

# **SOUTHWEST ADHESIVES, LLC FIRE TEST REPORT**

**SCOPE OF WORK**

ASTM E84-17a TESTING ON FOAM SEALANT TECHNOLOGY FIRE BLOCK

**REPORT NUMBER**

103365686SAT-001

**TEST DATE(S)**

2/16/18

**ISSUE DATE**

2/20/18

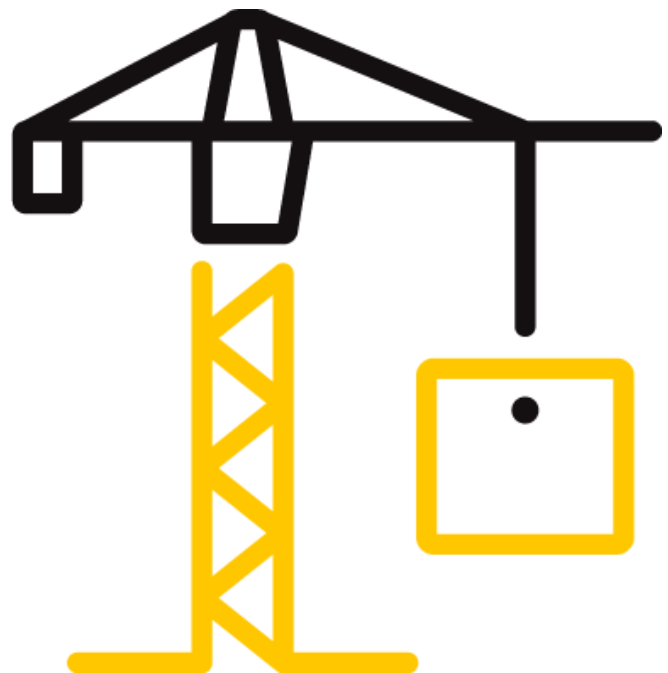
**PAGES**

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**DOCUMENT CONTROL NUMBER**

RT-R-AMER-Test-2780 (10/18/17)

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## TEST REPORT FOR SOUTHWEST ADHESIVES, LLC

Report No.: 103365686SAT-001

Date: 2/20/18

### REPORT ISSUED TO

**Southwest Adhesives, LLC**

2904 Wyndham Lane

Richardson, TX 75082

### SECTION 1

#### SCOPE

Intertek Building & Construction (B&C) was contracted by Southwest Adhesives, LLC, 2904 Wyndham Lane Richardson, TX 75082, to evaluate the flame spread and smoke developed properties of Foam Sealant Technology Fire Block. Testing was conducted at the Intertek B&C test facility in Elmendorf, Texas. 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.:** Foam Sealant Technology Fire Block

#### ASTM E84-17a Test Results

FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
5	15

For INTERTEK B&C:

<b>COMPLETED BY:</b>	Joseph Martinez	<b>REVIEWED BY:</b>	Servando Romo
<b>TITLE:</b>	Technician	<b>TITLE:</b>	Project Engineer
<b>SIGNATURE:</b>		<b>SIGNATURE:</b>	
<b>DATE:</b>	2/20/18	<b>DATE:</b>	2/23/18

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### SECTION 3

#### TEST METHOD

The specimen was evaluated in accordance with the following:

**ASTM E84-17a**, *Standard Test Method for Surface Burning Characteristics of Building Materials*

### SECTION 4

#### MATERIAL SOURCE/INSTALLATION

The test specimen was submitted to Intertek directly from the client. Samples were not independently selected for testing. Intertek has not verified the composition, manufacturing techniques or quality assurance procedures. The specimen, identified as Foam Sealant Technology Fire Block, was received in good order at the Evaluation Center on 2/12/18.

### SECTION 5

#### LIST OF OBSERVERS

NAME	COMPANY
John Nicholas	Perceptive Solutions, LLC
Joseph Martinez	Intertek B&C
Samuel Barron	Intertek B&C

### SECTION 6

#### TEST PROCEDURE

This report describes the results of testing conducted in accordance with ASTM E84-17a; 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*

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*indices that do not relate directly to indices obtained by testing materials that remain in place.” – ASTM E84-17a 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.

**TEST PROCEDURE**

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.***

The polyurethane foam sealant samples were tested per ASTM E84. Sealants are typically applied as follows according to ASTM E2690: “Specimens shall consist of two 24.5 ± 0.5 ft. (7.47 ± 0.15 m) long beads or strips of sealant or caulk installed 8 in. (203.2 mm) on center down the center of the tunnel. The beads or strips shall be at the maximum width or diameter recommended for use by the manufacturer, but shall not be less than 3/8 in. (9.5 mm). The specimens shall be centered so that they align on the center line of the burner nozzles.” The result of this application method is the percent of the exposed test sample area equaling 8.3% for 3/4 in. beads. Foam Sealant Technology wanted to increase the percent of the exposed test sample area. Foam Sealant Technology applied and tested three 3/4 in. beads 5 in. OC covering 12.5 percent of the exposed test sample area applied to inorganic reinforced cement board. While the outer sealant beads were not on the center line of the burner nozzles, they were fully contained in the burner nozzle area.

There were no deviations from the requirements prescribed in ASTM E84-17a.

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**SECTION 6**

**TEST SPECIMEN DESCRIPTION**

<b>MANUFACTURER*</b>	Southwest Adhesives, LLC
<b>SPECIMEN DESCRIPTION*</b>	A single component, self-expanding polyurethane foam sealant that has an orange tint.
<b>CONDITIONING TIME</b>	4 days
<b>SPECIMEN LENGTH</b>	24 ft.
<b>SPECIMEN WIDTH</b>	0.75 in. (Three 0.75 in. wide beads)
<b>THICKNESS</b>	0.38 in.
<b>TOTAL WEIGHT</b>	75 lbs. (Foam sealant & substrate)
<b>COLOR</b>	Orange
<b>ADHESIVE/COVERAGE RATE</b>	Three 3/4 in. beads 5 in. on center
<b>SIDE TO FLAME*</b>	Foam Side.
<b>SUPPORT USED*</b>	Self
<b>MOUNTING METHOD</b>	ASTM E2690
<b>SUBSTRATE USED*</b>	1/4 in. thick cement board
<b>CEMENT BOARD</b>	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 E84-17a.

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### SECTION 7

#### TEST RESULTS

TEST RESULTS	
Test Date	2/16/18
Test Operator	Joseph Martinez
Flame Spread Index (FSI)	5
Smoke Developed Index (SDI)	15
Red Oak Calibration (% * Min)	71.0

TEST DATA	
FSI (unrounded)	4.0
SDI (unrounded)	13.94
FS * Time Area (Ft * Min)	7.7
Smoke Area (% * Min)	9.9
Total Fuel Burned (Cubic Ft.)	44.36
Max Flame Front Advance (Ft.)	0.8
Time to Max Flame Front (sec)	10
Max Temp At Exposed T/C (°F)	561
Time To Max Temp (sec)	581

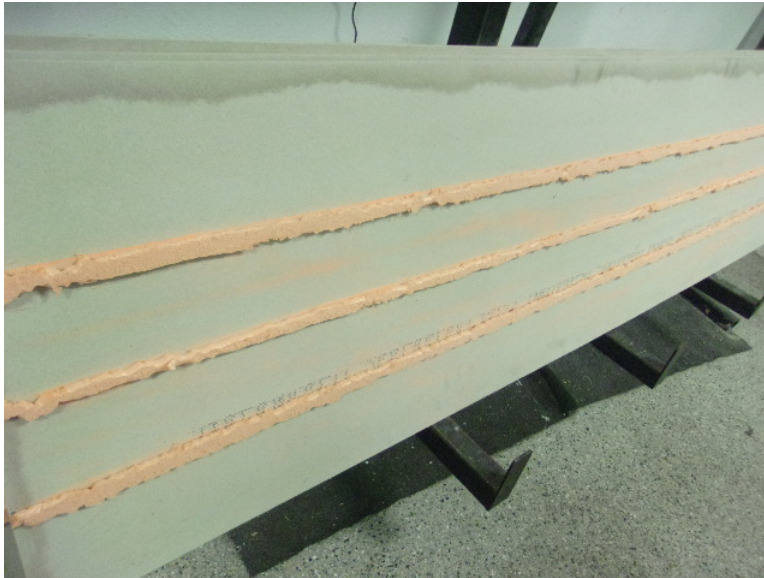
TEST OBSERVATIONS	
Ignition Time	0:04
Observations After the Test:	
0 – 4 ft.	The foam was consumed.
4 – 6 ft.	The foam was heavily charred.
6 – 8 ft.	The foam was lightly charred.
8 – 13 ft.	The foam was heavily discolored.
13 – 24 ft.	The foam was lightly discolored.

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### SECTION 8 PHOTOGRAPHS



**Photo No. 1**  
**Exposed Surface of the Test Specimen (Pre-test)**



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



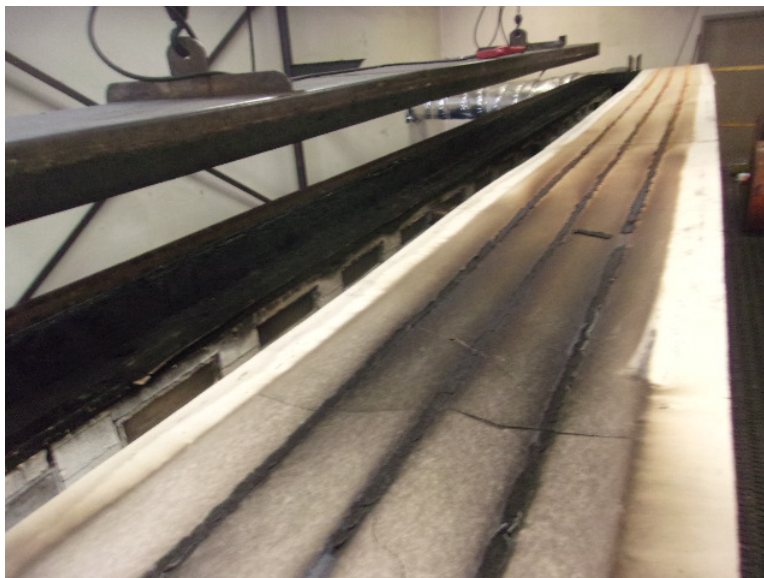
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**Photo No. 3**  
**Unexposed Surface of the Test Specimen (Post-test)**



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



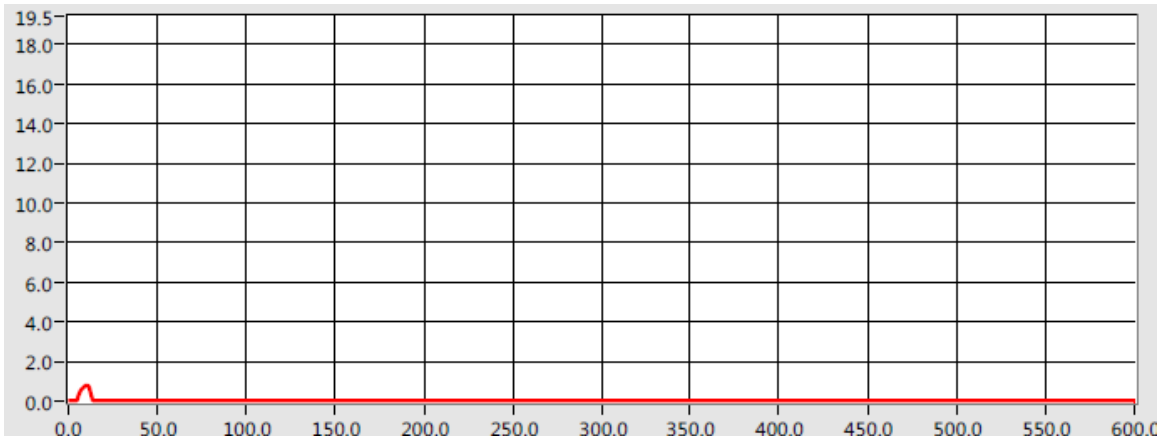
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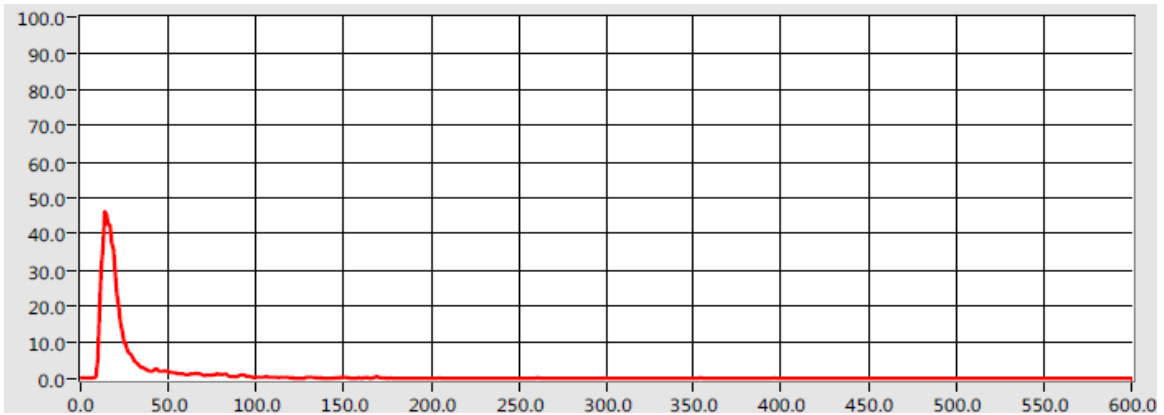
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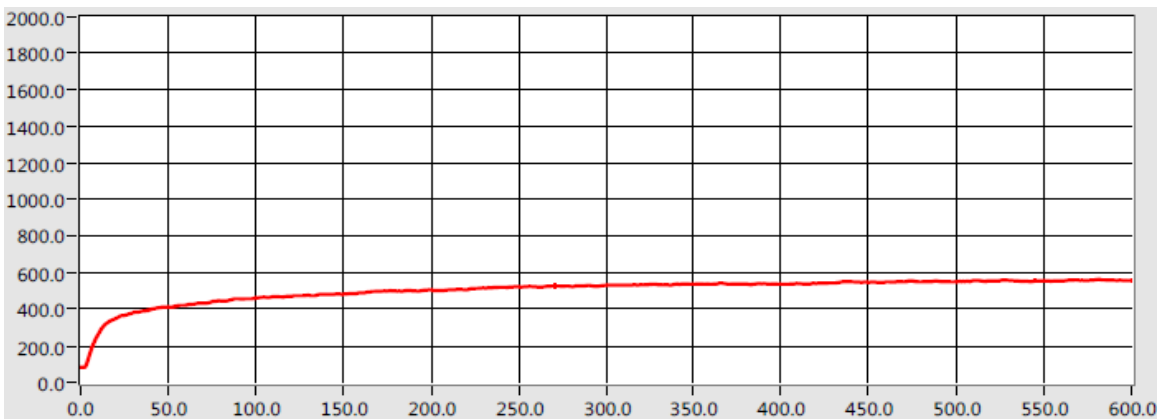
#### GRAPHS



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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16015 Shady Falls  
Elmendorf, Texas 78112

Telephone: 210-635-8100  
Facsimile: 210-635-8101  
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### SECTION 11 REVISION LOG

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