



PRI Construction Materials Technologies LLC

6412 Badger Drive
Tampa, FL 33610
813.621.5777
<https://www.pri-group.com/>

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: R-PANEL

Project No.: 2264T0004

Dates Tested: Mar. 18th – Apr. 7th, 2020

Test Methods: UL 2218 (2010)

Results Summary: Compliant: UL 2218 Impact Resistance – Class 4

Purpose: Determine the impact resistance of the identified product in accordance with **UL 2218 (2010) Standard for Impact Resistance of Prepared Roof Covering Materials.**

Test Methods: Testing was conducted in accordance with standard test methods.

<u>Test Method</u>	<u>Title</u>	<u>Year</u>
UL 2218	Standard for Impact Resistance of Prepared Roof Covering Materials.	2010

Sampling: The following materials were received by PRI.

<u>Product</u>	<u>Source</u>	<u>Date</u>	<u>Sampling</u>
26ga. R-PANEL 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

Product Description: R-PANEL: 26ga., ASTM A 792 AZ55, Grade 80 steel, through fastened rib panel; 1.15" rib; 36" coverage; Panel drawing shown in Appendix A.

#10-16 x 1.5" HWH: #10-16 x 1" HWH wood screws with 0.5" O.D. sealing washers

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Specimen Description: Panel: 26ga. R-Panel attached with #10-16 x1.5" HWH wood screws with sealing washers installed 24" o.c. using a 12"-12"-12" screw pattern across the width of the panel. The perimeter of the deck was attached using the a 3"-9"-3"-9"-3"-9" pattern at each of the panel ends, and 6" o.c. along the panel length. Panel side laps with stitched 24" o.c. with #14-14 x 7/8" HWH screws with sealing washers. Fastening Pattern in Appendix A.

Underlayment: ASTM D 226 Type II felt installed with minimum 4" side-lap and 6" end-laps and fastened using 12 ga., 1-1/4" ring shank nails and 32 ga., 1-5/8" tin caps spaced 6" o.c. along the laps and two staggered rows 12" o.c. in the field of the roll.

Deck: CAT 15/32 PS 1-09, APA span rated CDX plywood sheathing installed over No. 2 lumber supports spaced 24" o.c. Decking attached with 0.113" x 2-3/8" ring shank nails spaced 6" o.c. along the perimeter and intermediate supports.

Results:

Physical Properties	Test Method	Results		Requirement
		Depression (in)	Result [Pass/Fail]	
Hail Impact Resistance <i>[Pass/Fail]</i> 2 specimens; 26ga. R-Panel; 3ft x 3ft test deck Class 4; 2.00±0.01in steel ball ø 1.15±0.04lb steel ball mass 20.0ft steel ball drop 23.71ft-lb impact kinetic energy 2 drops per impact location 6 impact locations	UL 2218 Class 4			
	Mid-span, rib	0.3663	Pass	Report
	Mid pan	0.0445	Pass	
	Adjacent to fastener	0.0390	Pass	
	Mid sidelap	0.0904	Pass	
	Mid-span of plywood	0.0303	Pass	
	Over framing	0.0313	Pass	
	Over fastener	0.0158	Pass	

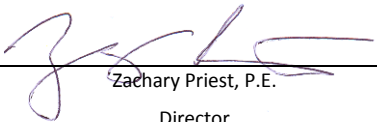
Notes: None

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Statement of Attestation:

The results of testing were determined in accordance with and UL 2218 (2010) *Standard for Impact Resistance of Prepared Roof Covering Materials*. The laboratory test results presented in this report are representative of the material supplied.

Signed: 

Zachary Priest, P.E.
Director

Report Issue History:

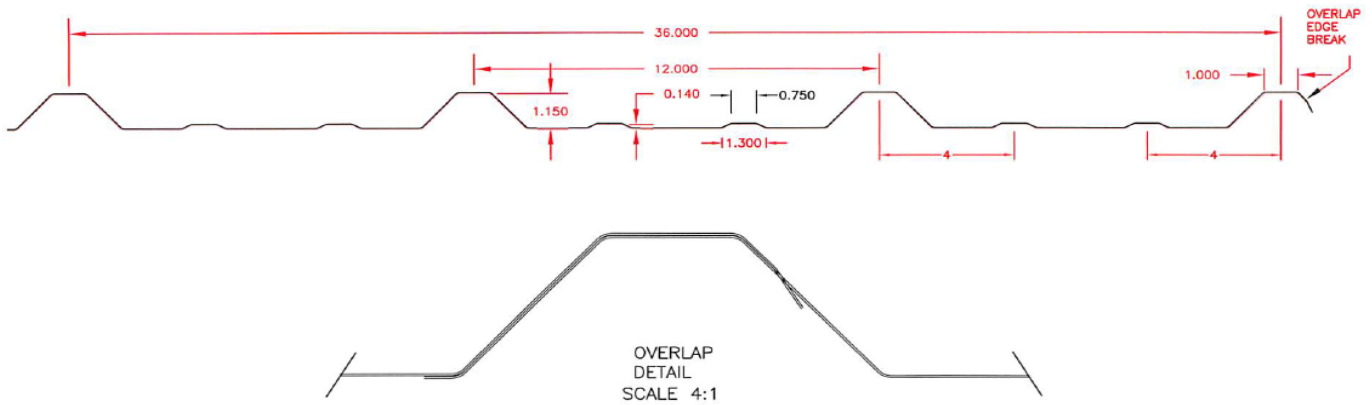
Issue #	Date	Pages	Revision Description (if applicable)
Original	05/01/2020	4	NA

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R-PANEL – Dimensions

R-PANEL
STRIP WIDTH = 43"

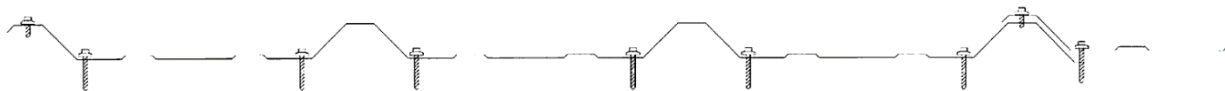


R-PANEL – Fastening Pattern

12"-12"-12"



3"-9"-3"-9"-3"-9"



END OF REPORT

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