QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

8385 White Oak Avenue
Rancho Cucamonga, CA 91730
909.483.0250 ph. | 909.483.0336 fx.

CLIENT: **Fabri Trak Systems, Inc**
111 W Park Dr, Mt Laurel
Township, New Jersey 08054

Test Report Number :	**RJ9555F-1**	**Date:**	**November 7, 2024**

SAMPLE ID: The client identified the following test material as:
Terra Core Poly® Performance 2"

SAMPLING DETAIL: Test Samples were submitted to the Laboratory directly by the client. No sampling or sample preparation were observed by QAI staff.

DATE OF RECEIPT: Samples were received at QAI facilities on: October 1, 2024

TESTING PERIOD: October 7, 2024

AUTHORIZATION: Testing was authorized by Jeff Hogan for proposal 24MB06191 signed June 20, 2024.

TEST REQUESTED: Perform flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with UL723-Edition 10 Revised December 21 - 2017 "Standard Method of Test for Surface Burning Characteristics of Building Materials".

	Flame Spread	**Smoke Developed**
TEST RESULTS FOR ENTIRE TEST:	**5**	**60**
TEST RESULTS FOR "CEILING ONLY":	**5**	**10**

When tested in accordance to UL723 the tested material resulted in a Class 'A' based on the results of the entire test. When Evaluated to the Ceiling Only Method the product recieved a Class A Rating based on the results while the specimen remained in test position. Detailed test results are presented in the subsequent pages of this report

Prepared By

Victor.A.Peinado
Fire Lab Supervisor

Signed for and on behalf of
QAI Laboratories, Inc.

Jason Friedrich P.E.
Engineering Manager

SCOPE: This fire-test-response standard is used for the comparative surface burning behavior of building materials is applicable to exposed surfaces such as walls, ceilings and others. The test is conducted with the specimen in the ceiling position with the surface to be evaluated exposed face down to the ignition source. The material, product, or assembly shall be capable of being mounted in the test position during the test. Thus, the specimen shall either be self-supporting by its own structural quality, held in place by added supports along the test surface, or secured from the back side. The purpose of this test method is to determine the relative burning behavior of the material by observing the flame spread along the specimen. Flame spread and smoke developed index are reported. However, there is not necessarily a relationship between these two measurements.

USE: The use of supporting materials on the underside of the test specimen has the ability to lower the flame spread index from those which might be obtained if the specimen could be tested without such support. These test results do not necessarily relate to indices obtained by testing materials without such support.

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.

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.

PROCEDURE: A brief overview of the method is as follows: The test specimen, a material between 20 and 24 inches in width by 24 feet +/- 12 inches in length is loaded onto the water cooled ledge of the fire test chamber when tested to ASTM E84 / UL723 or CAN/ULC-S102. If tested to CAN/ULC-S102.2 the specimen is tested on the chamber floor. The inside dimensions are 17 3/4 inches +/- 1/4" wide by 12 inches +/- 1/2" deep by 25 feet long. The fire test chamber is a rectangular horizontal duct with a removable lid. The sides and base of the chamber are lined with an insulated firebrick with pressure tight observation windows down one side for a technician to observe flame progression during the duration of the 10-minute test period. The chamber lid is lowered into test position with non combustible concrete board placed between the specimen and chamber lid. A draft of 240 feet per minute which is maintained inside the test chamber throughout the test period by the means of an electronic fan afterburner and an electronically controlled damper door system located downstream of the test chamber in the exhaust ducting. The test is started when the test flame is ignited at the front of the test chamber. An electronic photocell system located in the exhaust system downstream from the test chamber is used to plot the smoke developed for use in calculating the smoke developed index while a technician plots the flame spread distance used in determining the flame spread index. The test is run for the 10 minute duration in accordance to the method.

As Per UL723, Ceiling and Floor Values are calculated as noted in Section 7.3 as quoted below:
"7.3.1 When testing thermoplastics materials that melt and drip to the floor of the test chamber and continue burning, flame spread values associated with burning on the floor of the tunnel, shall be calculated, in addition to the flame spread values associated with burning in the ceiling position. Furthermore, smoke developed values shall also be distinguished, as described below.
7.3.2 Ceiling flame spread values shall be calculated as shown in Section 7. Calculations shall be based upon flame front advancement observed at the ceiling position until the time of maximum flame front advancement at the ceiling position and such time that material on the tunnel floor ignites and advances.In some cases, following ignition on the floor, burning on the floor may be responsible for further ignition and flame propagation in the ceiling position and it may be difficult to distinguish between floor flamespread and ceiling flame spread during the test. In those instances, the ceiling flame spread value shall be calculated based on the initial, maximum flame front advancement in the ceiling position prior to flame propagation on the floor of the tunnel.
7.3.3 Throughout the remainder of the test duration, floor flame spread values shall be calculated as shown in Section 7 and based upon flame front advancement observed on the floor. In instances where it is difficult to distinguish between floor flame spread and ceiling flame spread, as described in 7.3.2, the propagation observed shall be used to determine floor flame spread values.
7.3.4 Ceiling smoke developed values shall be calculated as shown in Section 7 and based on smoke obscuration under the time vs. percent obscuration curve recorded until such time that the material on the tunnel floor ignites and advances.
7.3.5 Total smoke developed values shall be calculated as shown in Section 7 and based on the total smoke obscuration under the time vs. percent obscuration curve recorded for the duration of the test."

(See Diagrams in the Appendix of this report.)

PREPARATION AND CONDITIONING:
The Sample Board material was delivered to QAI in 24 Inch wide X 1 Foot long X 2 Inch thick Pieces. 24 of these Pieces were used for the test. (See Photos in Appendix of this report). The specimen was placed in the conditioning room (maintained at 72 ± 5° F and a relative humidity of 50 ± 5%) for a minimum of 48 hours prior to testing.

MOUNTING METHOD:
The test ready sample consiting of 24 pieces measuring 24 inches wide X 1 feet long and an overall test thickness of 2 inches were stacked end to end on the Chamber Ledge to fulfill the chamber requirements for testing. Prior to testing the samples were covered with 1/4 inch cement board as required in the test method.

UL723-Edition 10 Revised December 21 TEST RESULTS:

CLIENT NAME:	**Fabri Trak Systems, Inc**		**TEST DATE:**	10/7/2024
SAMPLE ID:	Terra Core Poly® Performance 2"			
SAMPLE IGNITION:		**08:00**	Minutes / Seconds	
MAX FLAME FRONT:		**19.5**	Feet	
TIME TO MAXIMUM SPREAD:		**10:02**	Minutes / Seconds	
TEST DURATION:		**10:29**	Minutes / Seconds	
SUMMARY OF TEST INCLUDING FLOOR BURNING:	FLAME SPREAD:	**5**	*6 Unrounded*	
	SMOKE DEVELOPED:	**60**	*59 Unrounded*	
SUMMARY "CEILING ONLY":	FLAME SPREAD:	**5**	*3 Unrounded*	
	SMOKE DEVELOPED:	**10**	*9 Unrounded*	

OBSERVATIONS:

Charring was observed at 03:45. Flaming Dripping was observed at 05:06. Floor Burning was observed at 08:51. A Maximum Flamefront of 19.5 feet was observed at 10:02. The Test was terminated at 10:29.

SUMMARY OF ASTM E84 / UL 723 RESULTS:

Because of the possible variations in reproducibility, the results are adjusted to the nearest figure divisible by 5.
Smoke Density values over 200 are rounded to the nearest figure divisible by 50.

In order to obtain the Flame Spread Classification, the above results should be compared to the following table:

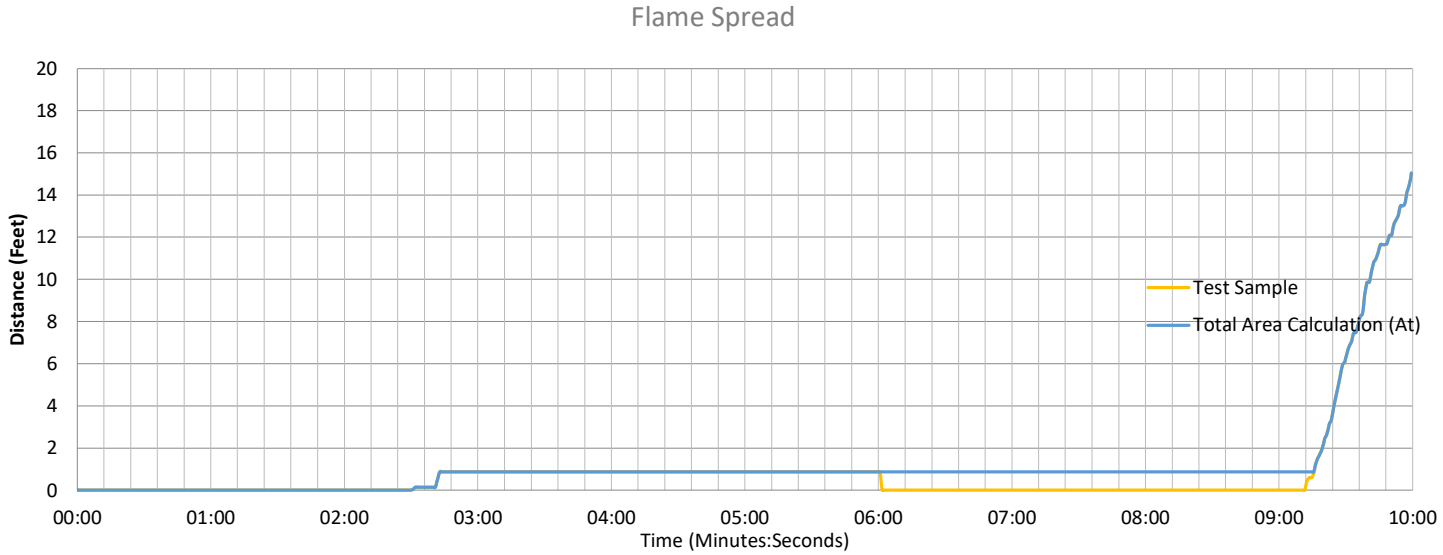
NFPA CLASS[1]	IBC CLASS[2]	FLAME SPREAD	SMOKE DEVELOPED
A	A	0 through 25	Less than or equal to 450
B	B	26 through 75	Less than or equal to 450
C	C	76 through 200	Less than or equal to 450

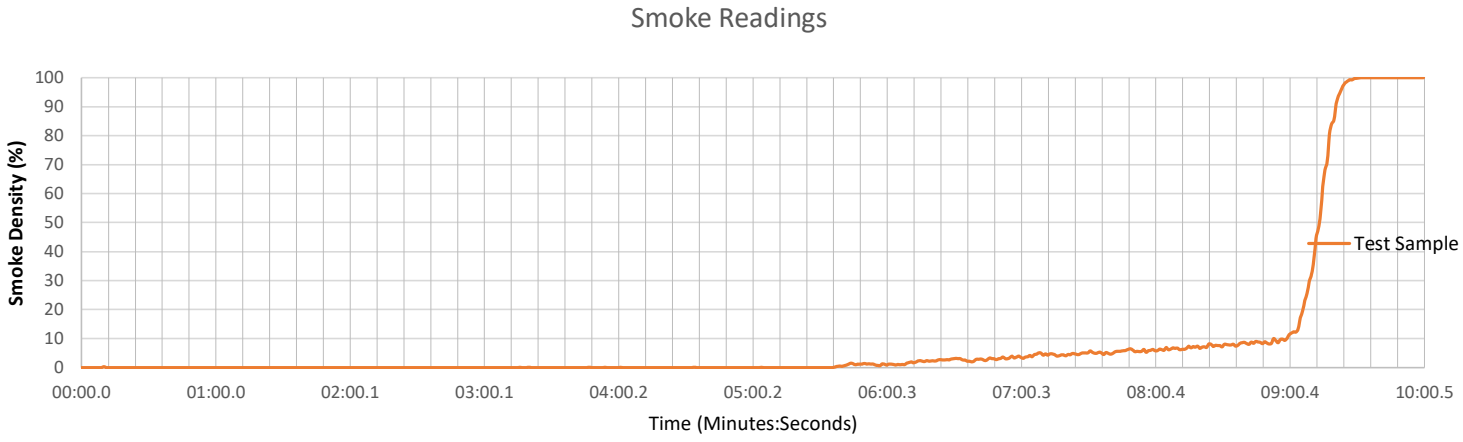
BUILDING CODES CITED:

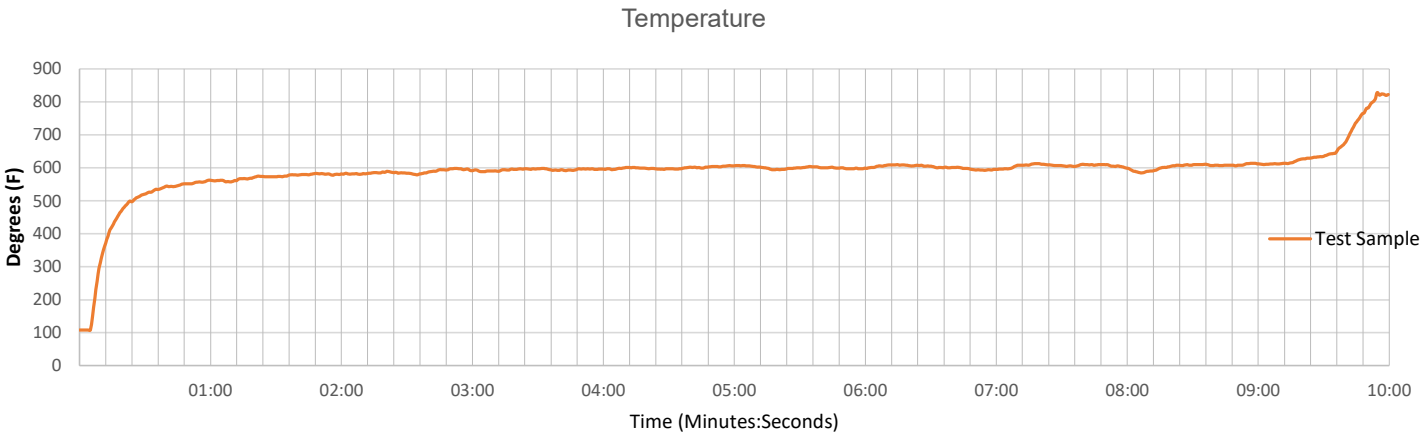
1. National Fire Protection Association, ANSI/NFPA No. 101, "Life Safety Code"

2. International Building Code, Chapter 8, Interior Finishes, Section 803.

RESULTS CONTINUED:







APPENDIX

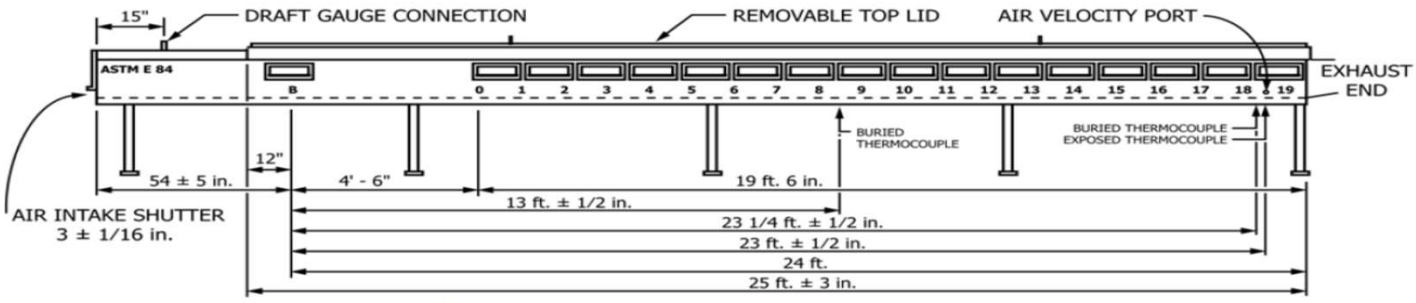


Diagram 1. Test Chamber side view showing critical dimensions.

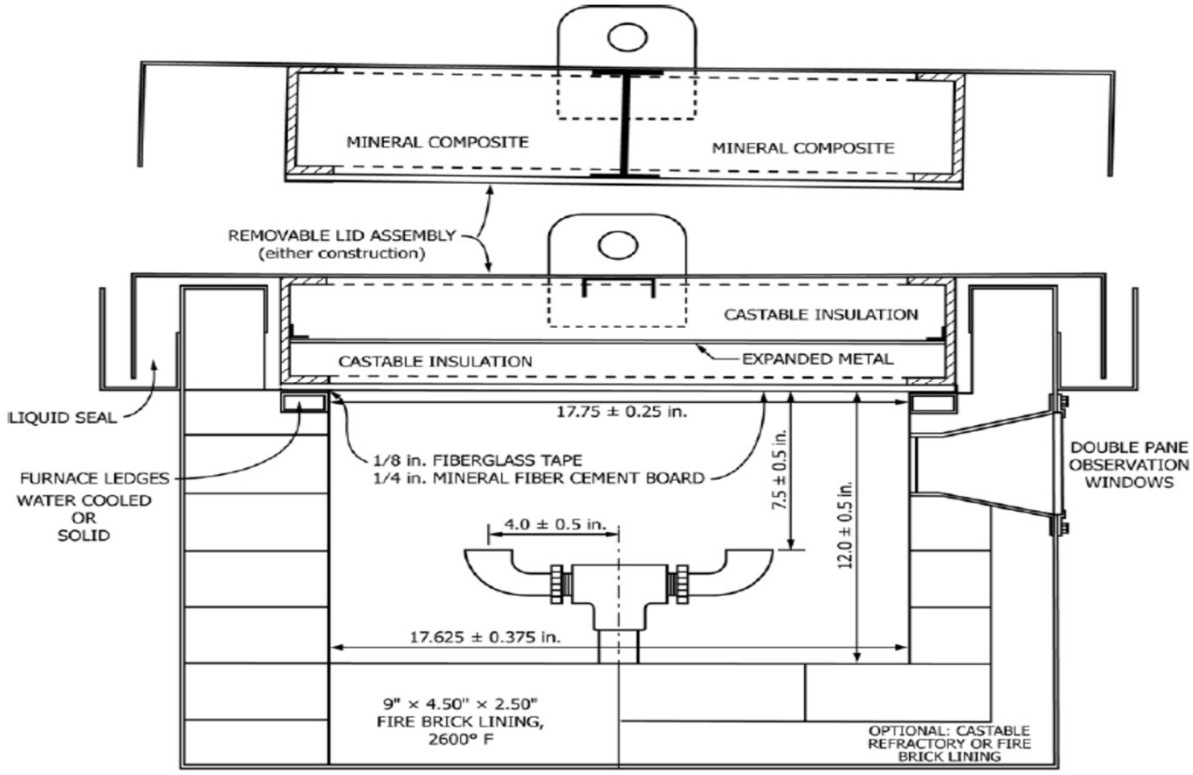


Diagram 2. Test Chamber looking down chamber showing critical dimensions.

APPENDIX

Photo 1. Surface of Specimen Tested

*****<<<END OF TEST REPORT>>>*****