

ICC-ES TEST REPORT

ASTM E84-24

RENDERED TO: Alumanate LLC
842 Buschong Street
Houston, TX 77039

PRODUCT: AMERACORE FR Metal Composite Panels

Report No.: ALAB021425-68
Test Date(s): 12/04/2025
Report Date: 12/05/2025
Pages: 12

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1.0 General Information

1.1 Product

AMERACORE FR Metal Composite Panels

1.2 Project Summary

ICC-ES was contracted by Alumanate LLC to evaluate AMERACORE FR Metal Composite Panels in accordance with ASTM E84-24. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at ICC-ES's facility in Bryan, TX.

1.3 Product Description

ASTM E84-24

Product Name:	AMERACORE FR Metal Composite Panels
Product type:	Composite Panel
Product Use:	Exterior or Interior
Model Name/Sample Number:	Sample 1 Sample Project (Fabrication Project): ALAB061325-62
Sample Description:	(3) 4mm x 24-in x 96-in
Color:	White
Sample Length:	288-in
Sample Width:	24-in
Thickness:	4mm
Total Weight:	84.3 lbs.
Sample Received Date:	10/10/2025
Days in Conditioning:	14

1.4 Qualifications

ICC-ES in Bryan, TX has demonstrated compliance with ISO/IEC 17025 and is consequently accredited as a Testing Laboratory. ICC-ES is accredited to perform all testing reported herein.

1.5 Product Sampling

Dale Arter, a representative of ICC-ES visited Alumanate LLC's facility located in Rogers, Minnesota on 7/8/2025 and selected the materials for the testing reported herein. All test specimens were supplied by Alumanate LLC. See photograph in Appendix B for typical sampling mark.

Sample Project (Fabrication Project): ALAB061325-62

1.6 Witnessing

No representative of Alumanate LLC witnessed the testing reported herein.

1.7 Conditions of Testing

Unless otherwise indicated, all testing reported herein was conducted in a laboratory set to maintain temperature in the range of 65-80°F and humidity in the range of 45-60% RH. All test specimen materials were stored in the laboratory conditioning room of $73.4 \pm 5^\circ\text{F}$ and at a relative humidity of $50 \pm 5\%$ environment for no less than 24 hours prior to testing. The test specimens were conditioned for **14** days and obtained steady state.

2.0 Referenced Standards

ASTM E84-24 Standard Test Method for Surface Burning Characteristics of Building Materials.

3.0 Summary of Results

Flame Spread Index – 0

Smoke Developed Index – 5

3.1 General

This fire-test–response standard for the comparative surface burning behavior of building materials is applicable to exposed surfaces such as walls and ceilings. This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire-hazard or fire-risk assessment of the materials, products, or assemblies under actual fire conditions.

3.2 Test Specimens

The samples submitted by the manufacturer were identified as AMERACORE FR Metal Composite Panels and supplied in the form of (3) 4mm x 24-in x 96-in. They were received without damage.

3.3 Test Setup and Procedure

The product(s) were set up and evaluated in accordance with ASTM E84-24.

Substrate Used:	N/A
Mounting Method:	Standard
Support Used:	N/A
Side Exposed:	White Side
Adhesive Used & Coverage Rate (if Applicable):	N/A
Cement Board Used to Cover Sample (Y/N):	Yes
Sample Continuous or Sectioned:	Sectioned
No. & Size of Sections:	(3) 4mm x 24-in x 96-in
Lab Ambient Temp (°F):	70
Lab Ambient RH (%):	42
Date Tested:	12/4/2025

3.4 Equipment

Calibrated Equipment			
<u>DESCRTIPTION:</u>	<u>ASSET #:</u>	<u>Accuracy</u>	<u>CALIBRATION DUE:</u>
23-FT/7000-M Air Thermocouple	02671	±1.1°C	5/17/2026
13-ft Floor Thermocouple	02533	±1.1°C	5/17/2026
Thermocouple DAQ	02496 & 02497	±2.0°C	2/22/2026
Tunnel Static Pressure	02530	±0.005-in. H2O	5/09/2026
Orifice Plate Pressure	02498	±0.05-in H2O	5/09/2026
Thermostat/Humidity Sensor	02420	N/A	1/16/2026
23 ¼-ft Floor Thermocouple	02532	±1.1°C	5/17/2026

3.5 Test Results

TEST DATA

Time to Ignition (mm/ss):	00:00
Maximum Flame Spread (ft):	0.000
Time to Max Flame Spread (mm/ss):	00:00
Maximum Temperature (°F):	538
Time to Max Temperature (mm/ss):	09:15
Total Fuel Burned (cubic feet):	43.240
Flame Spread*Time Area (ft*min):	0.000
Smoke Area (%A*min):	2.434
Unrounded FSI:	0.000
Unrounded SDI:	3.774

TEST OBSERVATIONS

00:38	Observed discoloration
00:50	Observed warping on metal
02:33	Observed flaking and blistering
02:54	Observed falling debris
04:00	Observed falling debris increase
06:00	Observed sagging and warping increase

POST-TEST OBSERVATIONS

0 – 8 ft	Section was discolored and warped
8 – 16 ft	Section was barely discolored
16 – 24 ft	Section had no change

Analysis on Classification Criteria

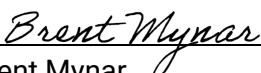
Based on Flame Spread Index and Smoke Developed Index when tested in accordance with ASTM E84 or UL 723. Three classes of interior finish are specified by the International Building Code (IBC) that describes a set of classification criteria required for interior wall and ceiling finish materials. The classification criteria for all three model codes is the same: ASTM E84 and UL 723 do not include classification criteria for the results obtained from testing.

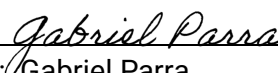
Class	Flame Spread Index	Smoke Developed Index
A	0-25	0-450
B	26-75	0-450
C	76-200	0-450

4.0 Closing Statement

This report contains only findings and results arrived at after employing the specific test procedures listed herein. It does not constitute a recommendation for endorsement of, or certification of the product or material tested. Unless differently required, ICC-ES reports apply the "Simple Acceptance" rule, also called "Shared Risk approach", of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity. ICC-ES makes no warranty, expressed or implied, except that the test has been performed, and a report prepared, based upon the specimen specified by the client. Extrapolation of data, from the test data provided herein, to the batch or lot from which the specimens were obtained may not correlate and should be interpreted with extreme caution. ICC-ES assumes no responsibility for variations in quality, composition, appearance, performance, or other features of similar materials produced by the client, other persons, or under conditions over which ICC-ES has no control. ICC-ES has issued this report for the exclusive use of the client to whom it is addressed. Any use or duplication of this report shall not be made without their consent. This report shall only be reproduced in its entirety.

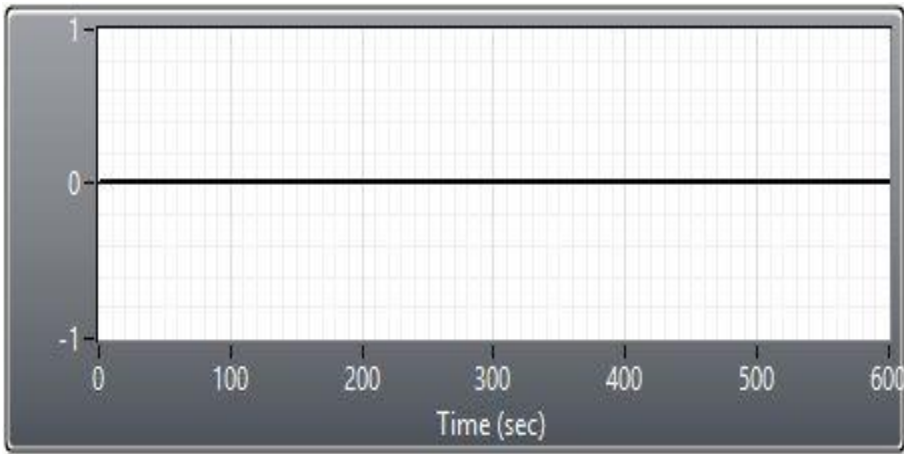
For ICC-ES, LLC:


Tested by: Brent Mynar 12/05/2025
Project Manager

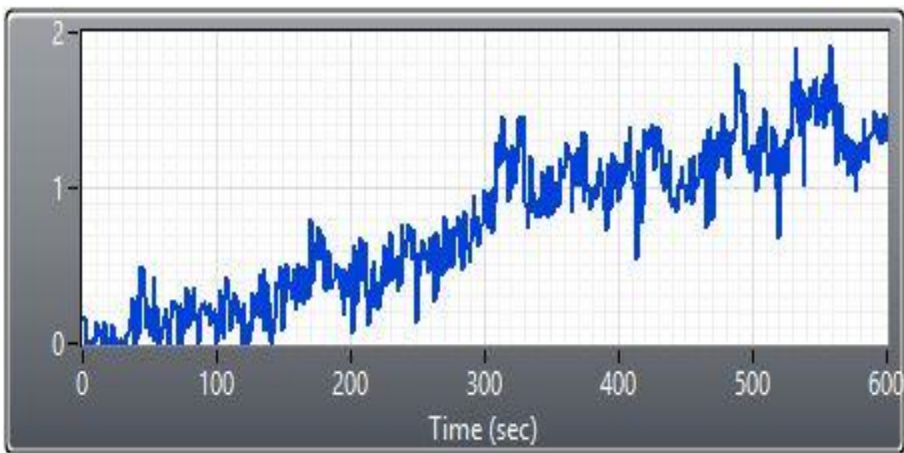

Reviewed by: Gabriel Parra 12/05/2025
Project Engineer

Appendix A - Data

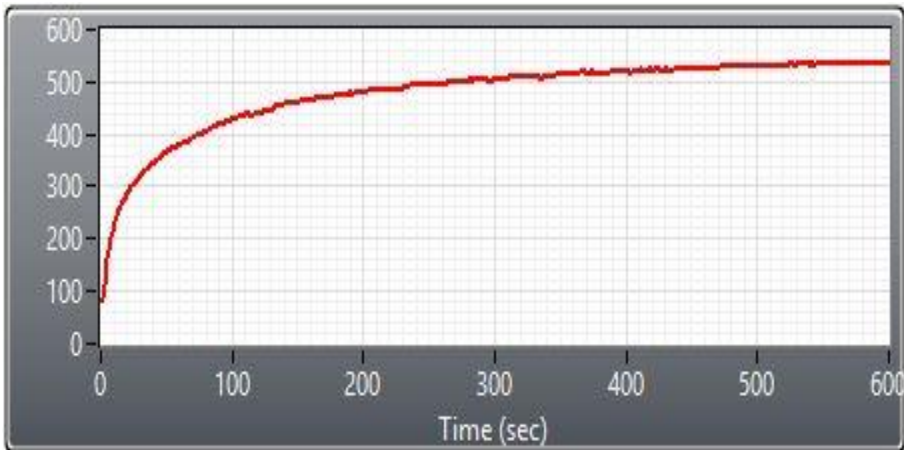
FLAME SPREAD



SMOKE (%A)



TEMPERATURE



Appendix B - Photographs

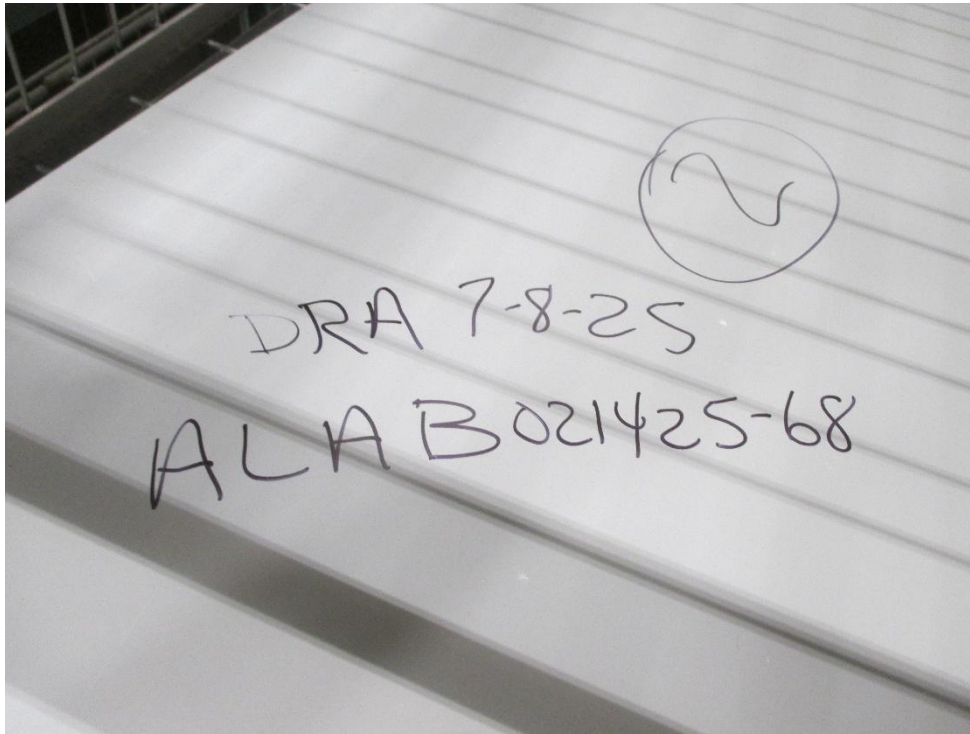


Photo No. 1
Sample Marking



Photo No. 2
Pre-Test Exposed Side



Photo No. 3
Pre-Test Unexposed Side



Photo No. 4
Post-Test Unexposed Side



Photo No.5
Post-Test Exposed Side (First Section)



Photo No.6
Post-Test Exposed Side (Middle Section)



Photo No.7
Post-Test Exposed Side (Last Section)

Appendix C - Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	12/05/2025	N/A	Original report issue