Intertek

TEST REPORT

ASTM E84-09

SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS

Report No. 3181043SAT-001C

UltraPoplin PES C240

May 30, 2009

Prepared for:
Ultraflex Systems Inc.
1578 Sussex Turnpike
Randdolph, NJ 07869

Intertek Testing Services NA, Inc.
16015 Shady Falls Road
Elmendorf, TX 78112
(voice) 210-635-8100
(fax) 210-635-8101
www.intertek-etlsemko.com

ABSTRACT

Test Specimen:	**UltraPoplin PES C240**		
Test Standard:	**ASTM E84-09**		
Test Date:	**May 29, 2009**		
Test Sponsor:	**Ultraflex Systems Inc.**		
Test Results:	FLAME SPREAD INDEX	=	5
	SMOKE DEVELOPED INDEX	=	250
		=	N/A ft. Beyond Burners Centerline

Teodoro Alvarado Jr
E84 Operator

May 30, 2009

Reviewed and approved:

Miguel Zamarripa
Project Manager

May 30, 2009

I INTRODUCTION

This report describes the results of the ASTM E84-09 Standard Test Method for SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS , a method for determining the comparative surface burning behavior of building materials,. This test is applicable to exposed surfaces, such as 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 purpose of the method is to determine the relative burning behavior 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.

"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."

This test method is also published under the following designations:

ANSI 2.5
NFPA 255
UBC 8-1 (42-1)
UL 723

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.

II PURPOSE

The ASTM E84-09 (25 foot tunnel) test method is intended to compare the surface flame spread and smoke developed measurements to those obtained from tests of fiber cement board and select grade red oak flooring. The test specimen surface (18 inches wide and 24 feet long) is exposed to a flaming fire exposure during the 10 minute test duration, while flame spread over its surface and density of the resulting smoke are measured and recorded. Test results are presented as the computed comparisons to the standard calibration materials.

The furnace is considered under calibration when a 10 minute test of red oak decking will pass flame out the end of the tunnel in five minutes, 30 seconds, plus or minus 15 seconds. Fiber cement board forms the zero point for both flame spread and smoke developed indexes, while the red oak flooring smoke developed index is set as 100.

III DESCRIPTION OF TEST SPECIMEN

Specimen Identification:	UltraPoplin PES C240
Date Received:	5/20/2009
Date Prepared:	5/20/2009
Conditioning (73°F & 50% R.H.):	9 days
Specimen Width (in):	24
Specimen Length (ft):	24
Specimen Thickness:	0.0100-in.
Material Weight:	N/A oz./sq. yd
Total Specimen Weight:	2-lbs.
Adhesive or coating application rate:	N/A

Mounting Method:

The specimen was supported on 1/4 in steel rods and 2 inch galvanized hexagonal wire mesh.

Specimen Description:

The test specimen was described by the client as the "UltraPoplin PES C240." The specimen consisted of (1) 24-ft. long x 24-in. wide x 0.0100-in. thick, white material. The specimen was identified by the client as "UltraPoplin PES C240." The test specimen was received by our personnel in good condition.

IV TEST PROCEDURE

The tests were conducted in accordance with the procedures outlined in the American Society for Testing and Materials ASTM E84-09. The self- supporting specimens were placed directly on the tunnel ledges. As required by the standard, one or more layers of 0.25 inch thick reinforced concrete board was placed on top of the test sample between the sample and the tunnel lid. After the tests, the samples were removed from the tunnel, examined and disposed of.

The test was conducted on 5/29/2009, and not witnessed by any third parties.

V TEST RESULTS

The test results, computed on the basis of observed flame front advance and electronic smoke density measurements are presented in the following table. In recognition of possible variations and limitations of the test method, the results are computed to the nearest number divisible by five, as outlined in the test method for smoke developed index results greater than 200 the calculated value is rounded to the nearest 50 points.

While no longer a part of this standard test method, the Fuel Contributed Value has been computed, and may be found on the computer printout sheet in the Appendix.

Test Specimen	E84 (10 Minute) Flame Spread Index	E84 (10 Minute) Smoke Developed Index	NFPA 703 (30Minute) ft
Fiber Cement Board	0	0	N/A
Red Oak Flooring		100	N/A
UltraPoplin PES C240	5	250	N/A

The data sheets are included in the Appendix. These sheets are actual print-outs of the computerized data system which monitors the ASTM E84-09 apparatus, and contain all calibration and specimen data needed to calculate the test results.

VI OBSERVATIONS

During the test, the specimen was observed to behave in the following manner: The material began to melt at 0:05 (min:sec.). The material ignited at 0:09 (min:sec.). Flaming drops were observed at 0:10 (min:sec.). The test continued for the 10:00 duration.

After the test the specimen was observed to be damaged as follows: The sample was consumed from 0-ft. - 5-ft. Melted to the floor from 5-ft. - 12-ft. and discolored from 12-ft. - 24-ft.

APPENDIX

ASTM E84-09
Data Sheets

ASTM E84-09

Client: ULTRAFLEX SYSTEMS INC.
Date: 5-29-09
Project Number: 3181043SAT-001C
Test Number: 7
Operator: TA/AM

Specimen ID: "ULTRAPOPLIN PES C240." THE SPECIMEN WAS SUPPORTED BY RODS AND WIRE.

TEST RESULTS

FLAMESPREAD INDEX: 5

SMOKE DEVELOPED INDEX: 250

SPECIMEN DATA . . .

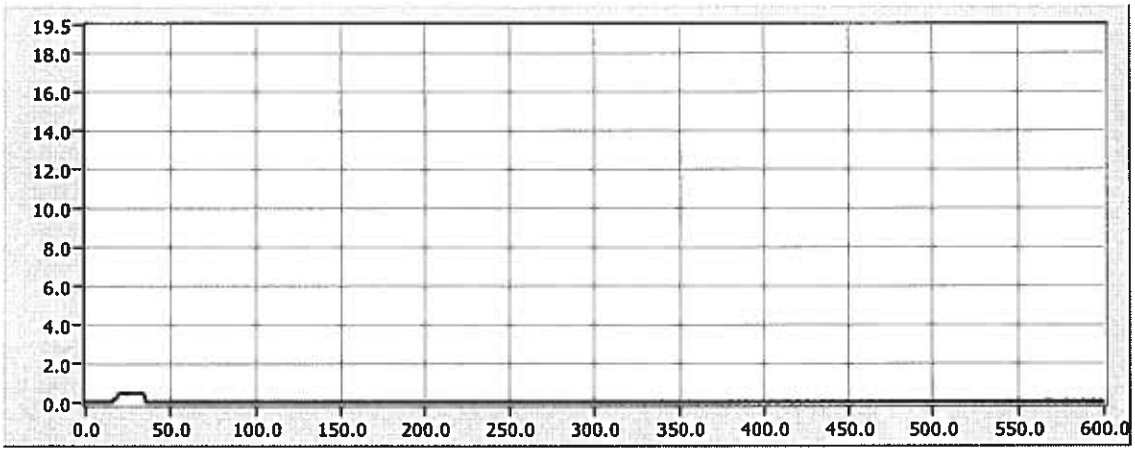
Time to Ignition (sec): 9
Time to Max FS (sec): 20
Maximum FS (feet): 0.5
Time to 980 F (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (F): 492
Time to Max Temperature (sec): 459
Total Fuel Burned (cubic feet): 49.98

FS*Time Area (ft*min): 4.9
Smoke Area (%A*min): 256.5
Unrounded FSI: 2.5

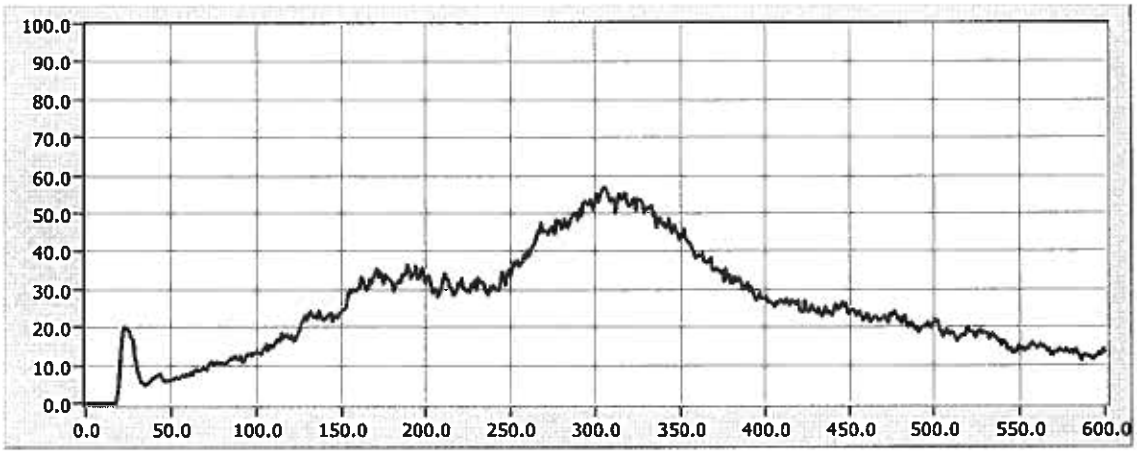
CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 39.0
Red Oak Smoke Area (%A*min): 111.0

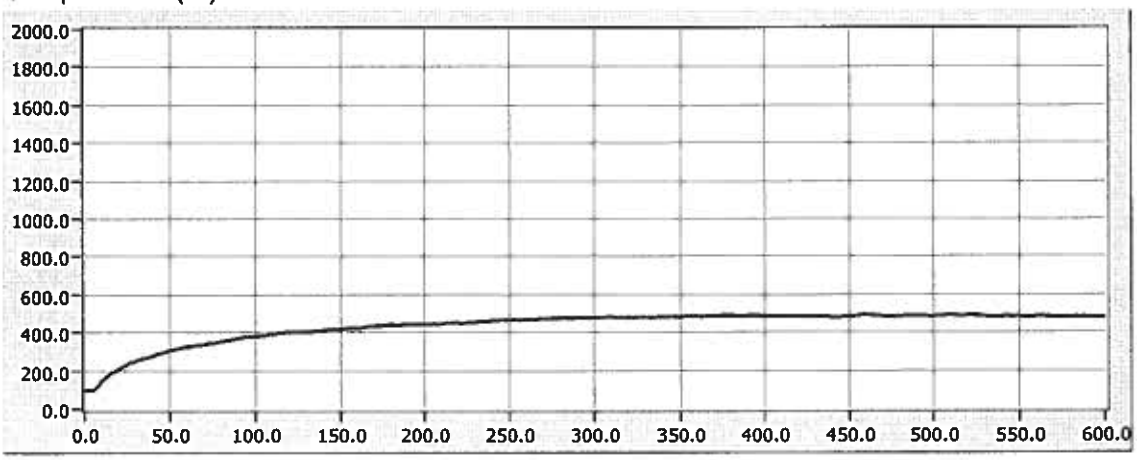
FLAME SPREAD (ft)



Smoke (%A)



Temperature (℉)



Time (sec)

600

The Govmark Organization, Inc.

96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received:05/07/2008	Completed:05/08/2008	Letter: L	rb	P.O.#:	Test Report #:	2-73486-0-
Client's Identification	Name: Ultra Poplin PES C240. Description: A Knitted 100% Polyester with an Acrylic Coating On One Side					

Tested For: Jaime L. Giannantonio
Ultraflex Systems Inc.
1578 Sussex Tpk., Bldg. #4
Randolph, NJ 07869

Key Test: NFPA 701-96 TM#2 Flat MEA 310

Tel: 1-(973)-627-8608 **Ext:** 124
Fax: 1-(973)-627-8506

Test Category: NFPA 701-96 TM2 Specifier: NYC Flex Signs CODE: 310-435-1710

TEST PERFORMED: NFPA 701 - Standard Methods of Fire Tests for Flame Resistant Textiles and Films 1996 Edition - Test Method #2 - Flat Sheet Specimens

As cited by The City of New York Department of Buildings Technical Policy and Procedure Notice #11/99 - Safety Standards for the Erection of Flex Sign Structures

SPECIMEN CONFIGURATION: [x] Single Layer; [ ] Multi Layer

RESULTS REPORTED: [x] Initially
[ ] After 72 hours water leaching
[ ] After 100 hours accelerated weathering

RESULTS: Specimen #	Afterflame (seconds)	Drip Burn (seconds)	Char Length (mm)
1	0	0	160
2	0	0	150
3	0	0	140
4	0	0	140
5	0	0	210
6	0	0	160
7	0	0	170
8	0	0	180
9	0	0	150
10	0	0	120

APPROXIMATE WEIGHT OF MATERIAL (as measured by Govmark): 271 g/m²

FAILURE CRITERIA: For each individual specimen --

Afterflame	Drip Burn	Char Length
Exceeds 2.0 seconds	Exceeds 2.0 seconds	Exceeds 435 mm (17.1")

RETEST PROVISION: Test 5 additional specimens if only 1 specimen fails.

CONCLUSION: Based on the above Results and Failure Criteria, the item tested:

[x] Passes; [ ] Fails; [ ] Requires testing of 5 additional specimens

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96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
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Received:05/07/2008	Completed:05/08/2008	Letter: L	rb	P.O.#:	Test Report #: 2-73486-0-
Client's Identification	Name: Ultra Poplin PES C240. Description: A Knitted 100% Polyester with an Acrylic Coating On One Side				

Tested For: Jaime L. Giannantonio
Ultraflex Systems Inc.
1578 Sussex Tpk., Bldg. #4
Randolph, NJ 07869

Key Test: NFPA 701-96 TM#2 Flat MEA 310

Tel: 1-(973)-627-8608 Ext: 124
Fax: 1-(973)-627-8506

PRECONDITIONING: [x] 1 hr @ 220°F (Standard)
[ ] 24 hrs @ 68±9°F (Alternate: Material shrinks/distorts @ 220°F)

CONVERSION FACTORS: mm ÷ 25.4 = inches
g/m² ÷ 28.35 x .835 = oz/yd²

REMARKS: None.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by NFPA 701 - 1996 Edition Test Method #2 Flat Sheet Specimens.

AUTHORIZED SIGNATURE
THE GOVMARK ORGANIZATION, INC. /jb

The Govmark Organization, Inc.

96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received:05/07/2008	Completed:05/27/2008	Letter: L1	rb	P.O.#:	Test Report #:	2-73486-1-
Client's Identification	Name: Ultra Poplin PES C240. Description: A Knitted 100% Polyester with an Acrylic Coating On One Side					

Tested For: Jaime L. Giannantonio
Ultraflex Systems Inc.
1578 Sussex Tpk., Bldg. #4
Randolph, NJ 07869

Key Test: NFPA 701-96 TM#2 Flat MEA WL 435

Tel: 1-(973)-627-8608 **Ext:** 124
Fax: 1-(973)-627-8506

Test Category: NFPA 701-96 TM2 Specifier: NYC Flex Signs CODE: 310-435-1710

TEST PERFORMED: NFPA 701 - Standard Methods of Fire Tests for Flame Resistant Textiles and Films 1996 Edition - Test Method #2 - Flat Sheet Specimens

As cited by The City of New York Department of Buildings Technical Policy and Procedure Notice #11/99 - Safety Standards for the Erection of Flex Sign Structures

SPECIMEN CONFIGURATION: [x] Single Layer; [ ] Multi Layer

RESULTS REPORTED: [ ] Initially
[x] After 72 hours water leaching
[ ] After 100 hours accelerated weathering

RESULTS: Specimen #	Afterflame (seconds)	Drip Burn (seconds)	Char Length (mm)
1	0	0	290
2	0	0	290
3	0	0	240
4	0	0	260
5	0	0	270
6	0	0	260
7	0	0	230
8	0	0	190
9	0	0	220
10	0	0	230

APPROXIMATE WEIGHT OF MATERIAL (as measured by Govmark): 271 g/m²

FAILURE CRITERIA: For each individual specimen --

Afterflame	Drip Burn	Char Length
Exceeds 2.0 seconds	Exceeds 2.0 seconds	Exceeds 435 mm (17.1")

RETEST PROVISION: Test 5 additional specimens if only 1 specimen fails.

CONCLUSION: Based on the above Results and Failure Criteria, the item tested:

[x] Passes; [ ] Fails; [ ] Requires testing of 5 additional specimens

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Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received:05/07/2008	Completed:05/27/2008	Letter: L1	rb	P.O.#:	Test Report #:	2-73486-1-
Client's Identification	Name: Ultra Poplin PES C240. Description: A Knitted 100% Polyester with an Acrylic Coating On One Side					

Tested For: **Jaime L. Giannantonio**
Ultraflex Systems Inc.
1578 Sussex Tpk., Bldg. #4
Randolph, NJ 07869

Key Test: NFPA 701-96 TM#2 Flat MEA WL 435

Tel: 1-(973)-627-8608 **Ext:** 124
Fax: 1-(973)-627-8506

PRECONDITIONING: [x] 1 hr @ 220°F (Standard)
[ ] 24 hrs @ 68±9°F (Alternate: Material shrinks/distorts @ 220°F)

CONVERSION FACTORS: mm ÷ 25.4 = inches
g/m² ÷ 28.35 x .835 = oz/yd²

REMARKS: None.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by NFPA 701 - 1996 Edition Test Method #2 Flat Sheet Specimens.

AUTHORIZED SIGNATURE
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96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received:02/01/2010	Completed:02/16/2010	Letter: Q1	rb	P.O.#:	Test Report #:	2-82005-0-
Client's Identification	Ultra Poplin PES C240-Coated Polyester Poplin Textile. Weight (oz/yd²): 7.1.					

Tested For: **Jaime L. Giannantonio**
Ultraflex Systems Inc.
1578 Sussex Tpk., Bldg. #4
Randolph, NJ 07869

Key Test: CA 1237 Sm 115

Tel: 1-(973)-627-8608 **Ext:** 124
Fax: 1-(973)-627-8506

PC: 1H /jd

TEST PERFORMED: California Fire Marshal Title 19: Section 1237 (Proposed Revision 8/9/93) Fire Resistance; Small Scale Test - EXTERIOR MATERIALS QUALIFICATION

RESULTS REPORTED: [x] Initially
[ ] After 72 hours water leaching
[ ] After 100 hours weathering

RESULTS:	Specimen #	Afterflame (seconds)	Afterglow (seconds)	Char Length (inches)
Warp:	1	0	0	3.7
	2	0	0	3.8
	3	0	0	2.7
	4	0	0	3.3
	5	0	0	3.0
	Avg:	0		
Fill:	6	0	0	3.5
	7	0	0	3.3
	8	0	0	3.7
	9	0	0	3.4
	10	0	0	4.2
	Avg:	0		

APPROXIMATE WEIGHT OF MATERIAL (as measured by Govmark): 7.8 oz/yd²

ACCEPTANCE CRITERIA:

Afterflame: 4.0 seconds maximum avg for length or width
Afterglow: (see Note #2 below)
Char Length: 6.0" maximum for any individual specimen

Notes:

1. An asterisk (*) next to any char length measurements indicates that a part of the char length is melt away due to heat from the flame source and not from propagating flame. Therefore, the sample submitted meets the requirements of Title 19 - California Code of Regulations, Section 1237 and 1237.1 for materials weighing less than 4 oz/yd².

2. Afterglow is required to be reported; however, it is not factored into the Acceptance Criteria.

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96-D Allen Boulevard
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Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received:02/01/2010	Completed:02/16/2010	Letter: Q1	rb	P.O.#:	Test Report #:	2-82005-0-
Client's Identification	Ultra Poplin PES C240-Coated Polyester Poplin Textile. Weight (oz/yd²): 7.1.					

Tested For: **Jaime L. Giannantonio**
Ultraflex Systems Inc.
1578 Sussex Tpk., Bldg. #4
Randolph, NJ 07869

Key Test: CA 1237 Sm 115

Tel: 1-(973)-627-8608 **Ext:** 124
Fax: 1-(973)-627-8506

CONCLUSION: Based on the above Results and Acceptance Criteria, the item tested:

[x] Complies; [ ] Does not comply

REMARKS: None.

NOTE: In August 1993 the State Fire Marshal issued a proposed revision, which permitted a maximum average afterflame of 4.0 seconds. This proposed revision was honored by the subsequent State Fire Marshal until approximately February 2004, at which time the State Fire Marshal's office reverted to the unrevised rule of 2.0 seconds maximum average for exterior fabric.

In a conversation with the latest California State Fire Marshal on August 9, 2007, it was learned that the proposed 1993 revision is now back in effect. In addition to allowing 4 seconds Afterflame rather than 2 seconds, the proposed revision provides for testing of 10 specimens, rather than 6 specimens. This information has been verified current per an August 26, 2009 conversation with the California State Fire Marshall.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by California Fire Marshal Title 19: Section 1237 (Proposed Revision 8/9/93).

Heather E. Robertson

AUTHORIZED SIGNATURE
THE GOVMARK ORGANIZATION, INC. / ec / mgf

MS. HEATHER ROBERTSON

MAR 0 1 2010