



**EVALUATION SUBJECT:**  
**NO-BURN® PLUS, PLUS XD, PLUS MIH,  
ORIGINAL, ORIGINAL MIH, WOOD GARD  
AND WOOD GARD MIH.**

**REPORT HOLDER:**

**No-Burn® , Inc.**  
**1392 High Street**  
**Wadsworth, Ohio 44281**  
**(800) 989-8577**  
[www.noburn.com](http://www.noburn.com)

**CSI Division: 09 00 00 FINISHES**  
**CSI Section: 09 96 46 Intumescent Paints**  
**CSI Section: 09 96 43 Fire-Retardant Coatings**

### 1.0 SCOPE OF EVALUATION

#### 1.1 Compliance to the following codes & regulations:

- 2015, 2012, 2009 and 2006 International Building Code® (IBC®)
- 2015, 2012, 2009 and 2006 International Residential Code® (IRC®)
- 2015, 2012, 2009 and 2006 International Existing Building Code® (IEBC®)

#### 1.2 Evaluated in accordance with:

- IAPMO UES EC017, Evaluation Criteria for Field-Applied Fire Protective Coatings
- ICC-ES AC377, Acceptance Criteria for Spray-Applied Foam Plastic Insulation

#### 1.3 Properties assessed:

- Surface burning characteristics
- Interior finishes
- Thermal barrier and alternative thermal barrier
- Alternative ignition barrier
- Fire resistance

### 2.0 PRODUCT USE

No-Burn® coatings comply with the IBC®, IRC® and IEBC® for use in new and existing buildings. Applied to the substrates listed in Tables 1 through 4 of this report, No-Burn® coatings provide the following attributes:

1. Surface-burning characteristics and interior finish in accordance with Section 3.2 of this report.
2. Thermal barrier in accordance with Section 3.3 of this report.
3. Ignition barrier in accordance with Section 3.4 of this report.
4. Fire resistance performance in accordance with Section 3.5 of this report.

### 3.0 PRODUCT DESCRIPTION

#### 3.1 Product information

**3.1.1** No-Burn® Original, No-Burn® Original Mih, No-Burn® Wood Gard and No-Burn® Wood Gard Mih are transparent, water-based liquids, packaged in 5-gallon (18.9 L) pails and 55-gallon (208 L) drums. The coatings have a shelf life of three years when stored in unopened containers between 40°F and 90°F (4.4°C and 32.2°C). No-Burn® Original, No-Burn® Original Mih, No-Burn® Wood Gard and No-Burn® Wood Gard Mih shall be mixed with a power mixing wand or equivalent at or between 500-900 RPM for a mixing time of 10 minutes per container.

**3.1.2** No-Burn® Plus, No-Burn® Plus XD and No-Burn® Plus Mih are white, water-based latex liquids, which exhibit intumescent properties when exposed to high temperatures and flame. Packaging and storage details are as set forth in Section 3.1.1 of this report. No-Burn® Plus, No-Burn® Plus XD and No-Burn® Plus Mih 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.

**3.2 Surface Burning Characteristics:** As listed in Table 1 of this report, No-Burn® Plus, No-Burn® Plus Mih, No-Burn® Original, No-Burn® Original Mih, No-Burn® Wood Gard and No-Burn® Wood Gard Mih provide Class A interior finish when applied to the specified substrates. When tested in accordance with ASTM E84 or UL 723, the listed coatings provide flame spread indices complying with ranges set forth for Class A interior finishes in IBC® Section 803.1 of the 2015, 2012, 2009, and 2006 IBC®.

**3.3 Thermal Barrier and Alternative Thermal Barrier:** As listed in Table 2 of this report, No-Burn® Plus provides thermal barrier protection for walls and ceilings to Structural Insulated Panels (SIPs) with a maximum combined thickness of 12 3/8 inches (314 mm), consisting of a composite of nominal 11 1/2 inches (292 mm) thick expanded polystyrene foam plastic core, (1.0 pcf [16 kg/m³], density) sandwiched between two 7/16 (11 mm) thick oriented strand board (OSB) sheets in accordance with Section 2603.9 of the 2015 IBC®, Section 2603.10 of the 2012 IBC®, Section 2603.4 of the 2009 and 2006 IBC® and Section R316.6 of the 2015 and 2012 IRC®, Section R316.4 of the 2009 IRC® and R314.4 of the 2006 IRC®.

**3.4 Alternative Ignition Barrier:** No-Burn® Plus and No-Burn® Plus XD 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 2015, 2012, 2009 and 2006 IBC® and Sections R316.5.3 and R316.5.4 of the 2015, 2012, 2009 and 2006 IRC®.





As listed in Table 3 of this report, No-Burn<sup>®</sup> Plus XD and ZIP System<sup>®</sup> R-Sheathing may be installed in an attic or crawl space without a prescriptive ignition barrier. ZIP System<sup>®</sup> R-Sheathing (Insulating Sheathing), consists of 7/16 inch (11 mm) thick ZIP System<sup>®</sup> 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<sup>®</sup> 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<sup>3</sup>), compressive strengths of 22 psi (152 kPa) and 20 psi (138 kPa), respectively, vapor permeance of less than 1.1 perm, flame-spread indices of 75 or less and smoke-developed indices of 450 or less. The ZIP System<sup>®</sup> 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 square-finished-edge or machined-edge profile.

No-Burn<sup>®</sup> Plus and No-Burn<sup>®</sup> Plus XD 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 1203.2 of the 2015, 2012, 2009 and 2006 IBC<sup>®</sup> or Section R806 of the 2015, 2012, 2009 and 2006 IRC<sup>®</sup>, except when air impermeable insulation is permitted in unvented attics in accordance with Section R806.5 of the 2015 and 2012 IRC<sup>®</sup>, Section R806.4 of the 2009 and 2006 IRC<sup>®</sup>, Under-floor (crawl space) ventilation is provided, when required, by Section 1203.4 of the 2015 IBC<sup>®</sup>, Section 1203.3 of the 2012, 2009 and 2006 IBC<sup>®</sup> or Section R408.1 of the 2015, 2012, 2009 and 2006 IRC<sup>®</sup>, 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 2015, 2012 and 2009 IMC<sup>®</sup>, or Section 701 and 703 of the 2006 IMC<sup>®</sup>.

**3.5 Fire Resistance:** When tested in accordance with ASTM E119, Tests of a Floor assembly, No-Burn<sup>®</sup> 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 2015 IRC<sup>®</sup> and

Section R501.3, Exception 4 of the 2012 IRC<sup>®</sup>. 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 2015 IRC or 8d nails or fasteners in accordance with the 2012, 2009 and 2006 IRC, 23/32" tongue and groove oriented strand board subfloor affixed with 8d common nails or fasteners in accordance with Table R602.3 (1).

## 4.0 DESIGN AND INSTALLATION

**4.1 General:** The coatings shall be field-applied to substrates in accordance with this report and the No-Burn<sup>®</sup>, Inc. published instructions, by applicators qualified by No-Burn<sup>®</sup>, Inc., for these tasks. Copies of this report and the No-Burn<sup>®</sup>, Inc. instructions shall be available at the jobsite. Where conflicts occur, the more restrictive shall govern. Before and during coating 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, coatings, etc.

Visual observation of the applied coatings varies. Opaque coatings will result in a distinctive white color. Transparent coatings 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 coatings is required by the code 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 coating shall be observable through the comparison of the reactions of the coated and uncoated substrates to the flame.

The coatings shall be applied only to the specific substrates listed in Tables 1 through 4 of this report. Immediately before placing the coatings, the applicator shall verify the moisture content of the substrates, as applicable, in accordance with Table 1, Table 2 or Table 4 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 coatings shall be applied at an application rate set forth in Table 1, Table 2, Table 3 or Table 4 of this report by spraying, roller or brush. 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<sup>2</sup> (9.29 m<sup>2</sup>) of surface area.



**4.2 Design: No-Burn® Plus, No-Burn® Plus XD, No-Burn® Plus Mih, No-Burn® Original, No-Burn® Original Mih, No-Burn® Wood Gard and No-Burn® Wood Gard Mih** shall be applied in one coat. No-Burn® Plus, after fully curing, may be overcoated by as many as seven coats of latex paint with a pH of 7 to 8 to the substrates listed in Table 1 of this report.

### 5.0 LIMITATIONS

The No-Burn® coatings 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 coatings 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 4 of this report.

**5.3** The coatings shall not be over-coated with any material, except for No-Burn® Plus, in accordance with Section 4.2, which may be over-coated by up to seven coats of latex paint with a pH of 7 to 8.

**5.4** When coatings are applied in accordance with Section 3.5 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 10,000feet<sup>2</sup> (929.03 m<sup>2</sup>) of floor area.

**5.5** An installation certificate as shown in Figure 2 of this report shall be completed by the applicator and submitted to the code official and No-Burn®, Inc.

**5.6** No-Burn® coatings 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 or Table 4 of this report.

**5.7** When coatings are applied in accordance with Section 3.5 of this report for Fire Resistance, the coatings shall be applied prior to installation of mechanical, electrical and plumbing components.

**5.8** Other inspections may be required when determined to be necessary by the code official in accordance with Section R109.1.5 of the 2015, 2012, 2009 and 2006 IRC®. Special inspection shall be required when determined to be necessary by the code official in accordance with Section 1705.1.1 of the 2015 and 2012 IBC® or Section 1704.15 of the 2009 IBC® or 1704.13 of the 2006 IBC®. A statement

of special inspection in accordance with Section 1704.2.3 of the 2015 and 2012 IBC® or 1705 of the 2009 or 2006 IBC® shall be submitted.

**5.9** The coatings are manufactured in Sandusky, Ohio, under a quality control program with inspections by Intertek Testing Services NA Ltd. (AA-647).

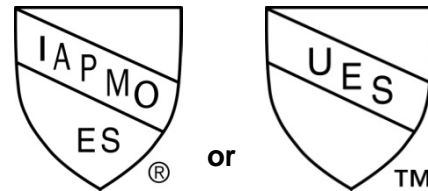
### 6.0 SUBSTANTIATING DATA

Data in accordance with the IAPMO UES Evaluation Criteria for Field-Applied Fire Protective Coatings (EC017) adopted February 2014 (editorially revised March 2015).

Data in accordance with ICC-ES AC377 Acceptance Criteria for Spray-Applied Foam Plastic Insulation

### 7.0 IDENTIFICATION

Containers of the coatings 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 (Intertek Testing Services NA Ltd.) and the IAPMO Uniform ES Mark of Conformity; and the Evaluation Report Number (ER-305) to identify the products recognized in this report. A die-stamp label may also substitute for the label. Either Mark of Conformity may be used as shown below:



**IAPMO ER #305**

*Brian Gerber*

**Brian Gerber, P.E., S.E.  
Vice President, Technical Operations  
Uniform Evaluation Service**

*Richard Beck*

**Richard Beck, PE, CBO, MCP  
Vice President, Uniform Evaluation Service**

*Russ Chaney*  
**GP Russ Chaney**

**CEO, The IAPMO Group**

For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email at [info@uniform-es.org](mailto:info@uniform-es.org)



SUBSTRATE	MAX MOISTURE CONTENT	TABLE 1 - CLASS A INTERIOR FINISH					
		NO-BURN® PRODUCT NAME					
		Plus <sup>2</sup>	Plus Mih	Original	Original Mih	Wood Gard	Wood Gard Mih
Douglas Fir	19%	6 mils wet (4 mils dry) 275 sq. ft. per gallon	6 mils wet (4 mils dry) 275 sq. ft. per gallon	5 mils wet (2 mils dry) 300 sq. ft. per gallon	NR	5 mils wet (3 mils dry) 300 sq. ft. per gallon	5 mils wet (3 mils dry) 300 sq. ft. per gallon
Red Oak	19%	6 mils wet (4 mils dry) 275 sq. ft. per gallon	NR	NR	NR	NR	NR
Oriented Strand Board	16%	8 mils wet (5 mils dry) 200 sq. ft. per gallon	NR	5 mils wet (2 mils dry) 300 sq. ft. per gallon	NR	NR	5 mils wet (3 mils dry) 300 sq. ft. per gallon
Southern Yellow Pine	19%	NR	NR	NR	5 mils wet (2 mils dry) 300 sq. ft. per gallon	NR	NR

<sup>1</sup>NR = Not Recognized

<sup>2</sup>Coating may be overcoated with up to seven coats of latex paint

SUBSTRATE	MAX MOISTURE CONTENT	TABLE 2 - THERMAL BARRIER AND ALTERNATIVE THERMAL BARRIER	
		NO-BURN® PRODUCT NAME	
		Plus	
Structural Insulated Panel (SIPs)	16%	12 mils wet (7 mils dry) 134 sq. ft. per gallon	

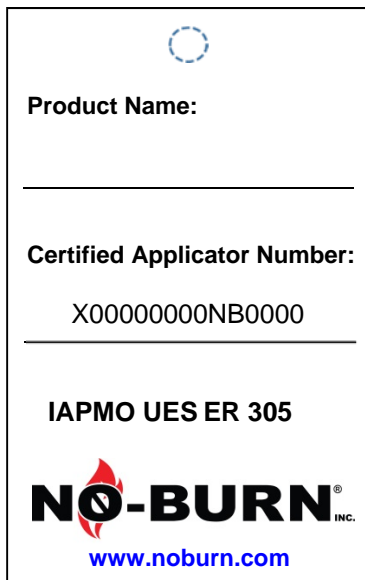
TABLE 3 - ALTERNATIVE IGNITION BARRIER							
SUBSTRATE	MAXIMUM THICKNESS (in) Wall Cavities & Attic Floors	MAXIMUM THICKNESS (in) Underside of Roof Sheathing/Rafters & Floors	NO-BURN® PRODUCT NAME	SUBSTRATE	MAXIMUM THICKNESS (in) Wall Cavities & Attic Floors	MAXIMUM THICKNESS (in) Underside of Roof Sheathing/Rafters & Floors	NO-BURN® PRODUCT NAME
			Plus XD				Plus
BASF ENERTITE® NM Open Cell Spray Foam	11 1/4	16	6 mils wet (4 mils dry) 267 sq. ft. per gallon	BASF ENERTITE® US Open Cell Spray Foam	11 1/4	11 1/4	12 mils wet (7 mils dry) 134 sq. ft. per gallon
BASF SPRAYTITE® 158 and 81205 Closed Cell Spray Foam	8	8	6 mils wet (4 mils dry) 267 sq. ft. per gallon	BASF SPRAYTITE® 178 and 81206 Closed Cell Spray Foam	9 1/4	11 1/4	12 mils wet (7 mils dry) 134 sq. ft. per gallon
BASF SPRAYTITE® SP Closed Cell Spray Foam	8	8	6 mils wet (4 mils dry) 267 sq. ft. per gallon	BASF WALLTITE® US Closed Cell Spray Foam	9 1/4	11 1/4	12 mils wet (7 mils dry) 134 sq. ft. per gallon
Covestro Bayseal™ OC Open Cell Spray Foam	11 1/4	16	6 mils wet (4 mils dry) 267 sq. ft. per gallon	BASF WALLTITE® US-N Closed Cell Spray Foam	9 1/4	11 1/4	12 mils wet (7 mils dry) 134 sq. ft. per gallon
Convenience Touch 'n Seal® 2.0 PCF Closed Cell Spray Foam	2	2	8 mils wet (5 mils dry) 200 sq. ft. per gallon	BASF WALLTITE® HP+ Closed Cell Spray Foam	9 1/4	11 1/4	12 mils wet (7 mils dry) 134 sq. ft. per gallon
Demilec SEALECTION® 500 Open Cell Spray Foam	9 1/4	11 1/4	6 mils wet (4 mils dry) 267 sq. ft. per gallon	BASF COMFORT FOAM® 178 Closed Cell Spray Foam	9 1/4	11 1/4	12 mils wet (7 mils dry) 134 sq. ft. per gallon
Demilec SEALECTION Agribalance® Open Cell Spray Foam	9 1/2	11 1/2	10 mils wet (6 mils dry) 160 sq. ft. per gallon	Icnene MD-C-200 Closed Cell Spray Foam	11 1/4	11 1/4	16 mils wet (10 mils dry) 100 sq. ft. per gallon
ICP Handi-Foam® E-84 Class 1(A) Closed Cell Spray Foam	2	2	10 mils wet (6 mils dry) 160 sq. ft. per gallon				
Huber ZIP System® R-Sheathing Panel (R-3 & R-6)	N/A	N/A	10 mils wet (6 mils dry) 160 sq. ft. per gallon				
Icnene Classic (LD-C-50™) Open Cell Spray Foam	5 1/2	14	6 mils wet (4 mils dry) 267 sq. ft. per gallon				
Icnene Classic Max Open Cell Spray Foam	5 1/2	14	6 mils wet (4 mils dry) 267 sq. ft. per gallon				
Icnene Classic Max Select Open Cell Spray Foam	5 1/2	14	6 mils wet (4 mils dry) 267 sq. ft. per gallon				
Icnene Classic Plus (LD-C-70™) Open Cell Spray Foam	8	14	6 mils wet (4 mils dry) 267 sq. ft. per gallon				
Icnene ProSeal Eco (MD-R-200) Closed Cell Spray Foam	7 1/4	9 1/4	5 mils wet (3 mils dry) 320 sq. ft. per gallon				
Tiger Foam® E-84 Fire Rated SPF Class 1 Spray Foam	2	2	10 mils wet (6 mils dry) 160 sq. ft. per gallon				

TABLE 4 - FIRE RESISTANCE								
SUBSTRATE	MAX MOISTURE CONTENT	MINIMUM DESIGN VALUES						NO-BURN® PRODUCT NAME
		Depth (in)	Web Thickness (in)	Flange Depth x Width (in)	Moment (ft-lbs)	EI x 10 <sup>6</sup> (in <sup>2</sup> -lbs)	Vertical Shear (lbs)	Plus
I-joint: solid sawn flange	16%	9 1/2	3/8	1.5 x 2	2725	170	1475	15 mils wet (9 mils dry) 107 sq. ft. per gallon
I-joint: structural composite lumber flange	16%	9 1/2	3/8	1.125 x 2	2725	170	1475	15 mils wet (9 mils dry) 107 sq. ft. per gallon
I-joint: 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





**NO-BURN® INSTALLATION LABEL**

The image shows a rectangular installation label for NO-BURN. At the top center is a dashed blue circle. Below it, the text 'Product Name:' is followed by a horizontal line. Further down, 'Certified Applicator Number:' is followed by the alphanumeric string 'X00000000NB0000' and another horizontal line. Below that is the text 'IAPMO UES ER 305'. At the bottom is the NO-BURN logo, which consists of the words 'NO-BURN' in a bold, black, sans-serif font with a red flame icon above the 'O' in 'BURN', and 'INC.' in a smaller font to the right. Below the logo is the website address 'www.noburn.com' in blue text.

**Figure 1**



### NO-BURN® PRODUCT APPLICATION CERTIFICATE

#### LOCATION OF BUILDING:

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<b>Address</b>	<b>Lot #</b>	<b>City</b>	<b>State</b>	<b>Zip</b>
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#### DESCRIPTION AND USE OF BUILDING:

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<b>Certified Applicator Name</b>	<b>Company</b>	<b>Certified Applicator Number</b>
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Describe Area Treated	Size of Area Treated (Surface Area SqFt)	Product Applied	Substrate (Noted in Tables 1, 2, 3 or 4)	Qty. (Application Rate)	Date Applied

Certified Applicator Signature

Date of Service

Figure 2