DrJ CERTIFICATION

Technical Evaluation Report™

TER 2308-01

Albi Cote TB Used as a Thermal Barrier or Ignition Barrier

Albi Protective Coatings

Product:

Albi Cote TB

Issue Date:

August 31, 2023

Revision Date:

July 1, 2024

Subject to Renewal:

July 1, 2024

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COMPANY INFORMATION:	ADDITIONAL LISTEES:
Albi Protective Coatings 401 Berlin St East Berlin, CT 06023-1127 P: 860-828-0571 info@albi.com www.albi.com	

DIVISION: 09 00 00 - FINISHES

SECTION: 09 96 46 - Intumescent Painting

1 Innovative Product Evaluated[1,2]

1.1 Albi Cote TB

2 Applicable Codes and Standards[3,4]

2.1 *Codes*

2.1.1 *IBC—15, 18, 21: International Building Code®*

2.1.2 *IRC—15, 18, 21: International Residential Code®*

2.1.3 *IECC—15, 18, 21: International Energy Conservation Code®*

2.2 *Standards and Referenced Documents*

2.2.1 *DrJ Evaluation Criteria (EC) 045: Evaluation Criteria for Field Applied Coatings on Spray Polyurethane Foam for use as a Thermal Barrier or Ignition Barrier*

2.2.2 *NFPA 286: Standard Methods of Fire Test for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*

2.2.3 *UL 1715: Fire Test of Interior Finish Material*

3 Performance Evaluation

3.1 Tests, test reports, research reports, duly authenticated reports and related engineering evaluations are defined as intellectual property and/or trade secrets and protected by Defend Trade Secrets Act 2016 (DTSA).[5]

3.2 Testing and/or inspections conducted for this TER were performed an ISO/IEC 17025 accredited testing laboratory,[6] an ISO/IEC 17020 accredited inspection body,[7] which are internationally recognized accreditations through International Accreditation Forum (IAF), and/or a licensed Registered Design Professional (RDP).

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3.3 The innovative product listed in Section 1.1 has been evaluated for compliance with the following:

3.3.1 Approval for use as a thermal barrier in accordance with IBC Section 2603.5, IBC Section 2603.9, and IRC Section R316.6.

3.3.2 Approval for use as an ignition barrier in accordance with IBC Section 2603.4.1.6, IBC Section 2603.9, IRC Section R316.5.3, IRC Section R316.5.4, and IRC Section R316.6.

3.3.3 Approval for use as an interior finish in accordance with IBC Section 803.1, IBC Section 803.4, IRC Section R302.9, and IRC Section R302.10.1.

3.4 Any building code and/or accepted engineering evaluations (i.e. research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ Engineering, LLC (DrJ), an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDPs / approved sources. DrJ is qualified[8] to practice product and code compliance services within its scope of accreditation and engineering expertise, respectively.

3.5 Engineering evaluations are conducted with DrJ's ANAB accredited ICS code scope, which are also its areas of professional engineering competence.

3.6 Any regulation specific issues not addressed in this section are outside the scope of this TER.

4 Product Description and Materials

4.1 Albi Cote TB is a water-based, liquid applied, intumescent coating.

4.1.1 Albi Cote TB is white in color.

4.1.2 When exposed to elevated temperatures and flame, Albi Cote TB expands and forms a protective char layer.

4.2 The product is packaged in either 5-gallon (18.9 liter) pails or 55-gallon (208 liter) drums.

4.3 *Shelf Life*

4.3.1 Albi Cote TB: one year when stored in unopened containers between 40°F (4.4°C) and 90°F (32.2°C)

4.4 Albi Cote TB must be prepared with a power mixer (800-1,200 RPM) or equivalent for a minimum of five minutes per container prior to application.

5 Applications

5.1 *Thermal Barrier Assemblies*

5.1.1 Albi Cote TB is used to protect Spray-applied Polyurethane Foam (SPF) insulation to allow the SPF insulation to be installed without a prescriptive 15-minute thermal barrier in accordance with IBC Section 2603.9 and IRC Section R316.6.

5.1.2 Albi Cote TB meets the criteria for use as a wall and ceiling finish in accordance with IBC Section 803.1, IBC Section 803.4, IRC Section R302.9 and IRC Section R302.10.1.

5.1.3 Approved assemblies are as listed in Table 1.

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Table 1. Thermal Barrier Assemblies

Substrate	Product[2] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating				Evaluation Report[1]
				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
Accufoam CC Closed Cell Foam	Albi Cote TB	7 1/2	9 1/2	14	9	115	0.87	ER-699
Accufoam CC-HFO Closed Cell Foam	Albi Cote TB	7 1/2	9 1/2	14	9	115	0.87	ER-833
AMBIT AMBI-SEAL 5.0 Open Cell Spray Foam	Albi Cote TB	9	14	14	9	115	0.87	CCRR-0393
AMBIT Ambi-Tite 201 (245fa) Closed Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	ESR-4426
AMBIT Ambi-Tite 204 HFO Closed Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	ESR-4427
Alpha Polymers AP 100 (OC) Open Cell Foam	Albi Cote TB	9	14	14	9	115	0.87	CCRR-0483
Alpha Polymers AP 200 245fa (CC) Closed Cell Foam	Albi Cote TB	8	12	14	9	115	0.87	ESR-5241
AMD Diamondback Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-4438
BASF ENERTITE® G Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1032
BASF ENERTITE® Max Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1032
BASF SPRAYTITE® SP Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-1031
BASF SPRAYTITE® 158 Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-1031
BASF SPRAYTITE® 178 Closed Cell Spray Foam	Albi Cote TB	6	8	17	11	94	1.06	CCRR-1031
BASF SPRAYTITE® 81206 Closed Cell Spray Foam	Albi Cote TB	6	8	17	11	94	1.06	CCRR-1031

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Table 1. Thermal Barrier Assemblies

Substrate	Product[2] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating				Evaluation Report[1]
				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
BASF WALLTITE® US Closed Cell Spray Foam	Albi Cote TB	6	8	17	11	94	1.06	CCRR-1031
BASF SPRAYTITE® Comfort Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-0374
BASF SPRAYTITE® Comfort Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-0374
BASF SPRAYTITE® Comfort XL Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-0374
BASF SPRAYTITE® LWP-L Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-0374
BASF WALLTITE® LWP Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-0374
BASF WALLTITE® XL Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-0374
BASF WALLTITE® Plus Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	CCRR-0374
Carlisle SealTite™ Pro Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-624
Carlisle Foamsulate 50 HY Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-540
Carlisle SealTite™ Pro No Mix Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-616
Carlisle Foamsulate 50 Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-351
Carlisle SealTite™ Pro High Yield Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-623
Carlisle SealTite™ Pro Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	ER-621
Carlisle Foamsulate Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	ER-626

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Substrate	Product[2] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating				Evaluation Report[1]
				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
Carlisle SealTite™ Pro HFO Closed Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-720
Carlisle Foamsulate HFO 2.0 Closed Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-841
Carlisle SealTite™ Pro One Zero Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	ER-640
Carlisle Foamsulate HFO Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	ER-650
Central Urethane X-Press Seal 170 Closed Cell Foam	Albi Cote TB	8	10	14	9	115	0.87	ER-834
Central Urethane X-Press Seal 200 Closed Cell Foam	Albi Cote TB	8	10	14	9	115	0.87	ER-834
Creative Polymer Solutions Accufoam CC Closed Cell Foam	Albi Cote TB	7 1/2	9 1/2	14	9	115	0.87	ER-699
Creative Polymer Solutions Accufoam 2.0 CC-HFO Closed Cell Foam	Albi Cote TB	7 1/2	9 1/2	14	9	115	0.87	ER-833
Elastochem Insulthane 200 Evolution Closed Cell Spray Foam	Albi Cote TB	8	10	14	9	115	0.87	CCRR-0396
Elastochem Insulthane Extreme HFO Closed Cell Spray Foam	Albi Cote TB	8	10	14	9	115	0.87	CCRR-0396
Elastochem Insulthane Extreme HL Closed Cell Spray Foam	Albi Cote TB	8	10	14	9	115	0.87	CCRR-0396
Energy One America EOA 500 Open Cell Spray Foam	Albi Cote TB	9	14	14	9	115	0.87	ESR-3686
Energy One America EOA 2000 Closed Cell Spray Foam	Albi Cote TB	6	9 1/2	14	9	115	0.87	ER-443

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Substrate	Product[2] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating				Evaluation Report[1]
				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
Everest Evercell 2.0 (245fa) Closed Cell Spray Foam	Albi Cote TB	6	6	14	9	115	0.87	PD[3]
Everest Opticell 2.0 (HFO) Closed Cell Spray Foam	Albi Cote TB	6	6	14	9	115	0.87	PD[3]
Foam Supplies Genfoam™ Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0389
Foam Supplies genX™ Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0390
Foam Supplies ecostar™ Closed Cell Spray foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0388
GacoEZSpray F4500 Open Cell Spray Foam	Albi Cote TB	12	16	14	9	115	0.87	CCRR-1107
Gaco™ F183M Closed Cell Spray Foam	Albi Cote TB	6 1/2	9	14	9	115	0.87	CCRR-1002
Gaco™ OnePass F1850 Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-1043
Gaco™ OnePass 1860 HFO Spray Foam Insulation	Albi Cote TB	6	9 1/2	14	9	115	0.87	ER-0859
Gaco™ OnePass Low GWP F1880Open Cell Spray Foam	Albi Cote TB	9	12 1/2	14	9	115	0.87	CCRR-1106
General Coatings Ultra-Thane 050 Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0358
General Coatings Ultra-Thane 050 Max Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0358
General Coatings Ultra-Thane 050 Max Pro Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0358
General Coatings Ultra-Thane 050X Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0362

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Substrate	Product[2] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating				Evaluation Report[1]
				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
General Coatings Ultra-Thane 170 Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0345
General Coatings Ultra-Thane 202 Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0345
General Coatings Ultra-Thane 202 High-Lift Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0345
General Coatings Ultra-Thane 205 HFO Closed Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	CCRR-0375
General Coatings Ultra-Thane 205 HFO High-Lift Closed Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	CCRR-0375
Huntsman (Demilec) SEALECTION 500 Open Cell Spray Foam	Albi Cote TB	8	14	16	11	100	1.00	CCRR-1063
Huntsman (Demilec) SEALECTION NM Open Cell Spray Foam	Albi Cote TB	8	14	16	11	100	1.00	ESR-2668
Huntsman (Demilec) Agribalance Open Cell Spray Foam	Albi Cote TB	8	14	16	11	100	1.00	ESR-2600
Huntsman (Demilec) APX 1.2 Open Cell Spray Foam	Albi Cote TB	8	14	16	11	100	1.00	ESR-3470
Huntsman (Demilec) Heatlok HFO High Lift Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-4073
Huntsman (Demilec) Heatlok HFO Pro Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ER-565

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				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
Huntsman (Demilec) Heatlok XT-s Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-3824
Huntsman (Demilec) Heatlok XT-w Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-3883
Huntsman (Demilec) Heatlok ECO Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-3198
Huntsman (Demilec) Heatlok HFO EZ Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ER-871
Huntsman (Icynene) Classic Open Cell Spray Foam	Albi Cote TB	6	14	16	11	100	1.00	ESR-1826
Huntsman (Icynene) Classic Ultra Open Cell Spray Foam	Albi Cote TB	6	14	16	11	100	1.00	ESR-1826
Huntsman (Icynene) Classic Ultra Select Open Cell Spray Foam	Albi Cote TB	6	14	16	11	100	1.00	ESR-1826
Huntsman (Icynene) Classic Plus Open Cell Spray Foam	Albi Cote TB	6	14	16	11	100	1.00	ESR-1826
Huntsman (Icynene) Prime Gold Open Cell Spray Foam	Albi Cote TB	6	14	16	11	100	1.00	ESR-4323
Huntsman (Icynene) No Mix Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-1123
Huntsman (Icynene) ProSeal Closed Cell Spray Foam	Albi Cote TB	4	8	14	9	115	0.87	ESR-3500
Huntsman (Icynene) ProSeal LE Closed Cell Foam	Albi Cote TB	4	8	14	9	115	0.87	ESR-3500
Huntsman (Icynene) ProSeal Eco Closed Cell Spray Foam	Albi Cote TB	4	8	14	9	115	0.87	ESR-3493
Huntsman (Icynene) ProSeal HFO Closed Cell Foam	Albi Cote TB	4	8	14	9	115	0.87	CCRR-1108

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				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
Huntsman (Icynene) ProSeal HFO CW Closed Cell Foam	Albi Cote TB	4	8	14	9	115	0.87	CCRR-1108
Huntsman (Icynene) MD-C-200 Closed Cell Spray Foam	Albi Cote TB	4	8	14	9	115	0.87	ESR-3199
Huntsman (Lapolla) Foam-Lok FL 450 Open Cell Spray Foam	Albi Cote TB	6	14	16	11	100	1.00	ESR-4242
Huntsman (Lapolla) Foam-Lok FL 500 Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-1091
Huntsman (Lapolla) Foam-Lok FL 750 Open Cell Spray Foam	Albi Cote TB	6	14	16	11	100	1.00	ESR-4322
Huntsman (Lapolla) Foam-Lok FL 2000-3G Closed Cell Spray Foam	Albi Cote TB	6	9	14	9	115	0.87	ESR-4501
Huntsman (Lapolla) Foam-Lok FL 2000-4G Closed Cell Spray Foam	Albi Cote TB	6	9	14	9	115	0.87	CCRR-1025
Huntsman (Lapolla) Foam-Lok FL 2000 Closed Cell Spray Foam	Albi Cote TB	6	9	14	9	115	0.87	ESR-2629
ICP HandiFoam® HVLP LD Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1124
ICP HandiFoam® HVLP MD Closed Cell Spray Foam	Albi Cote TB	12	14	14	9	115	0.87	ER-728
Johns Manville JM Corbond Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1079
Johns Manville JM Corbond HY Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1079
Johns Manville JM Corbond OCX Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	ER-372

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				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
Johns Manville JM Corbond III Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	ER-146
Johns Manville JM Corbond IV Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	ER-146
Johns Manville JM GEN IV Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	ER-700
Johns Manville JM Corbond MCS Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	ESR-3159
Natural Polymers Natural-Therm® Zero Closed Cell Spray Foam	Albi Cote TB	12	14	14	9	115	0.87	ER-336
Natural Polymers Natural-Therm® 2.0 Closed Cell Spray Foam	Albi Cote TB	12	14	14	9	115	0.87	ER-336
Natural Polymers Natural-Therm 2.0 HFO Closed Cell Spray Foam	Albi Cote TB	12	14	14	9	115	0.87	ER-714
Natural Polymers Ultra-Pure® Closed Cell Spray Foam	Albi Cote TB	12	14	14	9	115	0.87	ER-800
NCFI InsulStar Light 12-008 Open Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	CCRR-0323
NCFI InsulStar Light 12-075 Open Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	CCRR-0323
NCFI InsulStar 11-036 Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	ER-340
NCFI InsulBloc 11-037 Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	ER-340
PSI Staycell 505 Open Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	QAI B1020-1
PSI Staycell 508 Closed Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	QAI B1020-1

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				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
PSI Staycell 504-2 Closed Cell Spray Foam	Albi Cote TB	6	8	14	9	115	0.87	QAI B1020-1
SES EasySeal 0.5 Open Cell Spray Foam	Albi Cote TB	10	14	14	9	115	0.87	ER-492
SES SucraSeal 0.5 Open Cell Spray Foam	Albi Cote TB	9	14	14	9	115	0.87	ESR-3375
SES Nexseal 2.0 Closed Cell Spray Foam	Albi Cote TB	6	9.5	14	9	115	0.87	ER-374
SES Nexseal 2.0 LE Closed Cell Spray Foam	Albi Cote TB	6	9.5	14	9	115	0.87	ER-374
SWD Quik-Shield 108 Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1051
SWD Quik-Shield 108YM Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1051
SWD Quik-Shield 112XC Closed Cell Spray Foam	Albi Cote TB	5	8	14	9	115	0.87	CCRR-1011
SWD Quik-Shield 118 Closed Cell Spray Foam	Albi Cote TB	5	8	14	9	115	0.87	CCRR-1093
SWD Quik-Shield 133 Closed Cell Spray Foam	Albi Cote TB	9	12.5	14	9	115	0.87	CCRR-0368
SWD Quik-Shield 144 Closed Cell Spray Foam	Albi Cote TB	5	8	14	9	115	0.87	CCRR-0391
SWD Quik-Shield YETI Closed Cell Spray Foam	Albi Cote TB	5	8	14	9	115	0.87	CCRR-0478
ThermoSeal 5G Closed Cell Spray Foam	Albi Cote TB	7	10	14	9	115	0.87	ER-698
ThermoSeal TS HFO Closed Cell Spray Foam	Albi Cote TB	7	10	14	9	115	0.87	ER-698
ThermoSeal™ 2000/2000W Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	ER-581

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Table 1. Thermal Barrier Assemblies

Substrate	Product[2] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating				Evaluation Report[1]
				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
ThermoSeal™ OCX Open Cell Spray Foam	Albi Cote TB	8	14	16	11	100	1.00	CCRR-1095
ThermoSeal™ CCX Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-4137
UPC 500 Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0358
UPC 500 Max Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0358
UPC 500 Max Pro Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0358
UPC 500 OCX Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	CCRR-0362
UPC 1.7 Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0345
UPC 2.0 Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0345
UPC 2.0 HL Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0345
UPC 2.0 MAX Closed Cell Spray Foam	Albi Cote TB	6 1/2	9 1/2	14	9	115	0.87	CCRR-0345
UPC 2.0 HFO Closed Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	CCRR-0375
UPC 2.0 HFO High Lift Closed Cell Spray Foam	Albi Cote TB	8	12	14	9	115	0.87	CCRR-0375
Victory Polymers VPC-50 Open Cell Spray Foam	Albi Cote TB	8 1/2	14	14	9	115	0.87	ER-674
Victory Polymers VPC-CC SuperLift Closed Cell Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-4334
Victory Polymers VPC-CC SuperYield Closed Cell Foam	Albi Cote TB	6 1/2	9 1/2	16	11	100	1.00	ESR-4334

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Table 1. Thermal Barrier Assemblies

Substrate	Product[2] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating				Evaluation Report[1]
				Minimum Installed Thickness (mils)		Theoretic Application Rate		
				Wet Film	Dry Film	Sq. Ft. Per Gallon	Gallons per 100 Sq. Ft.	
Xcelus XLS 200 Closed Cell Spray Foam	Albi Cote TB	8	10	14	9	115	0.87	CCRR-0397
Xcelus XLS 2000 Closed Cell Spray Foam	Albi Cote TB	8	10	14	9	115	0.87	CCRR-0397
Xtremeseal® 0.4 LX Shield Open Cell Spray Foam	Albi Cote TB	8	14	14	9	115	0.87	CCRR-1112
Xtremeseal® 0.5 LX Open Cell Spray Foam	Albi Cote TB	10	14	14	9	115	0.87	ER-538
Xtremeseal® 2.0 LE Closed Cell Spray Foam	Albi Cote TB	6	9½	14	9	115	0.87	ER-537

SI: 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 gal = 3.79 L

1. Use of Albi Cote TB for use with any insulation product listed herein is conditional upon that insulation product's recognition in a valid evaluation report by an approved evaluation entity. Users shall independently verify the current validity of any referenced evaluation report, including Evaluation Reports (ER) from IAPMO Uniform Evaluation Service, Code Compliance Research Reports (CCRR) from Intertek, and Evaluation Service Reports (ESR) from ICC-ES.
2. Albi Cote TB may be overcoated or undercoated with latex paint with a pH of 7 to 8.
3. PD = Proprietary Data

5.2 *Ignition Barrier Assemblies*

5.2.1 Albi Cote TB may be used to protect SPF insulation in attics and crawlspaces to allow the SPF insulation to be installed without a prescriptive ignition barrier in accordance with IBC Section 2603.4.1.6, IBC Section 2603.9, IRC Section R316.5.3, and IRC Section R316.5.4.

5.2.2 Albi Cote TB meets the criteria for use as wall and ceiling finishes in accordance with IBC Section 803.1, IBC Section 803.4, IRC Section R302.9, and IRC Section R302.10.1.

5.2.3 The approved assemblies are shown in Table 2.

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5.2.4 The assemblies listed in Table 2 may be installed in an attic or crawlspace without a prescriptive ignition barrier when all of the following are met:

5.2.4.1 Entry into the attic or crawlspace is only for the maintenance, repair, or servicing of the building or equipment.

5.2.4.1.1 No storage is permitted.

5.2.4.2 There are no interconnected attic or crawlspace areas

5.2.4.3 Air is not circulated to other parts of the building

5.2.4.4 The foam plastic insulation does not exceed the maximum density and thickness shown in Table 2

5.2.4.5 Combustion air is provided in accordance with the IBC Section 701.

5.2.4.6 When required, attic ventilation is provided in accordance with IBC Section 1202.2[9] or IRC Section R806 and crawlspace ventilation is provided in accordance with IBC Section 1202.4.[10]

5.2.4.6.1 **Exception:** unvented attics and crawlspaces meeting the requirements of IBC Section 1202.3, IRC Section R408.3 or IRC Section R806.5.

Table 2. Ignition Barrier Assemblies

Substrate	Product[1] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating			
				Minimum Installed Thickness (mils)		Theoretic Application Rate	
				Wet Film	Dry Film	Sq. Ft. per Gallon	Gallons per 100 Sq. Ft.
AMBIT AMBI-SEAL 5.0 Open Cell Spray Foam	Albi Cote TB	9	14	6	4	267	0.37
BASF ENERTITE® G Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
BASF ENERTITE® Max Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
BASF SPRAYTITE® 158 Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
BASF SPRAYTITE® SP Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
BASF SPRAYTITE® Comfort Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
BASF SPRAYTITE® Comfort XL Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
BASF SPRAYTITE® LWP-L Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
BASF SPRAYTITE® 178 and 81206 Closed Cell Spray Foam	Albi Cote TB	9 1/4	11 1/4	12	7	134	0.75

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Table 2. Ignition Barrier Assemblies

Substrate	Product[1] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating			
				Minimum Installed Thickness (mils)		Theoretic Application Rate	
				Wet Film	Dry Film	Sq. Ft. per Gallon	Gallons per 100 Sq. Ft.
BASF WALLTITE® US Closed Cell Spray Foam	Albi Cote TB	9 1/4	11 1/4	12	7	134	0.75
BASF WALLTITE® LWP Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
BASF WALLTITE® XL Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
BASF WALLTITE® Plus Closed Cell Spray Foam	Albi Cote TB	8	8	6	4	267	0.37
Carlisle SealTite™ Pro Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
Carlisle Foamsulate 50 HY Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
Carlisle SealTite™ Pro No Mix Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
Carlisle Foamsulate 50 Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
Carlisle SealTite™ Pro High Yield Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
Creative Polymer Accufoam® Open Cell Spray Foam	Albi Cote TB	8	14	6	4	267	0.37
DAP Touch 'n Seal® 2.2 PCF Closed Cell Spray Foam	Albi Cote TB	2	2	8	5	200	0.50
Franklin Titebond Weathermaster Superfoam Closed Cell Spray Foam	Albi Cote TB	2	2	10	6	160	0.63
GacoEZSpray F4500 Open Cell Spray Foam	Albi Cote TB	12	16	6	4	267	0.37
Holcim SES EasySeal™ ULD Spray Foam Insulation	Albi Cote TB	10	16	6	4	267	0.37
Huntsman (Demilec) SEALECTION 500 Open Cell Spray Foam	Albi Cote TB	9 1/4	11 1/4	6	4	267	0.37

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Table 2. Ignition Barrier Assemblies

Substrate	Product[1] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating			
				Minimum Installed Thickness (mils)		Theoretic Application Rate	
				Wet Film	Dry Film	Sq. Ft. per Gallon	Gallons per 100 Sq. Ft.
Huntsman (Demilec) SEALECTION NM Open Cell Spray Foam	Albi Cote TB	9 1/4	11 1/4	6	4	267	0.37
Huntsman (Demilec) Agribalance Open Cell Spray Foam	Albi Cote TB	9 1/2	11 1/2	10	6	160	0.63
Huntsman (Icynene) Classic Open Cell Spray Foam	Albi Cote TB	5 1/2	14	6	4	267	0.37
Huntsman (Icynene) Classic Ultra Open Cell Spray Foam	Albi Cote TB	5 1/2	14	6	4	267	0.37
Huntsman (Icynene) Classic Ultra Select Open Cell Spray Foam	Albi Cote TB	5 1/2	14	6	4	267	0.37
Huntsman (Icynene) Classic Plus Open Cell Spray Foam	Albi Cote TB	8	14	6	4	267	0.37
Huntsman (Icynene) Prime Gold Open Cell Spray Foam	Albi Cote TB	5 1/2	14	6	4	267	0.37
Huntsman (Icynene) ProSeal Eco Closed Cell Spray Foam	Albi Cote TB	7 1/4	9 1/4	5	3	320	0.31
Huntsman (Icynene) MD-C-200 Closed Cell Spray Foam	Albi Cote TB	11 1/4	11 1/4	16	10	100	1.00
Huntsman (Lapolla) Foam-Lok FL 450 Open Cell Spray Foam	Albi Cote TB	5 1/2	14	6	4	267	0.37
Huntsman (Lapolla) Foam-Lok FL 750 Open Cell Spray Foam	Albi Cote TB	8	14	6	4	267	0.37
ICP HandiFoam® HVLP LD Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37
ICP HandiFoam® E-84 Class 1(A) Closed Cell Spray Foam	Albi Cote TB	2	2	10	6	160	0.63
Johns Manville JM Corbond HY Open Cell Spray Foam	Albi Cote TB	8	12	6	4	267	0.37
SWD Quick Shield 106 Open Cell Spray Foam	Albi Cote TB	8	14	6	4	267	0.37

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Table 2. Ignition Barrier Assemblies

Substrate	Product[1] Name	Max. Thickness of Walls & Vertical Surfaces (in)	Max. Thickness of Ceilings, Underside of Roof Sheathing/Rafters & Floors (in)	Application of Albi Coating			
				Minimum Installed Thickness (mils)		Theoretic Application Rate	
				Wet Film	Dry Film	Sq. Ft. per Gallon	Gallons per 100 Sq. Ft.
ThermoSeal TS 360 Open Cell Spray Foam	Albi Cote TB	10	14	4	3	401	0.25
ThermoSeal TS 500 Open Cell Spray Foam	Albi Cote TB	10	14	4	3	401	0.25
ThermoSeal TS 800 Open Cell Spray Foam	Albi Cote TB	10	14	4	3	401	0.25
ThermoSeal™ OCX Open Cell Spray Foam	Albi Cote TB	9 1/4	11 1/4	6	4	267	0.37
Tiger Foam™ Insulation E-84 Fire Rated SPF Class 1 Spray Foam	Albi Cote TB	3 1/2	3 1/2	10	6	160	0.63
Victory Polymers VPC-50 Open Cell Spray Foam	Albi Cote TB	11 1/4	16	6	4	267	0.37

For SI: 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 gal = 3.79 L

1. Albi Cote TB may be overcoated or undercoated with latex paint with a pH of 7 to 8.

5.3 Where the application falls outside of the performance evaluation, conditions of use and/or installation requirements set forth herein, alternative techniques shall be permitted in accordance with accepted engineering practice and experience. This includes but is not limited to the following areas of engineering: mechanics or materials, structural, building science, and fire science.

6 Installation

6.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this TER and the applicable building code.

6.2 In the event of a conflict between the manufacturer installation instructions and this TER, the more restrictive shall govern.

6.3 *Installation Procedure*

6.3.1 The substrates that Albi Cote TB is applied to shall be clean, dry, and free from loose dirt, debris, grease, oil, or any other materials that would inhibit proper adhesion of Albi Cote TB, including, but not limited to, any paints, stains, or sealants.

6.3.2 Latex paints may be used as an undercoat for Albi Cote TB coating, including primers and vapor retardant coatings, per manufacturer instructions.

6.3.3 A painter's gauge shall be used to verify the proper thickness during application.

6.3.4 The dry mil thickness will be 0.4 to 0.7 times the wet mil thickness.

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6.3.5 Apply the product only to the substrates listed in Table 1 and Table 2 in accordance with the assembly selected.

6.3.6 Substrates shall be fully protected from the weather and fully installed prior to application.

6.3.7 Both the substrate surface and the ambient temperature shall be maintained between 40°F (4.4°C) and 100°F (37.8°C) immediately before and during application. Minimum cure time is 24 hours.

6.3.8 Apply the coating at the rate specified in Table 1 and Table 2.

6.3.9 Coating may be applied via roller, brush, or spraying equipment.

6.3.10 After curing, the coating may be overcoated with latex paint per the paint manufacturer instructions.

6.3.11 Spray Polyurethane Foam Insulation Certificate (SPFA-148), or spray polyurethane foam insulation manufacturer insulation certificate, may be completed by the intumescent coating installer and submitted upon request.

7 Substantiating Data

7.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:

7.1.1 Reports of fire tests in accordance with NFPA 286 and UL 1715.

7.1.2 Data in accordance with DrJ EC 45.

7.1.3 Supporting documentation from spray foam manufacturer and evidence of code compliance.

7.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies (i.e., ANAB accredited agencies), approved sources (i.e., RDPs), and/or professional engineering regulations. Accuracy of external test data and resulting analysis is relied upon.

7.3 Where pertinent, testing and/or engineering analysis is based upon provisions that have been codified into law through state or local adoption of codes and standards. The developers of these codes and standards are responsible for the reliability of published content. DrJ's engineering practice may use a code-adopted provision as the control sample. A control sample versus a test sample establishes a product as being equivalent to the code-adopted provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.

7.4 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, Listings, certified reports, duly authenticated reports from approved agencies, and research reports prepared by approved agencies and/or approved sources provided by the suppliers of products, materials, designs, assemblies and/or methods of construction. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this TER, may be dependent upon published design properties by others.

7.5 Testing and engineering analysis: The strength, rigidity and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.[11]

7.6 Where additional condition of use and/or code compliance information is required, please search for Albi Cote TB on the DrJ Certification website.

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8 Findings

8.1 As delineated in Section 3, Albi Cote TB has performance characteristics that were tested and/or meet pertinent standards and is suitable for use pursuant to its specified purpose.

8.2 When used and installed in accordance with this TER and the manufacturer installation instructions, Albi Cote TB shall be approved for the following applications:

8.2.1 Albi Cote TB is approved for the protection of SPF insulation to allow the SPF insulation to be installed without a prescriptive 15-minute thermal barrier.

8.2.2 Albi Cote TB is approved for the protection of SPF insulation in attics and crawlspaces to allow the SPF insulation to be installed without a prescriptive ignition barrier.

8.3 Unless exempt by state statute, when the Albi Cote TB is to be used as a structural and/or building envelope component in the design of a specific building, the design shall be performed by an RDP.

8.4 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Albi Protective Coatings.

8.5 IBC Section 104.11 (IRC Section R104.11 and IFC Section 104.10[12] are similar) in pertinent part states:

> **104.11 Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.

8.6 **Approved**:[13] Building codes require that the building official shall accept duly authenticated reports[14] or research reports[15] from approved agencies and/or approved sources (i.e., licensed RDP) with respect to the quality and manner of use of new products, materials, designs, services, assemblies, or methods of construction.

8.6.1 Acceptance of an approved agency, by a building official, is performed by verifying that the agency is accredited by a recognized accreditation body of the International Accreditation Forum (IAF).

8.6.2 Acceptance of a licensed RDP, by a building official, is performed by verifying that the RDP and/or their business entity is listed by the licensing board of the relevant jurisdiction.

8.6.3 Federal law, Title 18 US Code Section 242, requires that where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved, as denial without written reason deprives a protected right to free and fair competition in the marketplace.

8.7 DrJ is an engineering company, employs RDPs and is an ISO/IEC 17065 ANAB-Accredited Product Certification Body – Accreditation #1131.

8.8 Through ANAB accreditation and the IAF Multilateral Agreements, this TER can be used to obtain product approval in any jurisdiction or country that has IAF MLA Members & Signatories to meet the Purpose of the MLA – "*certified once, accepted everywhere*." IAF specifically says, "*Once an accreditation body is a signatory of the IAF MLA, it is required to recognise certificates and validation and verification statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA, with the appropriate scope*."[16]

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9 Conditions of Use

9.1 Material properties shall not fall outside the boundaries defined in Section 3.

9.2 As defined in Section 3, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.

9.3 When used in accordance with this report, Albi Cote TB complies with the codes listed in Section 2, subject to the following:

9.3.1 Assemblies shall be limited to those shown in Table 1 and Table 2, as applicable.

9.3.2 Albi Cote TB shall be applied only to areas within the water resistive barrier of the building envelope or in areas that are otherwise not exposed to weather.

9.3.3 When required by the building official, inspections in accordance with IRC Section R109.1 or special inspections in accordance with IBC Section 1705.1.1 shall be conducted. Where required in accordance with IBC Section 1704.2.3, a statement of special inspections shall be submitted to the building official.

9.4 When required by adopted legislation and enforced by the building official, also known as the authority having jurisdiction (AHJ) in which the project is to be constructed:

9.4.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice, and, when prepared by an approved source, shall be approved when signed and sealed.

9.4.2 This TER and the installation instructions shall be submitted at the time of permit application.

9.4.3 This innovative product has an internal quality control program and a third-party quality assurance program.

9.4.4 At a minimum, this innovative product shall be installed per Section 6 of this TER.

9.4.5 The review of this TER, by the AHJ, shall be in compliance with IBC Section 104 and IBC Section 105.4.

9.4.6 This innovative product has an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.4, IBC Section 110.4, IBC Section 1703, IRC Section R104.4 and IRC Section R109.2.

9.4.7 The application of this innovative product in the context of this TER is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2 and any other regulatory requirements that may apply.

9.5 The approval of this TER by the AHJ shall comply with IBC Section 1707.1, where legislation states in pertinent part, "*the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.11*", all of IBC Section 104, and IBC Section 105.4.

9.6 Design loads shall be determined in accordance with the building code adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).

9.7 The actual design, suitability, and use of this TER, for any particular building, is the responsibility of the owner or the owner's authorized agent.

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10 Identification

10.1 The innovative product listed in Section 1.1 is identified by a label on the board or packaging material bearing the manufacturer name, product name, TER number, and other information to confirm code compliance.

10.2 Additional technical information can be found at www.albi.com.

11 Review Schedule

11.1 This TER is subject to periodic review and revision. For the most recent version, visit drjcertification.org.

11.2 For information on the status of this TER, contact DrJ Certification.

12 Approved for Use Pursuant to US and International Legislation Defined in Appendix A

12.1 Albi Cote TB is included in this TER published by an approved agency that is concerned with evaluation of products or services, maintains periodic inspection of the production of listed materials or periodic evaluation of services, and whose TER Listing states either that the material, product, or service meets identified standards or has been tested and found suitable for a specified purpose. This TER meets the legislative intent and definition of being acceptable to the AHJ.

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Appendix A

1 Legislation that Authorizes AHJ Approval

1.1 **Fair Competition**: State legislatures have adopted Federal regulations for the examination and approval of building code referenced and alternative products, materials, designs, services, assemblies and/or methods of construction that:

1.1.1 Advance Innovation,

1.1.2 Promote competition so all businesses have the opportunity to compete on price and quality in an open market on a level playing field unhampered by anticompetitive constraints, and

1.1.3 Benefit consumers through lower prices, better quality, and greater choice.

1.2 **Adopted Legislation**: The following local, state, and federal regulations affirmatively authorize Albi Cote TB to be approved by AHJs, delegates of building departments, and/or delegates of an agency of the federal government:

1.2.1 Interstate commerce is governed by the Federal Department of Justice to encourage the use of innovative products, materials, designs, services, assemblies and/or methods of construction. The goal is to "protect economic freedom and opportunity by promoting free and fair competition in the marketplace."

1.2.2 Title 18 US Code Section 242 affirms and regulates the right of individuals and businesses to freely and fairly have new products, materials, designs, services, assemblies and/or methods of construction approved for use in commerce. Disapproval of alternatives shall be based upon non-conformance with respect to specific provisions of adopted legislation, and shall be provided in writing stating the reasons why the alternative was not approved, with reference to the specific legislation violated.

1.2.3 The federal government and each state have a public records act. In addition, each state also has legislation that mimics the federal Defend Trade Secrets Act 2016 (DTSA),[17] where providing test reports, engineering analysis and/or other related IP/TS is subject to prison of not more than 10 years[18] and/or a $5,000,000 fine or 3 times the value of[19] the Intellectual Property (IP) and Trade Secrets (TS).

1.2.3.1 Compliance with public records and trade secret legislation requires approval through the use of listings, certified reports, Technical Evaluation Reports, duly authenticated reports and/or research reports prepared by approved agencies and/or approved sources.

1.2.4 For new materials[20] that are not specifically provided for in any building code, the design strengths and permissible stresses shall be established by tests, where suitable load tests simulate the actual loads and conditions of application that occur.

1.2.5 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design using accepted engineering practice.[21]

1.2.6 The commerce of approved sources (i.e., registered PEs) is regulated by professional engineering legislation. Professional engineering commerce shall always be approved by AHJs, except where there is evidence, provided in writing, that specific legislation has been violated by an individual registered PE.

1.2.7 The AHJ shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in IBC Section 104.11.[22]

LEGACY

1.3 **Approved**[23] **by Los Angeles**: The Los Angeles Municipal Code (LAMC) states in pertinent part that the provisions of LAMC are not intended to prevent the use of any material, device, or method of construction not specifically prescribed by LAMC. The Department shall use Part III, Recognized Standards in addition to Part II, Uniform Building Code Standards of Division 35, Article 1, Chapter IX of the LAMC in evaluation of products for approval where such standard exists for the product or the material and may use other approved standards, which apply. Whenever tests or certificates of any material or fabricated assembly are required by Chapter IX of the LAMC, such tests or certification shall be made by a testing agency approved by the Superintendent of Building to conduct such tests or provide such certifications. The testing agency shall publish the scope and limitation(s) of the listed material or fabricated assembly.[24] The Superintendent of Building roster of approved testing agencies is provided by the Los Angeles Department of Building and Safety (LADBS). The Center for Building Innovation (CBI) Certificate of Approval License is TA24945. Tests and certifications found in a CBI Listing are LAMC approved. In addition, the Superintendent of Building shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in the California Building Code (CBC) Section 1707.1.[25]

1.4 **Approved by Chicago**: The Municipal Code of Chicago (MCC) states in pertinent part that an Approved Agency is a Nationally Recognized Testing Laboratory (NRTL) acting within its recognized scope and/or a certification body accredited by the American National Standards Institute (ANSI) acting within its accredited scope. Construction materials and test procedures shall conform to the applicable standards listed in the MCC. Sufficient technical data shall be submitted to the building official to substantiate the proposed use of any product, material, service, design, assembly and/or method of construction not specifically provided for in the MCC. This technical data shall consist of research reports from approved sources (i.e., MCC defined Approved Agencies).

1.5 **Approved by New York City**: The NYC Building Code 2022 (NYCBC) states in pertinent part that an approved agency shall be deemed[26] an approved testing agency via ISO/IEC 17025 accreditation, an approved inspection agency via ISO/IEC 17020 accreditation, and an approved product evaluation agency via ISO/IEC 17065 accreditation. Accrediting agencies, other than federal agencies, must be members of an internationally recognized cooperation of laboratory and inspection accreditation bodies subject to a mutual recognition agreement[27] (i.e., ANAB, International Accreditation Forum (IAF), etc.).

1.6 **Approved by Florida**: Statewide approval of products, methods, or systems of construction shall be approved, without further evaluation, by 1) A certification mark or listing of an approved certification agency, 2) A test report from an approved testing laboratory, 3) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, from an approved product evaluation entity; 4) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a professional engineer or architect, licensed in Florida. For local product approval, products or systems of construction shall demonstrate compliance with the structural wind load requirements of the Florida Building Code (FBC) through one of the following methods; 1) A certification mark, listing, or label from a commission-approved certification agency indicating that the product complies with the code; 2) A test report from a commission-approved testing laboratory indicating that the product tested complies with the code; 3) A product-evaluation report based upon testing, comparative or rational analysis, or a combination thereof, from a commission-approved product evaluation entity which indicates that the product evaluated complies with the code; 4) A product-evaluation report or certification based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a Florida professional engineer or Florida registered architect, which indicates that the product complies with the code; 5) A statewide product approval issued by the Florida Building Commission. The Florida Department of Business and Professional Regulation (DBPR) website provides a listing of companies certified as a Product Evaluation Agency (i.e., EVLMiami 13692), a Product Certification Agency (i.e., CER10642), and as a Florida Registered Engineer (i.e., ANE13741).

1.7 **Approved by Miami-Dade County (i.e., Notice of Acceptance [NOA])**: A Florida statewide approval is an NOA. An NOA is a Florida local product approval. By Florida law, Miami-Dade County shall accept the statewide and local Florida Product Approval as provided for in Florida legislation 553.842 and 553.8425.

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1.8 **Approved by New Jersey**: Pursuant to Building Code 2018 of New Jersey in IBC Section 1707.1 General,[28] it states: "In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in the administrative provisions of the Uniform Construction Code (N.J.A.C. 5:23)".[29] Furthermore N.J.A.C 5:23-3.7 states: Municipal approvals of alternative materials, equipment, or methods of construction. **(a) Approvals**: Alternative materials, equipment, or methods of construction shall be approved by the appropriate subcode official provided the proposed design is satisfactory and that the materials, equipment, or methods of construction are suitable for the intended use and are at least the equivalent in quality, strength, effectiveness, fire resistance, durability and safety of those conforming with the requirements of the regulations. 1. A field evaluation label and report or letter issued by a nationally recognized testing laboratory verifying that the specific material, equipment, or method of construction meets the identified standards or has been tested and found to be suitable for the intended use, shall be accepted by the appropriate subcode official as meeting the requirements of (a) above. 2. Reports of engineering findings issued by nationally recognized evaluation service programs, such as, but not limited to, the Building Officials and Code Administrators (BOCA), the International Conference of Building Officials (ICBO), the Southern Building Code Congress International (SBCCI), the International Code Council (ICC), and the National Evaluation Service, Inc., shall be accepted by the appropriate subcode official as meeting the requirements of (a) above. The New Jersey Department of Community Affairs has confirmed that technical evaluation reports, from any accredited entity listed by ANAB, meets the requirements of item 2 given that the listed entities are no longer in existence and/or do not provide "reports of engineering findings".

1.9 **Approved by the Code of Federal Regulations Manufactured Home Construction and Safety Standards**: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14[30] and Part 3280,[31] the Department encourages innovation and the use of new technology in manufactured homes. The design and construction of a manufactured home shall conform with the provisions of Part 3282 and Part 3280 where key approval provisions in mandatory language follow: 1) "All construction methods shall be in conformance with accepted engineering practices"; 2) "The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur."; and 3) "The design stresses of all materials shall conform to accepted engineering practice."

1.10 **Approval by US, Local, and State Jurisdictions in General**: In all other local and state jurisdictions, the adopted building code legislation states in pertinent part that:

1.10.1 For new materials that are not specifically provided for in this code, the design strengths and permissible stresses shall be established by tests.[32]

1.10.2 For innovative alternative products, materials, designs, services and/or methods of construction, in the absence of approved rules or other approved standards…the building official shall accept duly authenticated reports (i.e., listing and/or research report) from approved agencies with respect to the quality and manner of use of new materials or assemblies.[33] A building official approved agency is deemed to be approved via certification from an accreditation body that is listed by the International Accreditation Forum[34] or equivalent.

1.10.3 The design strengths and permissible stresses of any structural material…shall conform to the specifications and methods of design of accepted engineering practice performed by an approved source.[35] An approved source is defined as a PE subject to professional engineering laws, where a research and/or a technical evaluation report certified by a PE, shall be approved.

LEGACY

1.11 **Approval by International Jurisdictions**: The USMCA and GATT agreements provide for approval of innovative materials, products, designs, services, assemblies and/or methods of construction through the Technical Barriers to Trade agreements and the International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA), where these agreements:

1.11.1 Permit participation of conformity assessment bodies located in the territories of other Members (defined as GATT Countries) under conditions no less favourable than those accorded to bodies located within their territory or the territory of any other country,

1.11.2 State that conformity assessment procedures (i.e., ISO/IEC 17020, 17025, 17065, etc.) are prepared, adopted, and applied so as to grant access for suppliers of like products originating in the territories of other Members under conditions no less favourable than those accorded to suppliers of like products of national origin or originating in any other country, in a comparable situation.

1.11.3 State that conformity assessment procedures are not prepared, adopted, or applied with a view to or with the effect of creating unnecessary obstacles to international trade. This means that conformity assessment procedures shall not be more strict or be applied more strictly than is necessary to give the importing Member adequate confidence that products conform to the applicable technical regulations or standards.

1.11.4 **Approved**: The purpose of the IAF MLA is to ensure mutual recognition of accredited certification and validation/verification statements between signatories to the MLA, and subsequently acceptance of accredited certification and validation/verification statements in many markets based on one accreditation for the timely approval of innovative materials, products, designs, services, assemblies and/or methods of construction. Accreditations granted by IAF MLA signatories are recognised worldwide based on their equivalent accreditation programs, therefore reducing costs and adding value to businesses and consumers.

LEGACY

Notes

[1] For more information, visit drjcertification.org or call us at 608-310-6748.

[2] **Federal Regulation Definition.** 24 CFR 3280.2 "Listed or certified" means included in a list published by a nationally recognized testing laboratory, inspection agency, or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. **International Building Code (IBC) Definition of Listed.** Equipment, materials, products or services included in a list published by an organization acceptable to the building official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose Listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose. **IBC Definition of Labeled**. Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, approved agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

[3] This Listing is a code defined research report, which is also known as a duly authenticated report, provided by an approved agency (see IBC Section 1703.1) and/or an approved source (see IBC Section 1703.4.2). An approved agency is "approved" when it is ANAB accredited. DrJ Engineering, LLC (DrJ) is listed in the ANAB directory). A professional engineer is "approved" as an approved source when that professional engineer is properly licensed to transact engineering commerce. Where sealed by a professional engineer, it is also a duly authenticated report certified by an approved source. (i.e., Registered Design Professional). DrJ is an ANAB accredited product certification body.

[4] Unless otherwise noted, all references in this Listing are from the 2021 version of the codes and the standards referenced therein. This material, product, design, service and/or method of construction also complies with the 2000-2021 versions of the referenced codes and the standards referenced therein.

[5] https://www.law.cornell.edu/uscode/text/18/part-I/chapter-90. Given our professional duty to inform, please be aware that whoever, with intent to convert a trade secret (TS), that is related to a product or service used in or intended for use in interstate or foreign commerce, to the economic benefit of anyone other than the owner thereof, and intending or knowing that the offense will, injure any owner of that trade secret, knowingly without authorization copies, duplicates, sketches, draws, photographs, downloads, uploads, alters, destroys, photocopies, replicates, transmits, delivers, sends, mails, communicates, or conveys such information; shall be fined under this title or imprisoned not more than 10 years, or both. Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of $5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. As the National Society of Professional Engineers states, "Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve." Therefore, to protect intellectual property (IP) and TS, and to achieve compliance with public records and trade secret legislation, requires approval through the use of Listings, certified reports, technical evaluation reports, duly authenticated reports and/or research reports prepared by approved agencies and/or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.

[6] Internationally recognized accreditations are performed by members of the International Accreditation Forum (IAF). Accreditation Body and Regional Accreditation Group Members of IAF are admitted to the IAF MLA only after a stringent evaluation of their operations by a peer evaluation team, which is charged to ensure that the applicant complies fully with both international standards and IAF requirements. Once an accreditation body is a signatory of the IAF MLA, it is required to recognise certificates and validation and verification statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA, with the appropriate scope.

[7] Ibid.

[8] Qualification is performed by a legislatively defined Accreditation Body. ANSI National Accreditation Board (ANAB) is the largest independent accreditation body in North America and provides services in more than 75 countries. DrJ is an ANAB accredited product certification body.

[9] 2015 IBC Section 1203.2

[10] 2015 IBC Section 1203.4

[11] See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition.

[12] 2018 IFC Section 104.9

[13] Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

[14] https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1707.1

[15] https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1703.4.2

[16] https://iaf.nu/en/about-iaf-mla/#:~:text=required%20to%20recognise

[17] http://www.drjengineering.org/AppendixC and https://www.drjcertification.org/cornell-2016-protection-trade-secrets.

[18] https://www.law.cornell.edu/uscode/text/18/1832#:~:text=imprisoned%20not%20more%20than%2010%20years

[19] https://www.law.cornell.edu/uscode/text/18/1832#:~:text=Any%20organization%20that,has%20thereby%20avoided

[20] https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1706.2

[21] IBC 2021, Section 1706.1 Conformance to Standards

[22] IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General

[23] See Section 8 for the distilled building code definition of **Approved**

[24] Los Angeles Municipal Code, SEC. 98.0503. TESTING AGENCIES

[25] https://up.codes/viewer/california/ca-building-code-2022/chapter/17/special-inspections-and-tests#1707.1

[26] New York City, The Rules of the City of New York, § 101-07 Approved Agencies

[27] New York City, The Rules of the City of New York, § 101-07 Approved Agencies

[28] https://up.codes/viewer/new_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1

[29] https://www.nj.gov/dca/divisions/codes/codreg/ucc.html

[30] https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14

[31] https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

[32] IBC 2021, Section 1706 Design Strengths of Materials, 1706.2 New Materials. Adopted law pursuant to IBC model code language 1706.2.

[33] IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General. Adopted law pursuant to IBC model code language 1707.1.

LEGACY

[34] Please see the ANAB directory for building official approved agencies.

[35] IBC 2021, Section 1706 Design Strengths of Materials, Section 1706.1 Conformance to Standards Adopted law pursuant to IBC model code language 1706.1.

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