION: 09 00 00—FINISHES**

**Section: 09 96 43—Fire-Retardant Coatings**

**REPORT HOLDER:**

**ALBI PROTECTIVE COATINGS**

**EVALUATION SUBJECT:**

**ALBI COTE TB**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2018 and 2015 *International Building Code*® (IBC)
- 2018 and 2015 *International Residential Code*® (IRC)

**Properties evaluated:**

- Application without a prescriptive thermal barrier
- Physical properties
- Water vapor transmission

## 2.0 USES

Albi Cote TB coating is a liquid-applied coating intended to be applied over the surface of spray-applied foam plastic insulation complying with ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation (AC377). The coated assembly is intended for use without the application of a code-prescribed thermal barrier when installed as described in this report.

## 3.0 DESCRIPTION

### 3.1 General:

Albi Cote TB coating is a single-component, water-based, liquid-applied intumescent coatings and are available in black, white and gray. The coating is supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of one year when stored in factory-sealed containers at temperatures between 45° and 95°F (7.2 and 35°C).

### 3.2 Vapor Retarder:

At a minimum thickness of 13 mils [0.013 inch (0.33 mm)] dft, Albi Cote TB has a vapor permeance of less than 10 perms ( $5.7 \times 10^{-10}$  kg/Pa-s-m<sup>2</sup>) when tested in accordance with ASTM E96 Procedure A (desiccant method), and qualifies as a Class III vapor retarder.

## 4.0 DESIGN AND INSTALLATION

### 4.1 Installation—General:

Albi Cote TB coating must be applied in accordance with the manufacturer's published application instructions and this

report. A copy of the instructions must be available on the job site at all times.

Albi Cote TB coating must be mechanically mixed prior to application. The coating is applied to the required thickness using spray equipment, a brush, or a roller having a medium nap. Surfaces to be coated must be inspected in accordance with the manufacturer's published installation instructions and must be dry, clean, and free of dirt, loose debris and other substances that could interfere with the adhesion of the coating. The coating must not be applied when the ambient or surface temperature is below 50°F (10.0°C) or above 95°F (35°C), and relative humidity of not more than 65 percent. The manufacturer must be consulted for specific application conditions.

Albi Cote TB coating may be applied over spray-applied foam plastic insulation without covering the coated assembly with the thermal barrier prescribed in IBC Section 2603.4 and IRC Section R316.4.

## 5.0 CONDITIONS OF USE

Albi Cote TB coating 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** Application must comply with this report, the manufacturer's published installation instructions, and the applicable code. A copy of the installation instructions must be on the job site during application of the coating. In the event of a conflict, this report and the code govern.
- 5.2** The application of additional interior finishes over the Albi Cote TB coating is limited to interior satin latex paint applied at an average dry film thickness of 3.0 mils (0.08 mm). The use of this interior finish in conjunction with the vapor retardant coating in Item 5.3 is outside the scope of this report.
- 5.3** Application of a vapor retardant coating under the Albi Cote TB coating is limited to use of moisture vapor barrier interior latex primer/finish coating consisting of Vinyl Acrylic/Styrene Butadiene having a VOC (less exempt solvents) of no more than 72 g/L (0.60 lb/gal) and a volume solids content of  $29 \pm 3\%$  applied at an average dry film thickness of 2.25 mils (0.06 mm). The use of this vapor retardant coating in conjunction with the interior finish in Item 5.2 is outside the scope of this report.
- 5.4** Recognition in this report is for the specific assemblies and spray-applied foam plastic insulations described in Table 1. The spray-applied foam plastic insulation must be installed in accordance with the requirements

set forth in the specific ICC-ES evaluation report spray foam manufacturer's report noted in Table 1. For spray-applied foam plastic insulation that is not covered in an ICC-ES evaluation report, the evaluation is limited as noted in Table 1, Footnote 3.

5.5 The coating is manufactured in Andover, Massachusetts, under a quality control program with inspections by ICC-ES.

**6.0 EVIDENCE SUBMITTED**

Reports of testing in accordance with ICC-ES Acceptance Criteria for Fire-protective Coatings Applied to Spray-applied Foam Plastic Insulation Installed without a Code-prescribed Thermal Barrier (AC456), dated October 2015 (Editorially revised July 2018), including room corner fire testing in accordance with NFPA 286.

**7.0 IDENTIFICATION**

7.1 All containers of Albi Cote TB must be labeled with the report holder's name and address; the product name;

the date of manufacture; the shelf life or expiration date; the manufacturer's instructions for application; and the evaluation report number (ESR-4477).

7.2 The spray-applied foam plastic insulations must be labeled in accordance with the applicable spray foam manufacturer's evaluation report (see Table 1).

7.3 The report holder's contact information is the following:

**ALBI PROTECTIVE COATINGS**  
**401 BERLIN STREET**  
**EAST BERLIN, CONNECTICUT 06023**  
**(860) 828-0571**  
[www.albi.com](http://www.albi.com)  
[info@albi.com](mailto:info@albi.com)

**TABLE 1—USE OF INSULATION WITHOUT A PRESCRIPTIVE THERMAL BARRIER (TESTED IN ACCORDANCE WITH NFPA 286)**

INSULATION TYPE	MAXIMUM THICKNESS (in.) (Vertical Surfaces)	MAXIMUM THICKNESS (in.) (Overhead Surfaces)	COATING TYPE & THICKNESS <sup>1</sup> (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING <sup>2</sup>
BASF WALLTITE® (ESR-2642)	5½	7½	Albi Cote TB 15 mils DFT / 23 mils WFT	1.23 gal / 100 ft²
BASF WALLTITE® 178 and 81206 (ESR-2642)	5½	7½	Albi Cote TB 15 mils DFT / 23 mils WFT	1.23 gal / 100 ft²
BASF SPRAYTITE® 158 and 81205 (ESR-2642)	5½	9½	Albi Cote TB 14 mils DFT / 21 mils WFT	1.16 gal / 100 ft²
BASF ENERTITE® NM (ESR-3102)	9½	11½	Albi Coat TB 11 mils DFT / 18 mils WFT	1.18 gal / 100 ft²
Sealection® NM Open-Cell (ESR-2668)	9¼	11¼	Albi Coat TB 12 mils DFT / 18 mils WFT	1.15 gal/100 ft²
CertainTeed CertaSpray® Closed-Cell (See Note 3)	5½	9½	Albi Coat TB 11 mils DFT / 17 mils WFT	1.10 gal / 100 ft²
CertainTeed CertaSpray® X Open Cell (See Note 3)	9½	11½	Albi Coat TB 11 mils DFT / 18 mils WFT	1.12 gal / 100 ft²
Chemical Brothers Quadfoam 500 (See Note 3)	11	13½	Fireshell® Primer 5 mils DFT / 9 mils WFT Albi Coat TB 9 mils DFT / 15 mils WFT	0.53 gal / 100 ft² 1 gal / 100 ft²
Chemical Brothers Quadfoam NatureSeal OCX (See Note 3)	6½	10	Albi Coat TB 12 mils DFT / 18 mils WFT	1.15 gal / 100 ft²
Chemical Brothers Quadfoam 2.0 (See Note 3)	8½	12½	Albi Coat TB 12 mils DFT / 18 mils WFT	1.08 gal / 100 ft²
Covestro EocBay™ Closed Cell (See Note 3)	7¼	9¼	Albi Coat TB 12 mils DFT / 20 mils WFT	1.24 gal / 100 ft²
Covestro Bayseal™ OC (See Note 3)	7½	9½	Albi Coat TB 12 mils DFT / 20 mils WFT	1.24 gal / 100 ft²

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(Continued)**

INSULATION TYPE	MAXIMUM THICKNESS (in.) (Vertical Surfaces)	MAXIMUM THICKNESS (in.) (Overhead Surfaces)	COATING TYPE & THICKNESS <sup>1</sup> (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING <sup>2</sup>
Accella Bayseal™ Closed Cell (ESR-2072)	7 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 12 mils DFT / 20 mils WFT	1.24 gal / 100 ft <sup>2</sup>
Demilec SEALECTION® 500 (ESR-1172)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 11 mils DFT / 17 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Demilec Agribalance® (ESR-2600)	5 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 15 mils DFT / 23 mils WFT	1.23 gal / 100 ft <sup>2</sup>
Demilec HEATLOK SOY® 200 PLUS (ESR-3210)	9 <sup>1</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 11 mils DFT / 17 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Demilec APX™ (ESR-3470)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 11 mils DFT / 17 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Demilec Heatlok® XT-s (ESR-3824)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Demilec Heatlok® XT-w (ESR-3883)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Demilec Heatlok® HFO (ESR-4073)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Elastochem Proline Plus (See Note 3)	7 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 12 mils DFT / 20 mils WFT	1.24 gal / 100 ft <sup>2</sup>
EnergyOne America EOA500 (ESR-3686)	11 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 14 mils DFT / 20 mils WFT	1.25 gal / 100 ft <sup>2</sup>
Gaco Western GacoGreen 052 and GacoGreen 052N (See Note 3)	5 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 14 mils DFT / 26 mils WFT	1.6 gal / 100 ft <sup>2</sup>
Gaco Western GacoOnePass F1850 (See Note 3)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Gaco Western F1880 CC (See Note 3)	9	11	Albi Coat TB 12 mils DFT / 18 mils WFT	1.23 gal / 100 ft <sup>2</sup>
Gaco Western F4500 OC (See Note 3)(See Note 4)	13	21	Albi Coat TB 11 mils DFT / 17 mils WFT	1.16 gal / 100 ft <sup>2</sup>
Henry Company Permax 2.0X and Permax 2.0X Fast (ESR-3647)	7 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 12 mils DFT / 20 mils WFT	1.24 gal / 100 ft <sup>2</sup>
Icynene Classic Max (ESR-1826)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 14 mils DFT / 21 mils WFT	1.1 gal / 100 ft <sup>2</sup>
Icynene ProSeal (ESR-3500)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Icynene ProSeal LE (ESR-3500)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.2 gal / 100 ft <sup>2</sup>
Johns Manville JM Corbond MCS™ (See Note 3)	6	9 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 20 mils WFT	1.1 gal / 100 ft <sup>2</sup>
Johns Manville JM Corbond® oc (See Note 3)	7 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.23 gal / 100 ft <sup>2</sup>
Johns Manville JM Corbond® ocx (See Note 3)	7 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.23 gal / 100 ft <sup>2</sup>
Johns Manville JM Corbond® III (See Note 3)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.23 gal / 100 ft <sup>2</sup>

**TABLE 1—USE OF INSULATION WITHOUT A PRESCRIPTIVE THERMAL BARRIER (TESTED IN ACCORDANCE WITH NFPA 286)  
(Continued)**

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LaPolla Industries Foam-Lok open cell foam (See Note 3)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 13 mils DFT / 20 mils WFT	1.24 gal / 100 ft <sup>2</sup>
LaPolla Industries FL-2000-4G closed cell foam (See Note 3)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.23 gal / 100 ft <sup>2</sup>
Rhino Linings ThermalGuard OC.5R (ESR-2100)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 11 mils DFT / 17 mils WFT	1.16 gal / 100 ft <sup>2</sup>
Rhino Linings ThermalGuard OC.5 (ESR-2100)	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 11 mils DFT / 17 mils WFT	1.16 gal / 100 ft <sup>2</sup>
Rhino Linings ThermalGuard CC2 (ESR-2100)	7 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 12 mils DFT / 18 mils WFT	1.23 gal / 100 ft <sup>2</sup>
SES Foam Sucraseal™ 0.5 (ESR-3375)	11 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	Albi Coat TB 14 mils DFT / 20 mils WFT	1.25 gal / 100 ft <sup>2</sup>
SWD QS 108 Open Cell (See Note 3)	8	13	Albi Coat TB 11 mils DFT / 17 mils WFT	1.16 gal / 100 ft <sup>2</sup>
SWD QS 112 Closed Cell (See Note 3)	6	8	Albi Coat TB 11 mils DFT / 17 mils WFT	1.16 gal / 100 ft <sup>2</sup>

For **SI**: 1 inch = 25.4 mm; 1 mil = 0.0254 mm; 1 gallon = 3.38 L; 1 ft<sup>2</sup> = 0.93 m<sup>2</sup>.

**Notes:**

<sup>1</sup>DFT = Dry Film Thickness; WFT = Wet Film Thickness

<sup>2</sup>As reported in the coating manufacturer's application instructions. Actual application rate, based upon specific project conditions, must be in accordance with the coating manufacturer's application instructions.

<sup>3</sup>Recognition is limited to the NFPA 286 test data for the coated assembly described. Evaluation for compliance of the spray foam insulation with the other applicable requirements of ICC-ES AC377 and the IBC and IRC are outside the scope of the report.

<sup>4</sup>Use of gray or black coatings at the noted thickness for this product has not been evaluated. Use of black and gray coatings are limited to a maximum thickness of 11<sup>1</sup>/<sub>2</sub> inches on vertical surfaces and 13<sup>1</sup>/<sub>2</sub> inches on overhead surfaces.