NO-BURN®, INC.
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NO-BURN® PLUS, PLUS SPRAY SEAL, PLUS THB, THB SPRAY SEAL™, ORIGINAL, AND ORIGINAL MIH

CSI Division:
06 00 00 WOOD, PLASTICS, AND COMPOSITES
09 00 00 FINISHES
CSI Sections:
06 05 73.13 Fire-retardant Wood Treatment
09 96 46 Intumescent Paints

1.0 SCOPE OF EVALUATION

1.1 Compliance to the following codes & regulations:

- 2024, 2021, 2018, 2015, 2012, and 2009 International Building Code® (IBC)
- 2024, 2021, 2018, 2015, 2012, and 2009 International Residential Code® (IRC)
- 2024, 2021, 2018, 2015, 2012, and 2009 International Existing Building Code® (IEBC)
- 2024, 2021, 2018, 2015, 2012, and 2009 International Mechanical Code® (IMC)

1.2 Properties assessed:

- Surface-burning characteristics
- Interior finishes
- Alternative thermal barrier assemblies
- Alternative ignition barrier assemblies
- Class II vapor retarder
- Fire resistance
- Accelerated weathering and durability
- Air barrier
- Section 6.0 of this report lists the standards and criteria providing the basis for the evaluation

2.0 PRODUCT USE

No-Burn® products comply with the IBC®, IRC®, IEBC®, and IMC® for use in new and existing buildings. Applied to the substrates listed in Tables 1 through 10 of this report, No-Burn® products provide the following attributes:

1. Surface-burning characteristics and interior finish in accordance with Section 3.2 of this report.
2. Alternative thermal barrier assemblies in accordance with Section 3.3 of this report.
3. Alternative ignition barrier assemblies in accordance with Section 3.4 of this report.
4. Fire resistance performance in accordance with Sections 3.5 and 3.6 of this report.
5. Class II Vapor Retarder in accordance with Section 3.7 of this report.
6. Foam Plastic in Plenums in accordance with Section 3.8 of this report.
7. Use in Types I through IV Construction in accordance with Section 3.9 of this report.
8. Accelerated Weathering and Durability in accordance with Section 3.10 of this report.
9. Air Barrier Performance in accordance with Section 3.11 of this report.

3.0 PRODUCT DESCRIPTION

3.1 Product Information

3.1.1 No-Burn® Original and No-Burn® Original Mih are transparent, water-based liquids, packaged in 5-gallon (18.9 L) pails and 55-gallon (208 L) drums. The products have a shelf life of two years when stored in unopened containers between 40°F and 90°F (4.4°C and 32.2°C). No-Burn® Original and No-Burn® Original Mih shall be mixed with a power mixing wand or equivalent at or between 500-900 RPM for a mixing time of 5 minutes per container.

3.1.2 No-Burn® Plus, No-Burn® Plus Spray Seal™, No-Burn® Plus ThB and No-Burn® ThB Spray Seal™ are white, water-based latex liquids, which exhibit intumescent properties when exposed to elevated temperatures and flame, packaged in 5-gallon (18.9 L) pails and 55-gallon (208 L) drums. No-Burn® Plus, has a shelf life of two years when stored in unopened containers between 40°F and 90°F (4.4°C and 32.2°C). No-Burn® Plus ThB and No-Burn® ThB Spray Seal™ have a shelf life of 1 year when stored in unopened containers between 40°F and 90°F (4.4°C and 32.2°C). No-Burn® Plus shall be mixed with a power mixing wand or equivalent at or between 500-1500 RPM for a mixing time of 5 minutes per container. No-Burn® Plus ThB and ThB Spray Seal™ shall be mixed with a power mixing wand or equivalent of 800 to 1,200 RPM for a mixing time of 5 minutes per container.

3.2 Surface-Burning Characteristics: As shown in Table 1 of this report, No-Burn® Plus, No-Burn® Plus Spray Seal™, No-Burn® Plus ThB, No-Burn® Original, and No-Burn® Original Mih provide a Class A interior finish when applied to the specified substrates. When tested in accordance with ASTM E84 or UL 723, the products listed provide flame spread indices complying with ranges set forth for interior finishes in IBC® Section 803.1 of the 2024, 2021, 2018, 2015,

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with Section 104.2.3 of the 2024 IBC and Section 104.11 of previous editions. This document shall only be reproduced in its entirety.

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2012, and 2009 IBC®, Section R302.9 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC®, Section 602.3.7 of the 2024 IMC, and Section 602.2.1 of the 2021, 2018, 2015, 2012, and 2009 IMC®.

No-Burn® Plus and No-Burn® Plus Spray Seal™ provide a Class A interior finish when applied to the specified substrates. When tested in accordance with ASTM E84 extended 20 minutes or ASTM E2768, the products listed provide flame spread and smoke developed index values in accordance with Section 2303.2 and Section 803.1.2 of the 2024, 2021, and 2018 IBC®; Section 803.1.1 of the 2015, 2012, and 2009 IBC®; Sections R802.1.5 and R302.9 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC®; Section 602.2 of the 2024, 2021, 2018, 2015, 2012, and 2009 IMC®; and Section 9.2.1.12 of NFPA 13.

3.3 Alternative Thermal Barrier Assemblies: No-Burn® Plus ThB, when applied to spray-applied polyurethane foam insulation listed in Table 2 of this report, may be installed without a prescriptive 15-minute thermal barrier in accordance with Section 2603.9 of the 2024, 2021, 2018, and 2015 IBC®, Section 2603.10 of the 2012 IBC®, and Section 2603.4 of the 2009 IBC®; Section R303.6 of the 2024 IRC®, Section R316.6 of the 2021, 2018, 2015, and 2012 IRC®, and Section R316.4 of the 2009 IRC®. For Class II Vapor Retarder and Thermal Barrier Assemblies, Section 3.7 (Table 6) of this report applies.

The assemblies noted in Table 2 of this report meet the wall and ceiling finish requirements of Sections 803.1 and 803.4 of the 2024, 2021, 2018, 2015, 2012, and 2009 IBC®; Sections R302.9 and R302.10.1 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC®. Also, as shown in Table 2 of this report, No-Burn® Plus provides an alternative thermal barrier assembly for walls and ceilings when applied to Structural Insulated Panels (SIPs) with a maximum combined thickness of $12^{3}/_{8}$ inches (314 mm), consisting of a composite of nominal 11½-inch (292 mm) thick expanded polystyrene foam plastic core, (1.0 pcf [16 kg/m^3] density) sandwiched between two $^{7}/_{16}$-inch-thick (11 mm) oriented strand board (OSB) sheets in accordance with Section 2603.9 of the 2024, 2021, 2018, and 2015 IBC®, Section 2603.10 of the 2012 IBC®, Section 2603.4 of the 2009; Section R303.6, Section R316.6 of the 2021, 2018, 2015, and 2012 IRC®, and Section R316.4 of the 2009 IRC®.

3.4 Alternative Ignition Barrier Assemblies: No-Burn® Plus ThB, when applied to the spray-applied polyurethane foam insulations listed in Table 3 of this report, may be installed in an attic or crawl space without a prescriptive ignition barrier in accordance with Sections 2603.4.1.6 of the 2024, 2021, 2018, 2015, 2012, and 2009 IBC®, Sections R303.5.3 and R303.5.4 of the 2024 IRC®, and Sections R316.5.3 and R316.5.4 of the 2021, 2018, 2015, 2012, and 2009 IRC®. As shown in Table 3 of this report, ZIP System® R-Sheathing (ER-0482) may be installed in an attic or crawl space without a prescriptive ignition barrier. ZIP System® R-Sheathing (Insulating Sheathing) consists of $^{7}/_{16}$-inch-thick (11 mm) ZIP System® Wall Sheathing with a layer of maximum 1 inch thick (25.4 mm) rigid polyisocyanurate foam plastic board laminated to its interior face using PVA adhesive. The ZIP System® Wall Sheathing is OSB complying with U.S. DOC PS 2 for wood structural panels as Exposure 1 with a 24/0, 24/16, or Wall 24 span rating and is overlaid on the exterior side with a Grade D water-resistive barrier. The foam plastic insulation boards have a nominal density of 2.0 pcf (32 kg/m^3), compressive strengths of 22 psi (152 kPa) and 20 psi (138 kPa), respectively, vapor permeance of less than 1.1 perms, flame-spread indices of 75 or less and smoke-developed indices of 450 or less. The ZIP System® R- Sheathing panels are nominally 4 feet (1219 mm) wide by 8, 9, 10, 11, or 12 feet (2438, 2743, 3048, 3353, or 3658 mm) long and have a square-finished-edge or machined-edge profile.

No-Burn® Plus ThB may be installed in an attic or crawl space without a prescriptive ignition barrier when all of the following conditions are met:

- Entry to the attic or crawl space is only to repair, maintain, and service utilities, and no storage is permitted.
- There are no interconnected attic or crawl space areas.
- Air in the attic or crawl space is not circulated to other parts of the building.
- Attic ventilation is provided when required by Section 1202.2 of the 2024, 2021, and 2018 IBC® and Section 1203.2 of the 2015, 2012, and 2009 IBC® or Section R806 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC®, except when air impermeable insulation is permitted in unvented attics in accordance with Section R806.5 of the 2024, 2021, 2018, 2015, and 2012 IRC®, and Section R806.4 of the 2009 IRC®. Under-floor (crawl space) ventilation is provided, when required, by Section 1202.4 of the 2024, 2021, and 2018 IBC® and Section1203.4 of the 2015 IBC®, Section 1203.3 of the 2012 and 2009 IBC® or Section R408.1 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC, as applicable.
- The foam plastic insulation is limited to the maximum thickness and density tested, shown in Table 3 of this report.
- Combustion air is provided in accordance with Section 701 of the 2024, 2021, 2018, 2015, 2012, and 2009 IMC®.

For Class II Vapor Retarder and Ignition Barrier Assemblies, Section 3.7 (Table 6) of this report applies.

3.5 Fire Resistance (Table 4): As shown in Table 4 of this report, No-Burn® Plus provides fire resistance to engineered wood framing members or components when applied to both sides of the web and top and bottom flanges and the interior facing side of the subfloor, once the components are installed, as an alternative to the 2-by-10 dimension lumber prescribed in Section R302.13, Exception 4 of the 2021, 2018, and 2015 IRC® and Section R501.3, Exception 4 of the 2012 IRC®. At a minimum, the assembly shall be constructed with the

framing members or components in accordance with Table 4 of this report affixed to the rim board with 16d common or 10d box nails or fasteners in accordance with Table R602.3(1) of the 2024, 2021, 2018, and 2015 IRC®, or 8d nails or fasteners in accordance with the 2012 and 2009 IRC®, $^{23}/_{32}$ inch thick (18.2 mm) tongue-and-groove oriented strand board subfloor affixed with 8d common nails or fasteners in accordance with Table R602.3(1).

3.6 Fire Resistance (Table 5): As shown in Table 5 of this report, No-Burn® Plus provides fire resistance to engineered wood framing members or components when applied to both sides of the web and top and bottom flanges, once the components are installed, as an alternative to the 2-by-10 dimension lumber prescribed in Section R302.13, Exception 4 of the 2024, 2021, 2018, and 2015 IRC®, and Section R501.3, Exception 4 of the 2012 IRC®.

3.7 Class II Vapor Retarder, Alternative Thermal Barrier and Alternative Ignition Barrier Coating (Tables 2, 3, and 6): No-Burn® ThB Spray Seal when applied to spray-polyurethane foam insulation listed in Table 2, Table 3, and in accordance with Table 6, may be installed as a Class II vapor retarder in accordance with Sections 1202.3 and 1404.3 of the 2024, 2021, and 2018 IBC®, Sections 1203.3 and 1405.3 of the 2015 IBC®, and Section 1405.3 of the 2012 and 2009 IBC®, and Sections R702.7 and R806 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC®, without a prescriptive 15-minute thermal barrier in accordance with Section 3.3 of this report or without a prescriptive ignition barrier in accordance with Section 3.4 of this report. The approved Class II vapor retarder, thermal barrier assemblies, or ignition barrier assemblies are in accordance with Table 6.

3.8 Foam Plastic in Plenums as Interior Finish or Interior Trim (Table 2): No-Burn® Plus ThB, when applied to spray-applied polyurethane foam insulation listed in Table 2 of this report, may be installed as an interior finish or interior trim in plenums as required by Section 2603.7 of the 2024, 2021, 2018, 2015, 2012, and 2009 IBC®, Section 602.3.7 of the 2024 IMC, Section 602.2.1.6 of the 2021, 2018, 2015 IMC®, and Section 602.2.1.5 of the 2012 and 2009 IMC®.

3.9 Exterior Walls in Types I, II, III, and IV Construction (Tables 7, 8, 9, and 10): No-Burn® Plus ThB, when applied to spray-applied polyurethane foam insulation listed in Table 7, Table 8, Table 9, and Table 10, may be installed in or on exterior walls of buildings of Type I, II, III, and IV construction complying with Section 2603.5 of the 2024, 2021, 2018, 2015, 2012, and 2009 IBC®, and as described in this section. The maximum thickness of the foam plastic installed on the exterior of the sheathing or installed in stud cavities shall be as described in Table 7, Table 8, Table 9, and Table 10, as applicable.

3.10 Accelerated Weathering and Durability: No-Burn® Plus Spray Seal and No-Burn® ThB Spray Seal showed no deleterious effects such as discoloration, cracking, crazing, or delamination when exposed to an equivalent of 6 months of UV, irradiance, and 88 hours of condensation at 50°C of accelerated weathering and durability in accordance with Cycle 1 of ASTM G154.

3.11 Air Barrier: When No-Burn® Plus Spray Seal is applied to the substrates shown in Table 1 of this report, No-Burn® Plus Spray Seal complies with the requirements as an air barrier in accordance with Section 202 of the 2024, 2021, 2018, 2015, 2012, and 2009 IBC®, Section R202 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC, and Section C402.6.2.3.1 of the 2024, 2021, 2018, 2015, 2012, and 2009 IECC®, in accordance with ASTM E2178. As shown in Table 1 of this report, No-Burn® Plus Spray Seal is applied at 15 wet mils (9 dry mils) with a coverage rate of 107 sq. ft. per gallon.

4.0 DESIGN AND INSTALLATION

4.1 General: The products shall be field-applied to substrates in accordance with this report and the No-Burn®, Inc.'s published processes. When products are applied in accordance with Section 3.5 or Section 3.6 for Fire Resistance, the applicator shall be certified by No-Burn®, Inc. Copies of this report and the No-Burn®, Inc. instructions shall be available at the job site. Where conflicts occur, the more restrictive shall govern. Before and during application, substrate surfaces shall be dry, clean, and free from loose debris, dirt, grease, oil, and all prior coating materials such as paint, stains, and sealers. The substrate shall not have, nor have been exposed to treatments, chemicals, products, etc. Visual observation of the applied products varies. Opaque products will result in a distinctive white color. Transparent products may result in a distinctive color dye on the substrate. For verification of the wet applied thickness, a standard painter's thickness gauge shall be used during the application. The finished dry mil thickness will be 0.40-0.70 times the wet mil thickness. When verification of transparent products is required by the building official, field testing shall be conducted as follows: flame from a propane-fueled torch shall be applied to the coated area and to a sample of uncoated substrate for a minimum of 10 seconds. The presence of the No-Burn shall be observable through the comparison of the reactions of the coated and uncoated substrates to the flame.

The products shall be applied only to the specific substrates listed in Tables 1 through 10 of this report. Immediately before placing the products, the applicator shall verify the moisture content of the substrates, as applicable, in accordance with Table 1, Table 2 (SIPs only), Table 4, or Table 5 of this report. Substrates shall be in their final position in the building, directly exposed to the interior, protected from the weather, in conditioned and unconditioned locations. Surface and ambient temperatures before and during application shall be 40°F (4.4°C) minimum. Surface temperatures shall not exceed 100°F (37.7°C) during application. Cure time is 24 hours minimum.

The products shall be applied at an application rate set forth in Table 1, Table 2, Table 3, Table 4, Table 5, Table 6, Table 7, Table 8, Table 9, or Table 10 of this report by spraying, roller, or brush. When products are applied in accordance with Section 3.5 and Table 4 or Section 3.6 and Table 5 of this report, the frequency of thickness measurements with a wet film thickness gauge during the application of each coat shall be at a minimum, measured once every 100 ft^2 (9.29 m^2) of surface area.

4.2 Design: No-Burn® Plus, No-Burn® Plus ThB, No-Burn® ThB Spray Seal™, No-Burn® Original, and No-Burn® Original Mih, shall be applied in one coat and may be overcoated with latex paint manufacturer's instructions.

5.0 LIMITATIONS

The No-Burn® products 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 The products shall be applied in accordance with this report, the manufacturer's instructions, and the applicable code. In the event of a conflict between the manufacturer's instructions and this report, the more restrictive shall prevail.

5.2 Application is limited to the substrates listed in Tables 1 through 10 of this report.

5.3 When products are applied in accordance with Section 3.5 or Section 3.6 of this report for Fire Resistance, the products shall be applied prior to the installation of mechanical, electrical, and plumbing components.

5.4 When products are applied in accordance with Section 3.5 or Section 3.6 of this report for Fire Resistance, the No-Burn® qualified applicator shall affix a No-Burn®, Inc. issued label, shown in Figure 1 of this report, to the substrate where the coating has been applied; at a minimum, one No-Burn®, Inc. issued label shall be affixed every 10,000 $feet^2$ (929.03 m^2) of floor area.

5.5 When products are applied in accordance with Section 3.5 or Section 3.6 of this report for Fire Resistance, an installation certificate as shown in Figure 2 of this report shall be completed by the certified applicator and submitted to the building official and No-Burn®, Inc.

5.6 No-Burn® products shall be applied to areas within the weatherproofing membrane or surfaces not exposed to weather, where the substrate's in-service dry-use moisture content conditions are expected to be at or less than the recommended levels in accordance with Table 1, Table 2 (SIPs only), Table 4, or Table 5 of this report.

5.7 Other inspections may be required when determined to be necessary by the building official in accordance with Section R109.1.5 of the 2024, 2021, 2018, 2015, 2012, and 2009 IRC®. Special inspection shall be required when determined to be necessary by the building official in accordance with Section 1705.1.1 of the 2024, 2021, 2018, 2015, and 2012 IBC®, or Section 1704.15 of the 2009 IBC®. A statement of special inspection in accordance with Section 1704.2.3 of the 2024, 2021, 2018, 2015, and 2012 IBC®, or Section 1705 of the 2009 shall be submitted.

5.8 The products are manufactured in Sandusky, Ohio.

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with the IAPMO UES Evaluation Criteria for Field-Applied Fire Protective Coatings (EC017) adopted February 2014 (editorially revised February 2023).

6.2 Data in accordance with ICC-ES AC377 Acceptance Criteria for Spray-Applied Foam Plastic Insulation, dated June 2023, including test reports in accordance with Appendix X of AC377.

6.3 Data in accordance with ICC-ES AC456 Acceptance Criteria for Fire-Protective Coatings Applied to Spray-Applied Foam Plastic Insulation Installed Without a Code-Prescribed Thermal Barrier, dated October 2015, (editorially revised July 2024).

6.4 Data in accordance with IAPMO ES 1000 Standard for Building Code Compliance of Spray-Applied Polyurethane Foam, published August 2020.

6.5 Data in accordance with ICC 1100-18 Standard for Spray-applied Polyurethane Foam Plastic Insulation.

6.6 Reports of fire tests conducted in accordance with ASTM D8391, ASTM E84, ASTM E119, NFPA 285, NFPA 286 (AC377, Appendix X), UL 723, and UL 1715.

6.7 Report of testing for water vapor transmission in accordance with ASTM E96, desiccant method.

6.8 Report of UV exposure testing on No-Burn® ThB Spray Seal™ in accordance with Cycle 1 of ASTM G154.

6.9 Third-party engineering analysis for extension of NFPA 285 results.

6.10 Third-party engineering analysis of NFPA 286 results.

6.11 Test Reports are from laboratories in compliance with ISO/IEC 17025.

7.0 IDENTIFICATION

Containers of the products are identified by a label affixed on product packaging. The label shall include the No Burn®, Inc., name and address, product name, batch number, expiration date, application instructions, name or logo of the inspection agency, and the Evaluation Report Number (IAPMO UES

ER-305) to identify the products recognized in this report. A die-stamp label may also substitute for the label. The IAPMO UES Mark of Conformity may also be used as shown below:

IAPMO UES ER-305

8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on No-Burn® Plus ThB, No-Burn® ThB Spray Seal™, No-Burn® Original, and No-Burn® Original Mih, to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. The products are produced at locations noted in Section 5.8 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

NO-BURN® INSTALLATION LABEL

Product Name:

_____

Certified Applicator Number:

X00000000NB0000

IAPMO UES ER 305

NO-BURN INC.

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FIGURE 1

TABLE 1 - CLASS A INTERIOR FINISH				
SUBSTRATE	MAX. MOISTURE CONTENT	NO-BURN® PRODUCT NAME[1]		
		Plus or Plus Spray Seal™[2, 4]	Plus ThB	Original or Original Mih
Douglas Fir	19%	6 mils wet (4 mils dry)[3] 275 sq. ft. per gallon	NR	300 sq. ft. per gallon
Red Oak	19%	6 mils wet (4 mils dry)[2] 275 sq. ft. per gallon	NR	NR
Oriented Strand Board	16%	8 mils wet (5 mils dry)[3] 200 sq. ft. per gallon	8 mils wet (5 mils dry) 200 sq. ft. per gallon	300 sq. ft. per gallon
Southern Yellow Pine	19%	NR	NR	300 sq. ft. per gallon
Hardboard Masonite	16%	8 mils wet (5 mils dry) 200 sq. ft. per gallon	NR	NR
LSL	16%	10 mils wet (6 mils dry)[3] 160 sq. ft. per gallon	NR	NR
PSL	16%	10 mils wet (6 mils dry)[3] 160 sq. ft. per gallon	NR	NR
LVL	16%	10 mils wet (6 mils dry)[3] 160 sq. ft. per gallon	NR	NR
DensGlass	16%	8 mils wet (5 mils dry)[3] 200 sq. ft. per gallon	NR	NR
MgO Cement Boards	16%	8 mils wet (5 mils dry)[3] 200 sq. ft. per gallon	NR	NR
ZIP System	N/A	10 mils wet (6 mils dry)[3] 160 sq. ft. per gallon	NR	NR

For SI: 1 mil = 0.0254 mm, 1 square foot per gallon = 0.025 square meter per liter

[1] NR = Not Recognized
[2] Coating may be overcoated with up to seven coats of latex paint with a pH of 7 to 9
[3] Tested in accordance with ASTM E84, extended 20 minutes and ASTM E2768
[4] Application and coverage rate of Plus Spray Seal as an air barrier is applied at 15 wet mils (9 dry mils), 107 sq. ft. per gallon

TABLE 2 – ALTERNATIVE THERMAL BARRIER ASSEMBLIES[5] (continued on next 4 pages)

SUBSTRATE	NO-BURN® PRODUCT NAME	MAXIMUM THICKNESS (in) Walls & Vertical Surfaces	MAXIMUM THICKNESS (in) Ceilings, Underside of Roof Sheathing/ Rafters & Floors	APPLICATION OF NO-BURN® COATING				Evaluation Report [1, 4]
				MINIMUM INSTALLED THICKNESS (mils)		THEORETICAL APPLICATION RATE		
				Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet	
AMBIT Ambi-Seal 5.0 Open Cell Spray Foam	Plus ThB[2]	9	14	14	9	115	0.87	CCRR-0393
AMBIT Ambi-Tite 201 (245fa) Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	ESR-4426
AMBIT Ambi-Tite 204 HFO Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	ESR-4427
AMD Diamondback Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ESR-4438
Alpha Polymers AP 100 (OC) Open Cell Spray Foam	Plus ThB[2]	9	14	14	9	115	0.87	CCRR-0483
Alpha Polymers AP 200 245fa (CC) Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	ESR-5241
Alpha Polymers AP 210 HFO (CC) Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	ESR-5242
BASF Enertite G Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-1032
BASF Enertite X Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-1032
BASF Enertite Max Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-1032
BASF Walltite MAX Closed Cell Spray Foam	Plus ThB[2]	6	8	14	9	115	0.87	CCRR-0374
BASF Walltite One Closed Cell Spray Foam	Plus ThB[2]	6	8	14	9	115	0.87	CCRR-0374
BASF Walltite RSB Closed Cell Spray Foam	Plus ThB[2]	6	8	14	9	115	0.87	CCRR-0374
Carlisle SealTite Pro Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-624
Carlisle SealTite Pro XTR Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-906
Carlisle Foamsulate 50 ES Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-907
Carlisle Foamsulate 50 HY Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-540
Carlisle SealTite Pro High Yield Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-623
Carlisle Foamsulate 50 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-351
Carlisle SealTite Pro No Mix Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-616
Carlisle SealTite Pro Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-621
Carlisle Foamsulate Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-626
Carlisle SealTite Pro HFO Closed Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-720
Carlisle Foamsulate HFO 2.0 Closed Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-841
Carlisle SealTite Pro One Zero Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-640
Carlisle Foamsulate HFO Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-650
Central Urethane X-Press Seal 200 Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	ER-834
Creative Polymer Solutions Accufoam OC Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-699
Creative Polymer Solutions Accufoam AF1 Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-842
Creative Polymer Solutions Accufoam CC Closed Cell Spray Foam	Plus ThB[2]	7.5	9.5	14	9	115	0.87	ER-699
Creative Polymer Solutions Accufoam 2.0 HFO Closed Cell Foam	Plus ThB[2]	7.5	9.5	14	9	115	0.87	ER-833
Dynamo 500 Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	CCRR-0491
Dynamo 50 No Mix OC Open Cell Spray Foam	Plus ThB[2]	10	14	16	10	100	1.0	ER-930
Dynamo ClimateGard 50/CG 50 No Mix OC Open Cell Spray Foam	Plus ThB[2]	10	14	16	10	100	1.0	ER-930
Dynamo ECO2000 HFO Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	CCRR-0491
Dynamo ClimateGard 2000-CG 2000 Closed Cell Spray Foam	Plus ThB[2]	7	10	16	10	100	1.0	ER-967
Dynamo ClimateGard -CG Select 2000 Closed Cell Spray Foam	Plus ThB[2]	7	10	16	10	100	1.0	ER-967
Dynamo ClimateGard 2000 QUICK PASS CG 2000 QP) Closed Cell Spray Foam	Plus ThB[2]	7	10	16	10	100	1.0	ER-967
Elastochem Specialty Chemicals insulthane 450 NM Open Cell Foam	Plus ThB[2]	10	14	14	9	115	0.87	CCRR-0396
Elastochem Specialty Chemicals Insulthane 200 Evolution ccSPF	Plus ThB[2]	8	10	14	9	115	0.87	CCRR-0396
Elastochem Specialty Chemicals Insulthane Extreme ccSPF	Plus ThB[2]	8	10	14	9	115	0.87	CCRR-0396
Elastochem Specialty Chemicals Insulthane Extreme Plus ccSPF	Plus ThB[2]	8	10	14	9	115	0.87	CCRR-0396
Enerlab Ecothane 2.0 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-937

TABLE 2 (continued) – ALTERNATIVE THERMAL BARRIER ASSEMBLIES

SUBSTRATE	NO-BURN® PRODUCT NAME	MAXIMUM THICKNESS (in) Walls & Vertical Surfaces	MAXIMUM THICKNESS (in) Ceilings, Underside of Roof Sheathing/Rafters & Floors	APPLICATION OF NO-BURN® COATING				Evaluation Report [1, 4]
				MINIMUM INSTALLED THICKNESS (mils)		THEORETICAL APPLICATION RATE		
				Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet	
Enverge/Gaco EZSpray F4500 Open Cell Spray Foam	Plus ThB[2]	12	16	14	9	115	0.87	CCRR-1107
Enverge/Gaco 183M Closed Cell Spray Foam	Plus ThB[2]	6.5	9	14	9	115	0.87	CCRR-1002
Enverge/Gaco OnePass F1850 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-1043
Enverge/Gaco OnePass HFO F1860 Closed Cell Spray Foam	Plus ThB[2]	6	9.5	14	9	115	0.87	ER-859
Enverge/Gaco OnePass Low GWP F1880 Closed Cell Spray Foam	Plus ThB[2]	9	12.5	14	9	115	0.87	CCRR-1106
Enverge/SES EasySeal 0.5 Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-492
Enverge/SES SucraSeal Open Cell Spray Foam	Plus ThB[2]	9	14	14	9	115	0.87	ER-787
Enverge/SES Nexseal 2.0 Closed Cell Spray Foam	Plus ThB[2]	6	9.5	14	9	115	0.87	ER-374
Enverge/SES Nexseal 2.0 LE Closed Cell Spray Foam	Plus ThB[2]	6	9.5	14	9	115	0.87	ER-374
Everest Systems Opticell 0.5 Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-893
Everest Systems Opticell 2.0 Closed Cell Spray Foam	Plus ThB[2]	6	6	14	9	115	0.87	ER-921
Everest Systems Evercell 2.0 Closed Cell Spray Foam	Plus ThB[2]	6	6	14	9	115	0.87	ER-921
FireStable StableBase Max R HFO Closed Cell Spray Foam	Plus ThB[2]	7.5	9.5	14	9	115	0.87	ER-877
Foam Supplies genfoam™ Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0389
Foam Supplies genX™ Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0390
Foam Supplies ecostar™ Closed Cell Spray foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0388
General Coatings Ultra-Thane 050 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0358
General Coatings Ultra-Thane 050 Max Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0358
General Coatings Ultra-Thane 050 Max Pro Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0358
General Coatings Ultra-Thane 050X Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0362
General Coatings Ultra-Thane 170 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
General Coatings Ultra-Thane 202 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
General Coatings Ultra-Thane 202 High-Lift Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
General Coatings Ultra-Thane 202 MAX Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
General Coatings Ultra-Thane 205 HFO Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0375
General Coatings Ultra-Thane 205 HFO High Lift Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0375
General Coatings Ultra-Thane 205 HFO MAX Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0375
General Coatings Ultra-Thane 205 HFO Premium Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0375
Genyk Elite 50 Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ESR-5370
Genyk Elite 2.0 Closed Cell Spray Foam	Plus ThB[2]	6	10	14	9	115	0.87	ESR-5150
GreenShield UltraTite 2000 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-989
Green Valley Products GVP500 NM Open Cell Spray Foam	Plus ThB[2]	10	14	16	10	100	1.0	ER-910
Green Valley Products GVP 2.0 HFO Closed Cell Spray Foam	Plus ThB[2]	7	10	16	10	100	1.0	ER-917
Huntsman Premium Icynene OC No-Mix Open Cell Spray Foam	Plus ThB[2]	8 ½	14	14	9	115	0.87	ESR-5499
Huntsman Premium Icynene Classic 45 Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-5498
Huntsman Premium Icynene Ultra 50 Open Cell Spray Foam	Plus ThB[2]	8	14	16	11	100	1.0	ESR-5497
Huntsman Premium Icynene Classic 75 Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-5495
Huntsman Premium Icynene High-R 80 Open Cell Spray Foam	Plus ThB[2]	8	14	16	11	100	1.0	ESR-5494
Huntsman Premium Icynene HFO 200 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ER-926
Huntsman Premium Icynene HFO Max Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ESR-5496
Huntsman (Demilec) Sealection 500 Open Cell Spray Foam	Plus ThB[2]	8	14	16	11	100	1.0	CCRR-1063
Huntsman (Demilec) Sealection NM Open Cell Spray Foam	Plus ThB[2]	8	14	16	11	100	1.0	ESR-2668
Huntsman (Demilec) Agribalance Open Cell Spray Foam	Plus ThB[2]	8	14	16	11	100	1.0	ESR-2600
Huntsman (Demilec) Heatlok HFO High Lift Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ESR-4073

TABLE 2 (continued) – ALTERNATIVE THERMAL BARRIER ASSEMBLIES

SUBSTRATE	NO-BURN® PRODUCT NAME	MAXIMUM THICKNESS (in) Walls & Vertical Surfaces	MAXIMUM THICKNESS (in) Ceilings, Underside of Roof Sheathing/Rafters & Floors	APPLICATION OF NO-BURN® COATING				Evaluation Report [1, 4]
				MINIMUM INSTALLED THICKNESS (mils)		MINIMUM INSTALLED THICKNESS (mils)		
				Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet	
Huntsman (Demilec) Heatlok HFO Pro Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ER-565
Huntsman (Demilec) Heatlok XT-s Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ESR-3824
Huntsman (Demilec) Heatlok XT-w Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ESR-3883
Huntsman (Demilec) Heatlok ECO Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ESR-3198
Huntsman (Demilec) Heatlok HFO EZ Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ER-871
Huntsman (Icynene) Classic Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-1826
Huntsman (Icynene) Classic Ultra Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-1826
Huntsman (Icynene) Classic Ultra Select Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-1826
Huntsman (Icynene) Classic Plus Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-1826
Huntsman (Icynene) No Mix Open Cell Spray Foam	Plus ThB[2]	8 ½	14	14	9	115	0.87	CCRR-1123
Huntsman (Icynene) ProSeal Closed Cell Foam	Plus ThB[2]	4	8	14	9	115	0.87	ESR-3500
Huntsman (Icynene) ProSeal LE Closed Cell Foam	Plus ThB[2]	4	8	14	9	115	0.87	ESR-3500
Huntsman (Icynene) ProSeal Eco Closed Cell Foam	Plus ThB[2]	4	8	14	9	115	0.87	ESR-3493
Huntsman (Icynene) ProSeal HFO Closed Cell Foam	Plus ThB[2]	4	8	14	9	115	0.87	CCRR-1108
Huntsman (Icynene) ProSeal HFO CW Closed Cell Foam	Plus ThB[2]	4	8	14	9	115	0.87	CCRR-1108
Huntsman (Icynene) MD-C-200 Closed Cell Foam	Plus ThB[2]	4	8	14	9	115	0.87	ESR-3199
Huntsman (Lapolla) Foam-Lok FL 450 Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-4242
Huntsman (Lapolla) Foam-Lok FL 500 Open Cell Spray Foam	Plus ThB[2]	8 ½	14	14	9	115	0.87	CCRR-1091
Huntsman (Lapolla) Foam-Lok FL 750 Open Cell Spray Foam	Plus ThB[2]	6	14	16	11	100	1.0	ESR-4322
Huntsman (Lapolla) Foam-Lok FL 2000-3G Closed Cell Spray Foam	Plus ThB[2]	6	9	14	9	115	0.87	ESR-3198
Huntsman (Lapolla) Foam-Lok FL 2000-4G Closed Cell Spray Foam	Plus ThB[2]	6	9	14	9	115	0.87	CCRR-1025
Huntsman (Lapolla) Foam-Lok FL 2000 Closed Cell Spray Foam	Plus ThB[2]	6	9	14	9	115	0.87	ESR-2629
ICP Handi-Foam HVLP LD Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-1124
ICP Handi-Foam HVLP MD Closed Cell Spray Foam	Plus ThB[2]	12	14	14	9	115	0.87	ER-728
Innovative Polymer Systems IPS 2000 HFO Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	CCRR-0510
Innovative Polymer Systems Thermal-Shield 2001 Closed Cell Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-1014
Insulpro OC Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-1023
Insulpro CC Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	ER-1024
Johns Manville JM No Mix OpenCell Spray Foam	Plus ThB[2]	10	14	16	10	100	1.0	ER-971
Johns Manville JM IV HFO Closed Cell Spray Foam	Plus ThB[2]	7	10	16	10	100	1.0	ER-980
Natural Polymers Natural-Therm Light Open Cell Spray Foam	Plus ThB[2]	8	12	16	11	100	1.0	ER-589
Natural Polymers Ultra-Pure Open Cell Spray Foam	Plus ThB[2]	8	12	16	11	100	1.0	ER-801
Natural Polymers Natural-Therm® Pro Closed Cell Spray Foam	Plus ThB[2]	6	10	14	9	115	0.87	ER-1005
Natural Polymers Natural-Therm® Zero Closed Cell Spray Foam	Plus ThB[2]	12	14	14	9	115	0.87	ER-527
Natural Polymers Natural-Therm 2.0 Closed Cell Spray Foam	Plus ThB[2]	12	14	14	9	115	0.87	ER-336
Natural Polymers Natural-Therm 2.0 HFO Closed Cell Spray Foam	Plus ThB[2]	12	14	14	9	115	0.87	ER-714
Natural Polymers Ultra Pure Closed Cell Spray Foam	Plus ThB[2]	12	14	14	9	115	0.87	ER-800
NCFI InsulStar Light 12-008 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0323
NCFI InsulStar Light 12-075 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0323
NCFI InsulStar 1.7 HFO Smart SPFClosed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-667
NCFI InsulStar Optimaxx Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-667
NCFI InsulBloc Optimaxx Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-667
NCFI InsulStar 1.7 Optimaxx Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-667
NCFI InsulStar HFO Smart SPF Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-667
NCFI InsulStar 11-036 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-340

TABLE 2 (continued) – ALTERNATIVE THERMAL BARRIER ASSEMBLIES

SUBSTRATE	NO-BURN® PRODUCT NAME	MAXIMUM THICKNESS (in) Walls & Vertical Surfaces	MAXIMUM THICKNESS (in) Ceilings, Underside of Roof Sheathing/Rafters & Floors	APPLICATION OF NO-BURN® COATING				Evaluation Report [1, 4]
				MINIMUM INSTALLED THICKNESS (mils)		THEORETICAL APPLICATION RATE		
				Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet	
NCFI InsulBloc Smart SPFClosed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-667
NCFI InsulBloc 11-037 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-340
NSF Polymers CC OG HFC Closed Cell Spray Foam	Plus ThB[2]	7.5	9.5	14	9	115	0.87	ER-869
NSF Polymers R-Max Closed Cell Spray Foam	Plus ThB[2]	7.5	9.5	14	9	115	0.87	ER-868
Nu-Wool Nu-Seal 0.5 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0490
Nu-Wool Nu-Seal 2.0 HFO Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0490
Nu-Wool Nu-Seal Plus Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0490
Polycon PC 450 Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-965
Polycon PC 500 Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-959
Polycon PC 2000 Closed Cell Spray Foam	Plus ThB[2]	7	10	14	9	115	0.87	ER-964
ProFoam PROFILL Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-1016
ProFoam PROSEAL Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	ER-1017
ProFoam ProSeal Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-881
ProFoam ProSeal Plus 1.7 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	ER-881
PSI Staycell 505 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	QAI B1020
PSI Staycell 508 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	QAI B1020
PSI Staycell 504-2 Closed Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	QAI B1020
Quadrant Performance EnviroSeal CC HFO Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	ER-854
Quadrant Performance EnviroSeal OC Platinum Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-856
Quadrant Performance EnviroSeal OC Pro Open Cell Spray Foam	Plus ThB[2]	10	14	14	9	115	0.87	ER-856
Quadrant Performance EnviroSeal CC Platinum Max Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	ER-942
Quadrant Performance EnviroSeal CC Pro Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	ER-942
Spray Foam Genie SFG 1.7 CC	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-924
Spray Foam Genie SFG 2.0 CC	Plus ThB[2]	8.5	14	14	9	115	0.87	ER-924
Structural Insulated Panels (SIPs)[3]	Plus[2]	N/A	N/A	12	7	134	0.75	N/A
SWD Quik-Shield 108 Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-1051
SWD Quik-Shield 108YM Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-1051
SWD Quik-Shield 108YM Edge Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-0632
SWD Quik-Shield GOBLIN Closed Cell Spray Foam	Plus ThB[2]	5	8	14	9	115	0.87	CCRR-0507
SWD Quik-Shield 118 Closed Cell Spray Foam	Plus ThB[2]	5	8	14	9	115	0.87	CCRR-1093
SWD Quik-Shield YETI Closed Cell Spray Foam	Plus ThB[2]	5	8	14	9	115	0.87	CCRR-0478
SWD Quik-Shield YETI XL Closed Cell Spray Foam	Plus ThB[2]	5	8	14	9	115	0.87	CCRR-0628
SWD Quik-Shield HYDRA XL Closed Cell Spray Foam	Plus ThB[2]	5	8	14	9	115	0.87	CCRR-0642
SWD Quik-Shield HYDRA XC Closed Cell Spray Foam	Plus ThB[2]	5	8	14	9	115	0.87	CCRR-0641
ThermoSeal OCX Open Cell Spray Foam	Plus ThB[2]	8	14	16	11	100	1.0	CCRR-1095
ThermoSeal CCX Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	16	11	100	1.0	ESR-4137
ThermoSeal 5G Closed Cell Spray Foam	Plus ThB[2]	7	10	14	9	115	0.87	ER-698
ThermoSeal TS HFO Closed Cell Spray Foam	Plus ThB[2]	7	10	14	9	115	0.87	ER-698
UPC 400 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0610
UPC 500 Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0358
UPC 500 Max Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0358
UPC 500 Max Pro Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0358
UPC 500 OCX Open Cell Spray Foam	Plus ThB[2]	8.5	14	14	9	115	0.87	CCRR-0362
UPC 1.7 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
UPC 2.0 Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345

TABLE 2 (continued) – ALTERNATIVE THERMAL BARRIER ASSEMBLIES

SUBSTRATE	NO-BURN® PRODUCT NAME	MAXIMUM THICKNESS (in) Walls & Vertical Surfaces	MAXIMUM THICKNESS (in) Ceilings, Underside of Roof Sheathing/Rafters & Floors	APPLICATION OF NO-BURN® COATING				Evaluation Report [1, 4]
				MINIMUM INSTALLED THICKNESS (mils)		THEORETICAL APPLICATION RATE		
				Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet	
UPC 2.0 HL Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
UPC 2.0 MAX Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
UPC 2.0 Premium Closed Cell Spray Foam	Plus ThB[2]	6.5	9.5	14	9	115	0.87	CCRR-0345
UPC 2.0 HFO Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0375
UPC 2.0 HFO High Lift Closed Cell Spray Foam	Plus ThB[2]	8	12	14	9	115	0.87	CCRR-0375
USAFOAM ComfortSeal HFO Closed Cell Spray Foam	Plus ThB[2]	7	10	14	9	115	0.87	ER-975
Xcelus XLS 500 NM Open Cell Spray Foam	Plus ThB[2]	8	14	14	9	115	0.87	CCRR-0516
Xcelus XLS 1800 Closed Cell Spray Foam	Plus ThB[2]	6	8	14	9	115	0.87	CCRR-0516
Xcelus XLS 200 Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	CCRR-0397
Xcelus XLS 2000 Closed Cell Spray Foam	Plus ThB[2]	8	10	14	9	115	0.87	CCRR-0397

For **SI:** 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 gal = 3.79 L, 1 square foot per gallon = 0.025 square meter per liter, 1 gallon per 100 square feet = 0.4 liter per square meter

[1] Use of No-Burn® Plus ThB for use with any insulation product listed herein is conditional upon that insulation product's compliance to AC377 in an evaluation report by an approved evaluation entity. Users shall independently verify the current validity of any evaluation report referenced herein. ER-Evaluation Reports from IAPMO Uniform Evaluation Service, CCRR-Code Compliance Research Reports from Intertek, and ESR-Evaluation Service Reports from ICC-ES.

[2] No-Burn® Plus ThB or Plus may be overcoated or undercoated with latex paint with a pH of 7 to 8.

[3] The maximum moisture content is limited to 16%.

[4] Approval of the use of Plus ThB for use over any insulation product listed in Table 2 is subject to the insulation meeting the requirements in the appropriate evaluation report.

[5] When coatings are applied in accordance with Table 2 of this report, the Spray Polyurethane Foam Insulation Certificate (SPFA-148), or a spray polyurethane foam insulation manufacturer insulation certificate, may be completed by the intumescent coating installer and submitted upon request.

TABLE 3 – ALTERNATIVE IGNITION BARRIER ASSEMBLIES[2] [continued on next page]

SUBSTRATE	NO-BURN® PRODUCT NAME[1]	MAXIMUM THICKNESS (in) Walls, Vertical Surfaces & Attic Floors	MAXIMUM THICKNESS (in) Ceilings, Underside of Roof Sheathing/Rafters & Floors	APPLICATION OF NO-BURN® COATING			
				MINIMUM INSTALLED THICKNESS (mils)		THEORETICAL APPLICATION RATE	
				Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet
AMBIT Ambi-Seal 5.0 Open Cell Spray Foam	Plus ThB	9	14	6	4	267	0.37
BASF ENERTITE® G Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
BASF ENERTITE® Max Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
BASF Walltite® RSB Closed Cell Spray Foam	Plus ThB	8	8	6	4	267	0.37
BASF Walltite MAX Closed Cell Spray Foam	Plus ThB	8	8	6	4	267	0.37
BASF Walltite ONE Closed Cell Spray Foam	Plus ThB	8	8	6	4	267	0.37
Carlisle SealTite Pro Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Carlisle Foamsulate 50 HY Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Carlisle SealTite Pro XTR Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Carlisle Foamsulate 50 ES Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Carlisle SealTite Pro High Yield Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Carlisle Foamsulate 50 Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Carlisle SealTite Pro No Mix Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Central Urethanes X-Press Seal 50 Open Cell Spray Foam	Plus ThB	10	14	6	4	267	0.37
Convenience Touch 'n Seal® 2.0 PCF Closed Cell Spray Foam	Plus ThB	2	2	8	5	200	0.5
Creative Polymer Accufoam Open Cell Spray Foam	Plus ThB	8	14	6	4	267	0.37
Creative Polymer Accufoam AF1 Open Cell Spray Foam	Plus ThB	8	14	6	4	267	0.37
DAP Touch N' Seal Class I FR Closed Cell Spray Foam	Plus ThB	2	2	8	5	200	0.5
Enverge/Gaco EZSpray F4500 Open Cell Spray Foam	Plus ThB	12	16	6	4	267	0.37
Enverge/SES EasySeal .5 Open Cell Spray Foam	Plus ThB	12	18	5	3	320	0.31
Enverge/SES EasySeal ULD Open Cell Spray Foam	Plus ThB	10	16	6	4	267	0.37
Everest Systems Optiseal OC Open Cell Spray Foam	Plus ThB	10	14	6	4	267	0.37
Everest Systems Fortiseal Open Cell Spray Foam	Plus ThB	10	14	6	4	267	0.37
Franklin Titebond Weathermaster Superfoam Closed Cell Spray Foam	Plus ThB	2	2	10	6	160	0.63
General Coatings Ultra-Thane 050 Open Cell Spray Foam	Plus ThB	8	12	6	4	267	0.37
General Coatings Ultra-Thane 050 Max Open Cell Spray Foam	Plus ThB	8	12	6	4	267	0.37
General Coatings Ultra-Thane 050 Max Pro Open Cell Foam	Plus ThB	8	12	6	4	267	0.37
Genyk Elite 50 Open Cell Spray Foam	Plus ThB	10	14	6	4	267	0.37
Green Valley Products GVP500 NM Open Cell Spray Foam	Plus ThB	10	16	6	4	267	0.37
Huber ZIP System® R-Sheathing Panel (R-3 & R-6)	Plus ThB	N/A	N/A	10	6	160	0.63
Huntsman Premium Icynene Classic 45 Open Cell Spray Foam	Plus ThB	5 ½	14	6	4	267	0.37
Huntsman Premium Icynene Ultra 50 Open Cell Spray Foam	Plus ThB	9 ¼	11 ¼	6	4	267	0.37
Huntsman Premium Icynene Classic 75 Open Cell Spray Foam	Plus ThB	8	14	6	4	267	0.37
Huntsman Premium Icynene High-R 80 Open Cell Spray Foam	Plus ThB	9 ½	11 ½	10	6	160	0.63
Huntsman (Demilec) SEALECTION® 500 Open Cell Spray Foam	Plus ThB	9 ¼	11 ¼	6	4	267	0.37
Huntsman (Demilec) Sealection NM Open Cell Spray Foam	Plus ThB	9 ¼	11 ¼	6	4	267	0.37
Huntsman (Demilec) Agribalance® Open Cell Spray Foam	Plus ThB	9 ½	11 ½	10	6	160	0.63
Huntsman (Icynene) Classic Open Cell Spray Foam	Plus ThB	5 ½	14	6	4	267	0.37
Huntsman (Icynene) Classic Ultra Open Cell Spray Foam	Plus ThB	5 ½	14	6	4	267	0.37
Huntsman (Icynene) Classic Ultra Select Open Cell Spray Foam	Plus ThB	5 ½	14	6	4	267	0.37
Huntsman (Icynene) Classic Plus Open Cell Spray Foam	Plus ThB	8	14	6	4	267	0.37
Huntsman (Icynene) Prime Gold Open Cell Spray Foam	Plus ThB	5 ½	14	6	4	267	0.37
Huntsman (Icynene) ProSeal Eco Closed Cell Spray Foam	Plus ThB	7 ¼	9 ¼	5	3	320	0.31
Huntsman (Icynene) MD-C-200 Closed Cell Spray Foam	Plus ThB	11 ¼	11 ¼	16	10	100	1.0

TABLE 3 (continued) – ALTERNATIVE IGNITION BARRIER ASSEMBLIES[2]

SUBSTRATE	NO-BURN® PRODUCT NAME[1]	MAXIMUM THICKNESS (in) Walls, Vertical Surfaces & Attic Floors	MAXIMUM THICKNESS (in) Ceilings, Underside of Roof Sheathing/Rafters & Floors	APPLICATION OF NO-BURN® COATING			
				MINIMUM INSTALLED THICKNESS (mils)		THEORETICAL APPLICATION RATE	
				Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet
Huntsman (Lapolla) FL 450 Open Cell Spray Foam	Plus ThB	5 ½	14	6	4	267	0.37
Huntsman (Lapolla) FL 750 Open Cell Spray Foam	Plus ThB	8	14	6	4	267	0.37
ICP Handi-Foam HVLP LD Open Cell Spay Foam	Plus ThB	11 ¼	16	6	4	267	0.37
ICP Handi-Foam® E-84 Class 1(A) Closed Cell Spray Foam	Plus ThB	2	2	10	6	160	0.63
Johns Manville JM Corbond NM Open Cell Spray Foam	Plus ThB	8	12	6	4	267	0.37
Polycon PC 450 Open Cell Spray Foam	Plus ThB	10	14	6	4	267	0.37
Polycon PC 500 Open Cell Spray Foam	Plus ThB	10	14	6	4	267	0.37
Polycon PC 2000 Closed Cell Spray Foam	Plus ThB	7	10	6	4	267	0.37
SWD Quik-Shield 106 Open Cell Spray Foam	Plus ThB	8	14	6	4	267	0.37
ThermoSeal TS 360 Open Cell Spray Foam	Plus ThB	10	14	4	3	400	0.25
ThermoSeal TS 500 Open Cell Spray Foam	Plus ThB	10	14	4	3	400	0.25
ThermoSeal TS 800 Open Cell Spray Foam	Plus ThB	10	14	4	3	400	0.25
ThermoSeal OCX Open Cell Spray Foam	Plus ThB	9 ½	11 ¼	6	4	267	0.37
Tiger Foam® E-84 Fire Rated SPF Class 1 Spray Foam	Plus ThB	2	2	10	6	160	0.63
UPC 400 Open Cell Spray Foam	Plus ThB	8	12	6	4	267	0.37
UPC 500 Open Cell Spray Foam	Plus ThB	8	12	6	4	267	0.37
UPC 500 Max Open Cell Spray Foam	Plus ThB	8	12	6	4	267	0.37
UPC 500 Max Pro Open Cell Spray Foam	Plus ThB	8	12	6	4	267	0.37
Xcelus XLS 500 NM Open Cell Spray Foam	Plus ThB	11 ¼	16	6	4	267	0.37
Xcelus XLS 500 NM Open Cell Spray Foam	Plus ThB	8	8	6	4	267	0.37

For **SI:** 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 gal = 3.79 L, 1 square foot per gallon = 0.025 square meter per liter, 1 gallon per 100 square feet = 0.4 liter per square meter

[1] No-Burn® Plus or Plus ThB may be overcoated with latex paint with a pH of 7 to 9.

[2] When coatings are applied in accordance with Table 3, the Spray Polyurethane Foam Insulation Certificate (SPFA-148), or a spray polyurethane foam insulation manufacturer insulation certificate, may be completed by the intumescent coating installer and submitted upon request.

TABLE 4 - FIRE RESISTANCE (Section 3.5 of this report includes additional details)

SUBSTRATE	MAX MOISTURE CONTENT	MINIMUM DESIGN						NO-BURN® PLUS[1]
		Minimum Depth (in)	Web Thickness (in)	Flange Depth x Width (in)	Moment (ft-lbs)	EI x 10^6 (in^2-lbs)	Vertical Shear (lbs)	
I-joist: solid-sawn flange	16%	9½	$^3/_8$	1.5 x 2	2725	170	1475	15 mils wet (9 mils dry) 107 sq. ft. per gallon
I-joist: structural composite lumber flange	16%	9½	$^3/_8$	1.125 x 2	2725	170	1475	15 mils wet (9 mils dry) 107 sq. ft. per gallon
I-joist: structural composite lumber flange	16%	$11^7/_8$	$^3/_8$	1.125 x 1.75	3025	260	1625	15 mils wet (9 mils dry) 107 sq. ft. per gallon

For SI: 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 gal = 3.79 L, 1 lbf = 4.45 N, 1 ft-lb = 1.36 N-m, 1 square foot per gallon = 0.025 square meter per liter

[1] No-Burn® Plus may be overcoated with latex paint with a pH of 7 to 9

TABLE 5 - FIRE RESISTANCE (Section 3.6 of this report includes additional details)

SUBSTRATE	MAX MOISTURE CONTENT	MINIMUM DESIGN						NO-BURN® PLUS[1]
		Minimum Depth (in)	Web Thickness (in)	Flange Depth x Width (in)	Moment (ft-lbs)	EI x 10^6 (in^2-lbs)	Vertical Shear (lbs)	
I-joist: solid-sawn flange	16%	9½	$^3/_8$	1.5 x 2.5	2800	198	1185	23 mils wet (14 mils dry) 70 sq. ft. per gallon
I-joist: structural composite lumber	16%	$11^7/_8$	$^3/_8$	1.125 x 1.75	3025	260	1625	23 mils wet (14 mils dry) 70 sq. ft. per gallon

For **SI:** 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 gal = 3.79 L, 1 lbf = 4.45 N, 1 ft-lb = 1.36 N-m, 1 square foot per gallon = 0.025 square meter per liter

[1]No-Burn® Plus may be overcoated with latex paint with a pH of 7 to 9

TABLE 6 – CLASS II VAPOR RETARDER, THERMAL BARRIER OR IGNITION BARRIER

SUBSTRATE	NO-BURN® PRODUCT NAME[1]	APPLICATION OF NO-BURN® COATING			
		MINIMUM INSTALLED THICKNESS (mils)		THEORETICAL APPLICATION RATE	
		Wet Film	Dry Film	Square Feet Per Gallon	Gallons Per 100 Square Feet
Spray Polyurethane Foams listed in Table 2 for Thermal Barrier Assemblies	ThB Spray Seal™	16[1]	11	100	1.0
Spray Polyurethane Foams listed in Table 3 for Ignition Barrier Assemblies	ThB Spray Seal™	16	11	100	1.0

For **SI**: 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 square foot per gallon = 0.025 square meter per liter, 1 gallon per 100 square feet = 0.4 liter per square meter

[1] BASF Spraytite 178, BASF Spraytite 81206, and BASF Walltite US Closed Cell Spray Foams require a minimum installed wet film thickness of 17 mils.

TABLE 7– NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES (Section 3.9 includes additional details)
[continued on next page]

Wall Component	Allowable Substitutions
Base Wall Use any Item 1, 2, 3 or 4	1) Cast Concrete Walls 2) Concrete Masonry Units (CMU) 3) Min. 20 GA, 1.5 in. x $3^5/_8$ in. deep or 6-inch-deep steel with $^5/_8$-inch Type X Gypsum Wallboard interior with long dimension perpendicular to the steel studs 4) FRT wood studs spaced 24 inches OC (max.) with $^5/_8$-inch Type X Gypsum Wallboard interior
Floor Line Firestopping	Minimum 4-inch-thick, 4 pcf mineral fiber (wool) safing insulation in each framing cavity (thickness to match framing depth), at each floor line.
Cavity or Interior Insulation Any Item 1 - 7	1) None 2) Any noncombustible insulation per ASTM E136 for Base Wall 3 or 4. 3) Any Mineral Fiber (Board type Class A ASTM E84 faced or unfaced) for Base Wall 3 or 4 4) Any Fiberglass Batt Insulation (Class A Faced or Unfaced) for Base Wall 3 or 4. 5) BASF WALLTITE US and SPRAYTITE COMFORT ($3^5/_8$-inch maximum thickness)– cavity may be partially or fully filled, leaving a maximum 4-inch air cavity between the polyurethane foam insulation and the $^5/_8$-inch Type X Gypsum Wallboard for Base Wall 3 or 4. Use minimum $^5/_8$-inch exterior sheathing for the base wall 6) BASF Enertite G- up to full stud cavity depth thickness for Base Wall 3 or 4. 7) BASF WallTite LWP up to $5^1/_2$ inches thick with up to 6-inch-deep studs. **Note**: For Cavity Insulations 5, 6, and 7, shall use fire stopping at floor lines and $^5/_8$-inch exterior gypsum sheathing except Item 7 may use ½-inch exterior gypsum sheathing. SPF shall be applied to the interior face of exterior gypsum sheathing of base wall 3 or 4 as the substrate and shall cover the cavity's width and the inside of the wall stud framing flange.
Exterior Sheathing	½-inch-thick fiberglass mat, exterior gypsum board with long dimension perpendicular to the Base Wall studs.
WRB over Sheathing Use any Item 1 or 2	1) None 2) BASF MasterSeal AWB 660 or equivalent WRB with a lower heat release rate when tested to ASTM E1354
Z Girts **Use Items 1, 2, or 3 for claddings requiring girts.**	1) Vertical or Horizontal metallic Z 2) Horizontal Smart Ci-GreenGirt 3) Horizontal Armatherm FRR Z Girt **Note:** Girt spacing shall be able to comply with the required wind load per the manufacturer's instructions.

TABLE 7– NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES (Section 3.9 includes additional details) [continued)

WRB over Exterior Insulation	None
Wall Component	**Allowable Substitutions**
Exterior Insulation (Use Item 1 or 2)	1) Max. 3½-inch BASF WALLTITE LWP or WALLTITE US directly on the Exterior Sheathing coated with No-Burn Plus ThB (15 wet mils) + Behr Premium Plus Exterior Paint (6 wet mils) or equivalent exterior paint. 2) Max. 3½-inch BASF WALLTITE LWP or WALLTITE US directly on the Exterior Sheathing coated with No-Burn ThB Spray Seal™ (16 wet mils)[5]. Z-girts[1,4] may be oriented vertically or horizontally. Z-girts shall be made of No.20 Gauge galvanized steel with 4-inch web and 2-inch legs. Vertical Z-girts shall be installed on the Exterior Sheathing spaced 24 inches o.c. A horizontal Z-girt, with the outer leg oriented downward, shall be installed on the Exterior Sheathing at the top and bottom of the wall, and at each floor line as a through-wall flashing. Closures[2, 4] are made of a minimum No. 20 gauge aluminum with 3-inch web by 3-inch leg by 2-inch leg. Closures shall be installed over the Exterior Wall System around the perimeter of the wall at floor lines and around window openings. At the floor lines, J-trim and Z-flashings are utilized to finish the cut ends.
Exterior Cladding[4] Use any Item 1 – 9 *Notes to the table on the next page*	1) Max. No. 20 Gauge aluminum or steel cladding oriented vertically or horizontally[2] 2) Natural Stone Veneer – minimum 2 inches thick 3) Brick – Nominal 4-inch clay brick with a maximum 2-inch air gap between exterior insulation and brick. Standard brick ties/anchors installed 24 inches o.c. vertically on each stud. 4) Cast Artificial Stone, such as Cultured Stone and Masonry, min. 1½ inches thick complying with AC51. 5) Uninsulated Fiber Cement siding minimum. ¼ inches thick. 6) Stucco ¾-inch minimum exterior cement plaster and lath. 7) Limestone 2-inch minimum using standard non-open joint installation. 8) Terra Cotta Cladding 1¼-inch minimum using standard installation technique. 9) Autoclaved-aerated-concrete (AAC) panels (minimum $1^1/_2$ inches thick) Combining the Exterior Cladding[2] and Hat Channels[3] creates an air cavity that allows for an overall maximum air cavity of 3 inches.
Window Perimeter	No. 20 Gauge (0.032 inch) aluminum flashing (minimum)

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

[1] Drip caps made of minimum No. 20 Gauge aluminum shall be used. The drip caps shall be installed horizontally, at the top of the wall assembly, at the bottom of the wall assembly, and at openings using one minimum Type-S, #8 by ¾ in. long self-tapping pan-head screw on both the upper and lower flange of the Hat Channel.
When installed horizontally, the 3 in. leg is fastened to the Z-girts using one min. Type-S, #8 by ¾" long self-tapping pan-head screw at each Z-girt location.
When installed vertically, the 3 in. legs are fastened to the Z-girts using minimum Type-S #8 by ¾ in. long self-tapping pan-head screws spaced 12 in. OC.

[2] Vertical or horizontal cladding shall have no opening between adjacent claddings. Once installed vertically or horizontally fastened on one edge with the opposite edge interlocked to the adjacent cladding edge. Cladding fasteners are a minimum Type-S #8 by $^3/_4$ in. long self-tapping pan-head screw.

[3] Hat Channels shall be made of No. 18 Gauge galvanized steel. Hat Channels may be vented or unvented. Hat Channels may be installed vertically or horizontally over the Exterior Wall System spaced with max. 24" OC and fastened at each Z-girt location across the span of Hat Channel using one min. Type-S, #8 by ¾ in. long self-tapping pan-head screw on both the upper and lower flange of the Hat Channel.

[4] Sealant is silicone-based and installed as a bead in typical locations (for moisture control) along all the interfaces between the Closures, Exterior Cladding, Drip Cap, etc. Weep hole openings in the sealant are permitted. Where sealing of vertical joints between adjacent Exterior Cladding panels is required, only 100% silicone sealant is permitted.

[5] Weathering of the intumescent coating is beyond the scope of this review.

TABLE 8 – NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES WITH ACCUFOAM CC- HFO IN WALL CAVITY AND ON EXTERIOR SIDE OF WALL ASSEMBLY (Section 3.9 of this report includes additional details)	
Wall Component	**Allowable Substitutions**
Interior Sheathing	One layer of minimum $^{5}/_{8}$-inch Type X gypsum wallboard.
Base Wall System (BWS)- Use either 1, 2, 3, or 4	1. Cast Concrete Wall. 2. Concrete Masonry Unit Wall. 3. Nominal 2x4 inch or larger Fire-retardant Treated (FRT) wood studs spaced a maximum of 24 inches OC. Openings shall be framed with the same FRT wood studs. 4. Minimum $3^{1}/_{2}$-inch deep, minimum 20-gauge equivalent thick steel studs spaced a maximum of 24 inches on center. Openings shall be framed with minimum No. 20-gauge steel C-channels matching the depth of the studs.
Floor Line Fire-Stopping Use Item 1 for Base Wall Item 3 or Item 2 for Base Wall Item 4[1]	1. One layer of nominal 2x FRT lumber – minimum $1^{1}/_{2}$ inches thick. 2. Minimum 4-inch-thick 4 pcf mineral fiber (wool) safing insulation (friction fit or installed with Z-clips).
Cavity Insulation Use any Item 1-5[3]	1. None 2. Any noncombustible insulation per ASTM E136. 3. Maximum $3^{1}/_{2}$-inch thickness of Accufoam CC-HFO within any approved stud cavity. 4. Fiberglass batt insulation (faced or unfaced). 5. Mineral fiber insulation (faced or unfaced).
Exterior Sheathing Use Item 1, 2, or 3	1. One layer of $^{5}/_{8}$-inch-thick Type X exterior type gypsum sheathing. 2. One layer of ½-inch thick glass mat exterior gypsum wallboard. 3. One layer of $^{5}/_{8}$-inch-thick Type X Gypsum Wallboard.
Exterior Insulation	$3^{3}/_{4}$-inch-thick maximum Accufoam CC-HFO coated with No Burn Plus ThB (20 mils WFT)[1,4]
Exterior Cladding[2] Use any items 1-18 The air gap shall not exceed 2.67 inches between the cladding and insulation. Panel claddings may use vertical or horizontal Z girt attachment. Panel claddings may be vertical or horizontal.	1. Brick – Nominal 4-inch clay brick. Standard brick ties/anchors installed 24 inches o.c. (max) vertically on each stud. 2. Concrete – minimum 1-inch thick – open or non-open joint. 3. CMU – minimum 1-inch-thick – open or non-open joint. 4. Stone Veneer – minimum 1 inch thick – open or non-open joint. 5. Terracotta Cladding – minimum $1^{1}/_{4}$ inches thick (solid or hollow) using any standard open or non-open joint installation technique such as shiplap. 6. Stucco – ¾ inch minimum exterior cement plaster and lath – open or non-open joint 7. Aluminum cladding – 0.08-inch minimum thickness – open or non-open joint. 8. Steel cladding – 0.0149-inch minimum thickness – open or non-open joint. 9. Copper cladding – 0.0216-inch minimum thickness – open or non-open joint. 10. Zinc cladding – 0.104-inch minimum thickness – open or non-open joint. 11. Terreal Zephir Evolution Rainscreen System (or similar terracotta), minimum 9/16-inch thick – open or non-open joint. 12. ¼-inch minimum fiber cement cladding – open or non-open joint. 13. SwissPearl Carat Panels – 0.315-inch minimum thickness – open or non-open joint. 14. One-coat Stucco – 3/8-inch minimum exterior cement plaster and lath- open or non-open joint. 15. Thin brick adhered (with noncombustible mortar) to stucco base ¾-inch minimum – open or non-open joint. 16. FunderMax M.Look Panels – ¼-inch thick (min) – open or non-open joint.
Opening Detail	The window header, jambs sill, and other openings are completely covered from interior gypsum wallboard to exterior cladding with minimum No. 20-gauge aluminum flashing.

For **SI:** 1 mil = 0.0254 mm, 1 inch = 25.4 mm; 1 lb/ft^3=16 kg/m^3

[1] Fireblocking shall comply with Section 718 of the IBC and thermal barrier material requirements shall be met for BWS 1 and 2, as required by specific wall construction details when combustible concealed space is created on the exterior side of the exterior wall assembly.

[2] Combustible exterior wall coverings shall be installed in accordance with the manufacturer's installation requirements.

[3] Minimum ½-inch gypsum board on the interior side to protect the spray foam insulation.

[4] Weathering of the intumescent coating is beyond the scope of this review.

TABLE 9– NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES (Section 3.9 of this report includes additional details)	
Wall Component	**Material**
Interior Gypsum	One layer of minimum 5/8-inch Type X gypsum wallboard installed using #6 x $1^1/_4$-inch-long bugle head screws spaced 8 inches on center around the wallboard perimeter and 24 inches in the field.
Base Wall	Min. 20 Gauge, 1.5 in. x $3^5/_8$ in. deep steel studs fastened to 3-5/8-inch deep, No. 20-gauge galvanized steel track at 24 inches on center. The studs were connected to the track with one #6 x ½-inch long self-drilling, pan head faster per stud flange.
Floor Line Firestopping	Minimum 4-inch-thick, 4 pcf mineral fiber (wool) safing insulation in each framing cavity (thickness to match framing depth), at each floor line.
Cavity or Interior Insulation	BASF WALLTITE MAX, One, or RSB Closed Cell Spray Foam Core applied directly to the inside face of the exterior sheathing within the cavities created by the galvanized steel studs at $3^5/_8$-inch maximum thickness.
Exterior Sheathing	½-inch-thick exterior gypsum board installed on the exterior side of the frame using #6x$1^1/_4$-inch-long bugle head screws with a nominal spacing of 8 inches around the board perimeter and 24 inches in the field.
WRB over Sheathing	Sensershield RS Vapor Permeable Air/Water Resistive Barrier Membrane installed to the exterior sheathing at a nominal thickness of 12 wet mils. 6-inch deep Strogirt z-girts are installed oriented horizontally with a maximum spacing of 30 inches on center.
WRB over Exterior Insulation	None
Exterior Insulation	Walltite MAX, One, or RSB closed cell spray foam applied to the exterior sheathing within the cavities created by the Z-girts and over the Sensershield RS Vapor Permeable Air/Water-resistive Barrier, allowing for a nominal 2-inch cavity. No-Burn ThB Spray Seal intumescent coating shall be applied at a nominal WFT of 15 mils over the cavity insulation.[1]
Exterior Cladding	Alucobond Plus aluminum composite panels (4 mm nominal thickness) installed to the Strongirt Z-girts, with ACM Byrne/MetalBond 200 Series hardware. The wall assembly incorporated a vertical joint at the centerline of the window opening. Horizontal seams were located approximately 24 inches and 84 inches above the top of the window opening,
Window Perimeter	Minimum 0.04-inch aluminum flashing, applied around the window opening perimeter of the wall with a minimum 2-inch leg on the interior face of the wall.

For **SI:** 1 mil = 0.0254 mm, 1 inch = 25.4 mm, 1 lb/ft^3=16 kg/m^3

[1] Weathering of the intumescent coating is beyond the scope of this review.

TABLE 10 –NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLY WITH GVP 2.0 PRO HFO INSULATION APPLIED IN WALL STUD CAVITYAND ON EXTERIOR SIDE OF WALL ASSEMBLY BEHIND METAL EXTERIOR CLADDING (Section 3.9 of this report includes additional details)	
Wall Component	**Material Description**
Interior Gypsum	One layer of minimum 5/8-inch Type X gypsum wallboard installed using #6 - 1 1/4-inch-long Type-S bugle head screws spaced 8 inches on center around the wallboard perimeter and 12 inches in the field.
Base Wall	Min. 20 Gauge, 1.5 in. x 3 5/8 in. deep steel studs fastened to 3-5/8-inch deep, No. 20-gauge galvanized steel track at 24 inches on center. The studs were connected to the track with one #6 - ½-inch long self-drilling, pan head fastener per stud flange.
Floor Line Firestopping	Firestop consisted of 4-inch-thick, 4 pcf mineral wool safing, friction fit in each stud cavity.
Cavity or Interior Insulation[3]	Green Valley Product's GVP 2.0 HFO Closed Cell Spray Foam shall be applied directly to the inside face of the exterior sheathing within the cavities created by the galvanized steel studs at 3 5/8-inch thickness.
Exterior Sheathing	½-inch-thick glass mat exterior sheathing complying with ASTM C1177 installed on the exterior side of the frame using #6-1 1/4-inch-long Type S self-drilling screws. The fasteners were spaced 8-in. O.C. around the perimeter and 24-in. O.C. in the field of the sheathing panels.
WRB over Sheathing	Sensershield RS Vapor Permeable Air/Water Resistive Barrier Membrane installed to the exterior sheathing at a nominal thickness of 12 wet mils. 4-inch-deep Strongirts shall be installed oriented horizontally with a maximum spacing of 24 inches on center.
WRB over Exterior Insulation	None
Exterior Insulation[1]	Green Valley Product's GVP 2.0 HFO closed cell spray foam applied at a nominal thickness of 4 inches to the exterior sheathing within the cavities created by the horizontal Strongirts and over the Sensershield RS Vapor Permeable Air/Water-resistive Barrier. No-Burn ThB Spray Seal intumescent coating shall be applied at a nominal WFT of 15 mils over the cavity insulation.[1]
Exterior Cladding	Alucobond Plus aluminum composite panels (4 mm nominal thickness) are installed to Strongirts. The horizontal joint of the ACM panel system was positioned approximately 29-5/8-in. above the window header and extended the full width of the wall assembly. The vertical joint of the ACM panel system was positioned 11-in. from the vertical centerline of the assembly and extended from the window header to the top of the wall assembly.
Window Perimeter	Minimum 0.04-gauge aluminum flashing covered the window opening. The flashing on the header covered a 24 -gauge stainless steel piece. The window header leg is 12¼-inch deep with a ½-inch-long drip edge on the exterior side of the assembly. The flashing on the sill covered a 16-gauge metal flashing. The windowsill aluminum flashing has 13¾-inch leg covering the length of the window opening and a 2-inch lip on the exterior face of the assembly and a nominal ¾-inch drip edge. Window jams are covered with 12¼-inch 16-gauge aluminum flashing. Window jamb flashing shall be installed so the leading edges are flush with the outer edge of the panel system. The flashing piece shall terminate at the interior edge of the window framing C-channel perimeter applied around the window opening perimeter of the wall with a minimum 2-inch leg on the interior face of the wall.

For **SI:** 1 inch = 25.4 mm

[1]Weathering of the intumescent coating is beyond the scope of this review.

NO-BURN® PRODUCT APPLICATION CERTIFICATE

LOCATION OF BUILDING:

Address **Lot #** **City** **State** **Zip**

DESCRIPTION AND USE OF BUILDING:

Certified Applicator Name **Company** **Certified Applicator Number**

Moisture Meter Reading (Max % Noted in Tables 4 or 5)	Temp Reading (°F)	Describe Area Treated	Size of Area Treated (Footprint Sq. Ft.)	Product Applied	I-joist (Series, depth, and OC spacing)	Qty. (Wet film thickness and total gallons applied)	Date Applied

Certified Applicator Signature **Date of Service**

FIGURE 2