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ARCONIC ARCHITECTURAL PRODUCTS
FIRE TEST REPORT

SCOPE OF WORK
ASTM E84 TESTING ON REYNOBOND 6MM PANELS RB240FR – CORE 08

REPORT NUMBER
I4214.07-121-24

TEST DATE
08/11/18

ISSUE DATE
08/17/18

RECORD RETENTION END DATE
08/11/22

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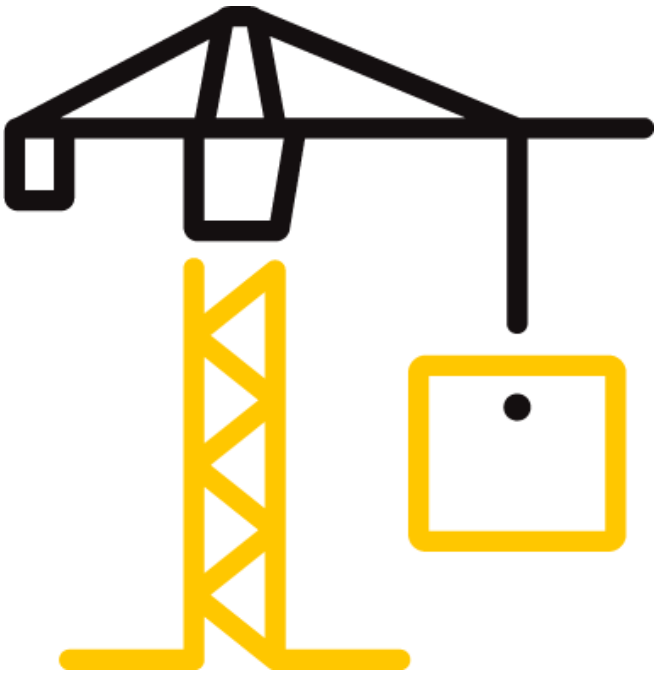

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TEST REPORT FOR ARCONIC ARCHITECTURAL PRODUCTS

Report No.: I4214.07-121-24
Date: 08/17/18

REPORT ISSUED TO

ARCONIC ARCHITECTURAL PRODUCTS
50 Industrial Boulevard
Eastman, Georgia 31023

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Arconic Architectural Products, Eastman, Georgia, to evaluate the flame spread and smoke developed properties of Reynobond 6mm Panels RB240FR - Core 08. Testing was conducted at the Intertek B&C test facility in York, Pennsylvania. Results obtained are tested values and were secured by using the designated test method(s). A summary of test results and the complete graphical test data is reported herein.

This report does not constitute performance certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

Specimen I.D.: Reynobond 6mm Panels RB240FR - Core 08 by Arconic Architectural Products

ASTM E84 Test Results

FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
0	20

*See Section 8 for additional information and commentary

For INTERTEK B&C:

COMPLETED BY:	Ben Samson	**REVIEWED BY:**	Ethan Grove
TITLE:	Technician – Fire Testing	**TITLE:**	Manager – Fire Testing
SIGNATURE:	Digitally Signed by: Benjamin Samson	**SIGNATURE:**	Digitally Signed by: Ethan Grove
DATE:	08/17/18	**DATE:**	08/17/18

BTS:ddr

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SECTION 3
TEST METHOD

The specimens were evaluated in accordance with the following:

> **ASTM E84-18a**, *Standard Test Method for Surface Burning Characteristics of Building Materials*

SECTION 4
MATERIAL SOURCE/INSTALLATION

The samples were selected from witnessed production on 07/23/18 by Intertek representative Robert Glore, at the Arconic manufacturing facility, located at 50 Industrial Drive, Eastman, Georgia 31023. Details regarding the composition and traceability of the selected material is included in Intertek Inspection Report I4214.04-103-15. The samples, identified as 6F62CS / Reynobond 6mm Panels RB240FR - Core 08 were received in good order.

The subject test specimen is a traceable sample selected from the manufacturer's facility. Intertek selected the specimen and has verified the composition, manufacturing techniques and quality assurance procedures. Details regarding the composition and traceability of the selected material is included in Intertek Inspection Report I4214.04-103-15.

SECTION 5
LIST OF OBSERVERS

NAME	COMPANY
Ben Samson	Intertek B&C
Nate Brillhart	Intertek B&C

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SECTION 6
TEST PROCEDURE

This report describes the results of testing conducted in accordance with ASTM E84-18a; Standard Test Method for Surface Burning Characteristics of Building Materials. The test method is for comparative surface burning behavior of building materials by determining a flame spread index (FSI) and a smoke developed index (SDI). This test is generally applicable to exposed surfaces, such as finish materials for ceilings or walls, provided that the material or assembly of materials, by its own structural quality or the manner in which it is tested and intended for use, is capable of supporting itself in position or being supported during the test period.

> *"The use of supporting materials on the underside of the test specimen may lower the flame spread index from that which might be obtained if the specimen could be tested without such support. This method may not be appropriate for obtaining comparative surface burning behavior of some cellular plastic materials. Testing of materials that melt, drip, or delaminate to such a degree that the continuity of the flame front is destroyed, results in low flame spread indices that do not relate directly to indices obtained by testing materials that remain in place."* – ASTM E84-18a Section 1.3

The purpose of the method is to determine the relative burning behaviour of the material by observing the flame spread along the specimen. Flame spread and smoke density developed are reported, however, there is not necessarily a relationship between these two measurements.

It is the expressed intent of the test method to provide only comparative measurements of surface flame spread and smoke density of the tested material against measurements for select grade red oak flooring and fiber-cement board when tested under specific fire exposure conditions. The test method exposes a nominal 24-ft (7.32-m) long by 20-in. (508-mm) wide test specimen to a controlled air flow and flaming fire exposure adjusted to produce a specific flame spread distance vs time calibration using select grade red oak flooring.

The test method does not provide information regarding heat transmission through the tested surface, the effect of aggravated flame spread behavior resulting from the proximity of combustible walls and ceilings, or the classification or definition of materials as noncombustible using flame spread index alone.

This standard should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.

There were no deviations from the requirements prescribed in ASTM E84.

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SECTION 7
TEST SPECIMEN DESCRIPTION

MANUFACTURER*	Arconic Architectural Products
PRODUCT TYPE*	Aluminum composite panel (ACM)
SERIES/MODEL*	Reynobond 6mm Panels RB240FR - Core 08
COMPOSITION*	Aluminum composite panel (ACM)
CONDITIONING TIME	36 hr.
SPECIMEN SIZE	24 in. wide x 196 in. long
THICKNESS	6 mm
SPECIMEN SECTIONS	2
TOTAL WEIGHT	73.1 lbs.
COLOR	Champagne metallic
SIDE TO FLAME*	Painted face
SUPPORT USED*	Material was self-supporting
MOUNTING METHOD	Material was self-supporting
SUBSTRATE USED*	No substrate was utilized
NOTES/ADDITIONAL SAMPLE INFO	N/A
CEMENT BOARD	1/4 in. thick fiber cement board was placed on top of the sample.

*From the client's material description and/or instructions

Note: Specimens were conditioned as per the requirements of Section 6.4 of ASTM E84.

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Date: 08/17/18

SECTION 8
TEST RESULTS

TEST RESULTS	
Test Date	08/11/18
Test Operator	Ben Samson
Flame Spread Index (FSI)	0
Smoke Developed Index (SDI)	20
Red Oak Calibration (% * Min)	91.46

TEST DATA	
FSI (unrounded)	0.0
SDI (unrounded)	19.0
FS * Time Area (Ft * Min)	0.0
Smoke Area (% * Min)	17.4
Fuel Area (°F * Min)	4913.4

TEST OBSERVATIONS	
Ignition Time	02:07 (Min:Sec)
Max Flame Front Advance	0.0 Feet
Time to Max Flame Front	00:00 (Min:Sec)
Max Temp At Exposed T/C	567.9°F
Time To Max Temp	09:57 (Min:Sec)
Dripping Observed	None
Flaming On Floor Observed	None
After Flame Top Observed	None
After Flame Floor Observed	None
Sagging Observed	None
Delamination Observed	None
Shrinkage Observed	None
Fallout Observed	None
Cracking Observed	None
Observations After the Test	None

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SECTION 8 (Continued)
TEST RESULTS

COMMENTARY ON CLASSIFICATION

Neither ASTM E84 nor UL 723 include classification criteria for the results obtained from testing. The International Building Code® (IBC), NFPA 101: Life Safety Code® (NFPA 101), and NFPA 5000: Building Construction and Safety Code® (NFPA 5000) all describe a set of classification criteria required for interior wall and ceiling finish materials based on Flame Spread Index and Smoke Developed Index when tested in accordance with ASTM E84 or UL 723. The classification criteria for all three model codes is the same:

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

Note that classification under this scheme for interior wall and ceiling finishes does not strictly apply to all products or materials tested in accordance with ASTM E84 or UL 723 because not all products or materials are recommended or suitable for use as interior wall or ceiling finish materials in buildings, regardless of the surface burning characteristics. Consult with the product manufacturer and the local authority having jurisdiction (AHJ) regarding specific applications of a given product or material.

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SECTION 9
PHOTOGRAPHS

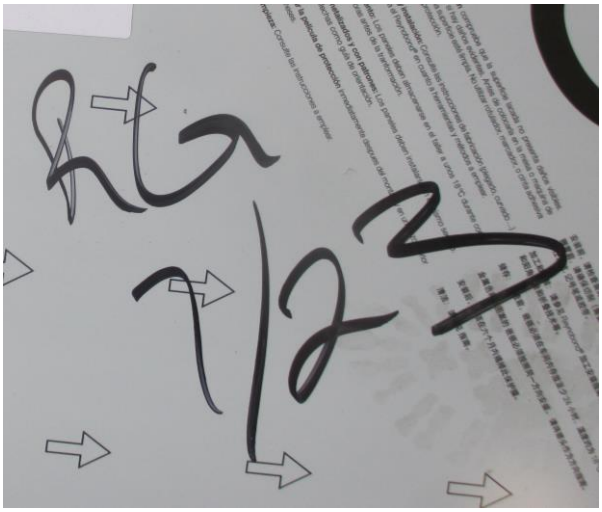

Photo No. 1
Inspector's Initials

Photo No. 2
Exposed Surface of the Test Specimen (Pre-test)

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SECTION 9 (Continued)
PHOTOGRAPHS

Photo No. 3
Unexposed Surface of the Test Specimen (Pre-test)

Photo No. 4
Unexposed Surface of the Test Specimen (Post-test)

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SECTION 9 (Continued)
PHOTOGRAPHS

Photo No. 5
Exposed Surface of the Test Specimen (Post-test)

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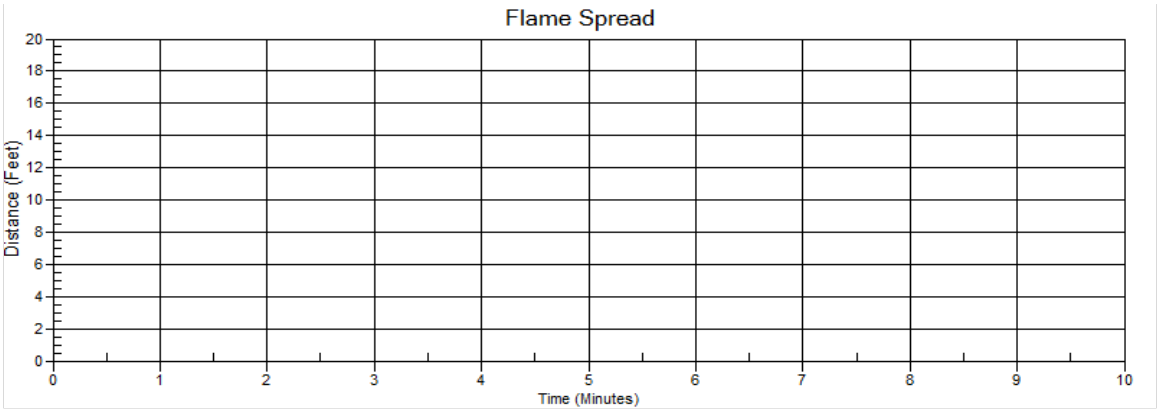
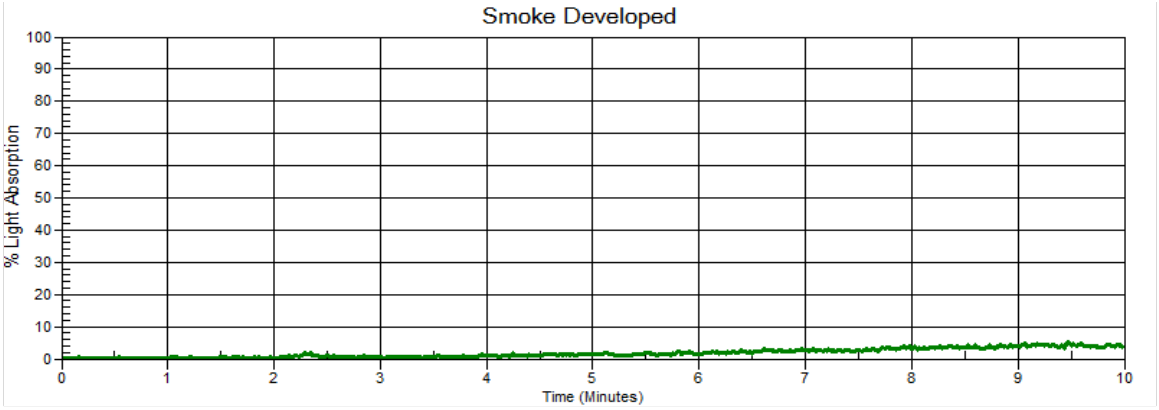
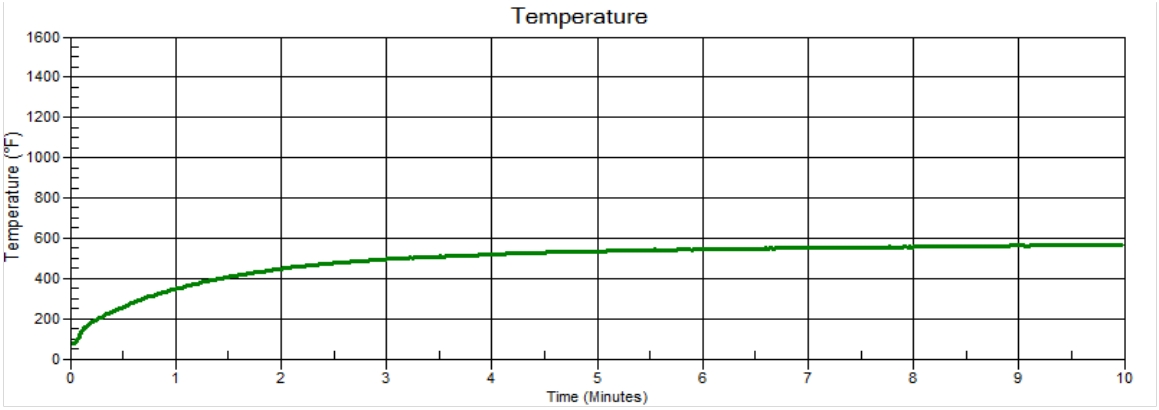
SECTION 10
GRAPHS



Graph No. 1 - Flame Spread Distance Versus Time



Graph No. 2 – Light Obscuration Versus Time



Graph No. 3 – Tunnel Air Temperature Versus Time

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SECTION 11
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	08/17/18	N/A	Original Report Issue