



# PRI Construction Materials Technologies LLC

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## Laboratory Test Report

**Report for:** Matt Ashley  
A&E Metal Roofing Supply South & Echols Metal LLC  
230 Lee Road 430  
Smith Station, AL 36877

**Product Name(s):** LOW RIB

**Project No.:** 2264T0009

**Date(s) Tested:** April 8<sup>th</sup> – 17<sup>th</sup>, 2020

**Test Methods:** ASTM E 108-11, -17

**Results Summary:** Class B Intermittent Flame: Pass  
Class B Burning Brand: Pass  
Class B Spread of Flame: Pass

**Purpose:** Evaluate Spread of Flame characteristic in accordance with **ASTM E108: Standard Test Methods for Fire Tests of Roof Coverings**, Class B.

**Test Methods:** Spread of Flame Testing was conducted in accordance with **ASTM E108: Standard Test Methods for Fire Tests of Roof Covering**. Test parameters were set to evaluate Class B assemblies over non-combustible decks. All tests were conducted at a slope of 5:12.

**Sampling:** The following materials were received by PRI.

<u>Product</u>	<u>Source</u>	<u>Date</u>	<u>Sampling</u>
29ga. LOW RIB panel	Smith Station, AL	Mar. 6, 2020	A&E Metal
#10-16 x 1.5" HWH screws	Smith Station, AL	Mar. 6, 2020	A&E Metal

All other materials were procured through local sources of distribution.

**Calibration:** Two-minute average readings taken during calibration were as follows:

Date	Air Velocity (mph)			Average Flame Temperature (°F)
	Edge	Center	Edge	
04/08/2020	12.0	12.1	12.1	1,405
04/10/2020	11.8	12.2	12.2	N/A

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**Samples:** Samples were prepared for testing using the following installation details and in accordance with the manufacturer’s installation instructions:

Sample 1

**Roof Cover:** 29ga. Low Rib attached with #10-16 x1.5” HWH wood screws with sealing washers installed 24” o.c. using a 9”-9”-9”-9”” screw pattern across the width of the panel. See Appendix B for fastening pattern.

**Underlayment:** ASTM D226 Type II underlayment

**Deck:** 3/8” thick, AC Plywood

**Results:** Test parameters were set to evaluate Class B assemblies over non-combustible decks. All. All tests were conducted at a test slope of 5:12.

Physical Properties	Results						Requirement
ASTM E108	Specimen 1	Specimen 2	Specimen 3	Specimen 4	Specimen 5	Specimen 6	
Class A Intermittent Flame [Pass/Fail]	Pass	Pass					Pass
Class A Burning Brand [Pass/Fail]	Pass	Fail	Pass	Pass	Pass	Pass	Pass
Class A Spread of Flame [Pass/Fail]	Pass	Pass					Pass

Notes: NT = “Not Tested”

**Classification:** The assembly described herein has met the requirements for Class B at 5:12 slope or over min. 3/8” thick, AC plywood deck.

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**Statement of Attestation:** Spread of Flame was conducted in accordance with **ASTM E108: Standard Test Methods for Fire Tests of Roof Coverings**, Class B. The laboratory test results presented in this report are representative of the materials supplied.

Signed:

  
\_\_\_\_\_  
Zachary Priest, P.E.  
Director

**Report Issue History:**

Issue #	Date	Pages	Revision Description (if applicable)
Original	5/4/2020	9	NA

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**Intermittent Flame – Specimen 1**

**Test Type:** Intermittent Flame      **Deck #:** 1      **Plywood % MC:** 9  
**Class:** A      **Deck Slope:** 5:12      **Framing % MC:** 9  
**Char Depth:** N.A.

<b>Object:</b>	<b>Time:</b>			
	<b>Minutes:</b>	<b>Seconds:</b>	<b>Cycle:</b>	<b>Flame(On/Off):</b>
Ignition	0	17	0	0
Test Terminated	0	17	0	0

**Intermittent Flame – Specimen 2**

**Test Type:** Intermittent Flame      **Deck #:** 2      **Plywood % MC:** 9  
**Class:** A      **Deck Slope:** 5:12      **Framing % MC:** 9  
**Char Depth:** N.A.

<b>Object:</b>	<b>Time:</b>			
	<b>Minutes:</b>	<b>Seconds:</b>	<b>Cycle:</b>	<b>Flame(On/Off):</b>
Ignition	1	52	0	0
Test Terminated	1	52	0	0

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### Burning Brand – Specimen 1

**Test Type:** Burning Brand  
**Class:** B  
**Brand #:** 22, 23  
**Brand Weight:** 551.6, 548.8

**Deck #:** 1  
**Deck Slope:** 5:12  
**Char Depth:** N.A.

**Plywood % MC:** 8  
**Framing % MC:** 9

Object:	Time:	
	Minutes:	Seconds:
Smoke on Underside	2	2
Discoloration Underside at Plywood Joint	2	9
Glow on Underside	3	13
Brand 25% Consumed	3	40
Brand 50% Consumed	3	51
Brand 75% Consumed	4	35
Brand 100% Consumed	8	19
Glow on Underside No Longer Visible	25	28
Test Terminated	30	5

### Burning Brand – Specimen 2

**Test Type:** Burning Brand  
**Class:** B  
**Brand #:** 25, 26  
**Brand Weight:** 540.5, 530.0

**Deck #:** 2  
**Deck Slope:** 5:12  
**Char Depth:** N.A.

**Plywood % MC:** 8  
**Framing % MC:** 8

Object:	Time:	
	Minutes:	Seconds:
Smoke on Underside	1	22
Discoloration Underside at Plywood Joint	1	48
Glow on Underside	2	45
Brand 25% Consumed	2	48
Brand 100% Consumed	7	3
Flames on Underside (sustained)	9	53
Test Terminated	10	11

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### Burning Brand – Specimen 3

**Test Type:** Burning Brand  
**Class:** B  
**Brand #:** 24, 31  
**Brand Weight:** 533.4, 524.0

**Deck #:** 3  
**Deck Slope:** 5:12  
**Char Depth:** N.A.

**Plywood % MC:** 8  
**Framing % MC:** 9

Object:	Time:	
	Minutes:	Seconds:
Smoke on Underside	1	34
Brand 25% Consumed	3	55
Discoloration Underside at Plywood Joint	3	58
Brand 50% Consumed	4	0
Brand 75% Consumed	4	14
Brand 100% Consumed	7	53
Glow on Underside	7	59
Glow on Underside No Longer Visible	9	46
Test Terminated	13	47

### Burning Brand – Specimen 4

**Test Type:** Burning Brand  
**Class:** B  
**Brand #:** 32, 33  
**Brand Weight:** 527.2, 525.5

**Deck #:** 4  
**Deck Slope:** 5:12  
**Char Depth:** N.A.

**Plywood % MC:** 8  
**Framing % MC:** 9

Object:	Time:	
	Minutes:	Seconds:
Smoke on Underside	1	1
Discoloration Underside at Plywood Joint	2	24
Brand 25% Consumed	2	39
Brand 50% Consumed	3	11
Brand 75% Consumed	3	45
Glow on Underside	4	20
Glow on Underside No Longer Visible	6	31
Brand 100% Consumed	6	33
Glow on Underside	8	13
Glow on Underside No Longer Visible	15	42
Test Terminated	21	47

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**Burning Brand – Specimen 5**

**Test Type:** Burning Brand  
**Class:** B  
**Brand #:** 34, 35  
**Brand Weight:** 527.0, 527.5

**Deck #:** 5  
**Deck Slope:** 5:12  
**Char Depth:** N.A.

**Plywood % MC:** 8  
**Framing % MC:** 8

<b>Object:</b>	<b>Time:</b>	
	<b>Minutes:</b>	<b>Seconds:</b>
Smoke on Underside	1	40
Discoloration Underside at Plywood Joint	2	42
Brand 25% Consumed	2	45
Brand 50% Consumed	3	23
Brand 75% Consumed	4	8
Brand 100% Consumed	7	37
Glow on Underside	10	23
Glow on Underside No Longer Visible	13	56
Test Terminated	23	35

**Burning Brand – Specimen 6**

**Test Type:** Burning Brand  
**Class:** B  
**Brand #:** 667, 668  
**Brand Weight:** 532.9, 529.4

**Deck #:** 6  
**Deck Slope:** 5:12  
**Char Depth:** N.A.

**Plywood % MC:** 8  
**Framing % MC:** 8

<b>Object:</b>	<b>Time:</b>	
	<b>Minutes:</b>	<b>Seconds:</b>
Smoke on Underside	1	22
Discoloration Underside at Plywood Joint	2	40
Brand 25% Consumed	2	58
Brand 50% Consumed	3	13
Glow on Underside	3	50
Brand 75% Consumed	4	1
Flames on Underside (un-sustained)	6	30
Brand 100% Consumed	7	44
Glow on Underside No Longer Visible	17	28
Test Terminated	21	9

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**Spread of Flame – Specimen 1**

**Test Type:** Spread of Flame  
**Class:** A  
**Char Depth:** N.A.

**Deck #:** 1  
**Deck Slope:** 5:12  
**Max Spread:** N.A.

**Plywood % MC:** 9  
**Framing % MC:** 9

<b>Object:</b>	<b>Time:</b>	
	<b>Minutes:</b>	<b>Seconds:</b>
Ignition	8	18
Panel buckling (smoke on underside)	8	18
Test Terminated	10	0

**Spread of Flame – Specimen 2**

**Test Type:** Spread of Flame  
**Class:** A  
**Char Depth:** N.A.

**Deck #:** 2  
**Deck Slope:** 5:12  
**Max Spread:** N.A.

**Plywood % MC:** 9  
**Framing % MC:** 9

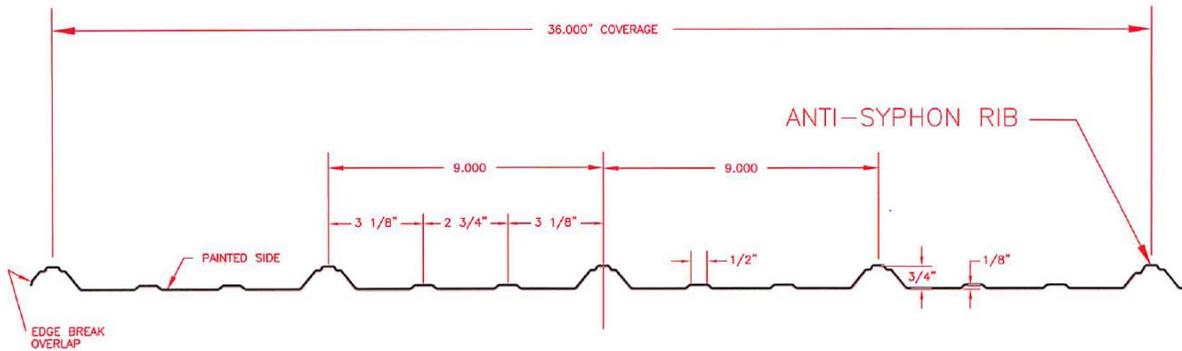
<b>Object:</b>	<b>Time:</b>	
	<b>Minutes:</b>	<b>Seconds:</b>
Ignition	5	33
Panel Buckling (left side)	5	33
Smoke on Underside	7	21
Test Terminated	10	0

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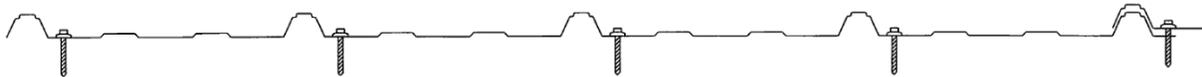
### LOW RIB – Dimensions

#### Low Rib Panel



### LOW RIB – Fastener Pattern

#### Specimen #1 (9"-9"-9"-9")



END OF REPORT

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