



**INTERTEK ETL SEMKO**  
3933 US ROUTE 11, CORTLAND, NY 13045

**RENDERED TO:**

**TPR<sup>2</sup>**  
**PO Box 1029**  
**Richmond Hill, GA 31324**

**ORDER NO. 3088540**

**TESTED ON December 8, 2005**

**STANDARDS USED**

ASTM E84-05 - Surface Burning Characteristics of Building Materials

**TEST**

A test method for the comparative behavior of building materials

**AUTHORIZATION**

Mr. Richard Barone, representing the client, TPR<sup>2</sup>, authorized the test with signed quote no. 19013799.

**SPECIMEN DESCRIPTION**

The test was performed on a specimen submitted and identified by the client as 50%TPR2 Fire Retardant impregnated Polyethylene panel.

---

An independent organization testing for safety, performance, and certification.

This report is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

**INTRODUCTION**

This report describes the results of the ASTM E84-05 Standard Method of Test for Surface Burning Characteristics of Building Materials performed on specimens, submitted by TPR<sup>2</sup> and previously described.

The specimens were received in good condition, prepared, and test evaluations were conducted at Intertek ETL SEMKO, Cortland, New York.

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.

**TEST OBJECTIVE**

The ASTM E84-05 test method is intended to compare the surface flamespread and smoke developed measurements to those obtained from the tests of mineral fiber cement board and select grade red oak flooring. The test specimen surface is exposed to a fire exposure during the 10 minute test duration, while flamespread 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 mineral fiber cement board forms the zero point, while the red oak flooring is set as 100 for smoke measurements. Thus, with a relative zero established by the non-combustible cement board, all test specimens are compared to select grade red oak flooring, and the results expressed as Flame Spread Index and Smoke Developed Index.

**TEST PROCEDURE**

The test specimen, previously described, as tested in accordance with the procedures as outlined in ASTM E84-05. The specimens were supported in the Steiner Tunnel being adhered to GRC boards.

**TEST RESULTS**

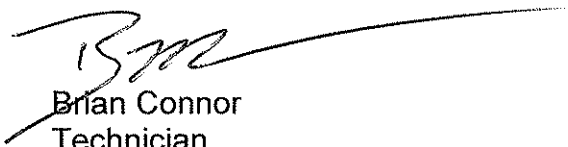
The test results, computed on the basis of observed flame front advance and smoke density measurements, are presented in the following table. In recognition of possible variations and limitations of the test method, the results are computed to the nearest number divisible by five, as outlined in the test method.

**Client:** TPR<sup>2</sup>**Order No.:** 3088540**Test No.:** 1**Date Received:** December 8, 2005**Date Tested:** December 8, 2005**Technician:** Brian Connor**SPECIMEN DESCRIPTION:** 50%TPR2 Fire Retardant impregnated Polyethylene panel**PLEASE SEE APPENDIX A FOR RESULTS.**

**CONCLUSION**

The specimen, submitted by TPR<sup>2</sup>, and previously described as 50%TPR2 Fire Retardant impregnated Polyethylene panel, when tested in accordance with ASTM E84-05 Standard Test Method for Surface Burning Characteristics of Building Materials, on December 8, 2005, achieved the following results:

Flame Spread Index:	5
Smoke Index:	5

**Test Conducted by:**

Brian Connor  
Technician  
Cabling Products Testing Group

**Reviewed and Approved by:**

James Tanner  
Operations Manager  
Cabling Products Testing Group

**Attachment: Appendix A**

## APPENDIX A

# INTERTEK / ETL SEMKO

## DATA SHEET

### STANDARD UL 723, Ninth Edition, August 29, 2003

Standard Method for Surface Burning Characteristics of Building Materials

CLIENT: TPR2 DATE: 2005/12/08

PROJECT NO.: 3088540 FILE NO.: 3088540 1

TEST NO.: 1

DESCRIPTION: 50%TPR2 Fire Retardant impregnated Polyethylene panel

Thickness (in): 2.230 Length of individual sections (ft): 8

No. of sections: 3 Total length of sample (ft): 24

Time to Ignition (min:sec): 6:46

Afterflame (min:sec): 4:12

Dripping on to the floor (min:sec): None

Falling glowing embers (min:sec): None

Flaming drips (min:sec): None

Flaming on the floor (min:sec): None

From end of flame exposure

Ash Length (ft): 0

Char Length (ft): 5

Melt Length (ft): 19.5

Discoloration (ft): 19.5

**MOUNTING (mark box with "X"):**

Self Supporting	Wire & Rods	Cementboard	Sheetrock
	X		

**NOTES:**

**STARTING TEMPS.:**

76 °F TC. EXPOSED (23 ft)

102 °F TC. BURIED (13 ft)

**LABORATORY CONDITIONS:**

74 °F (DRY BULB)

51 % RH

0.010 IN. WC PRESS.

**DRAFT CONTROLLER:**

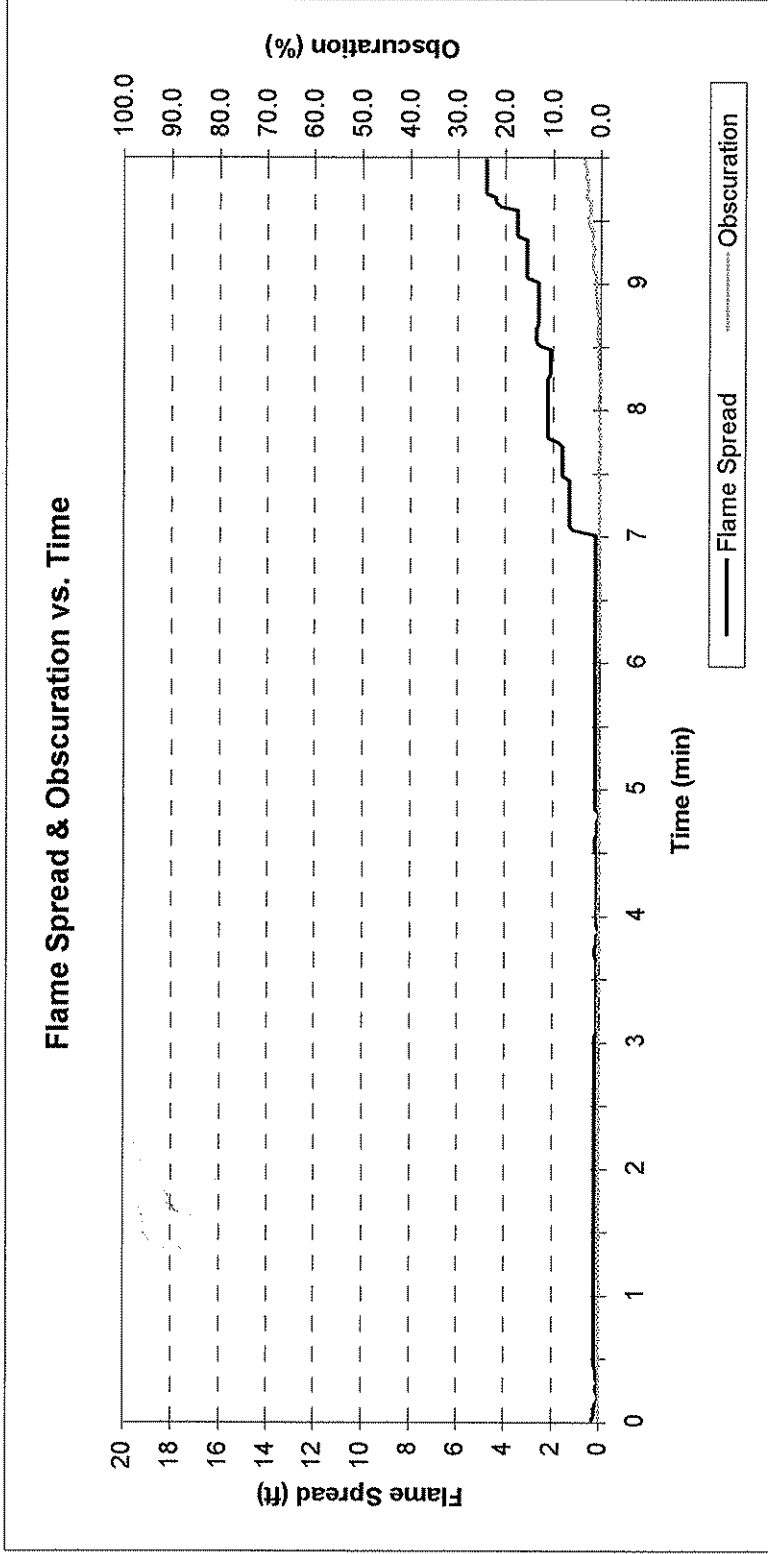
0.100 IN. WC DRAFT IND. (BLACK)

235 Fuel Flow Rate

BURNOUT : [ ]

TECH : Brian Connor READER : Don Pendell

# INTERTEK / ETL SEMKO UL 723



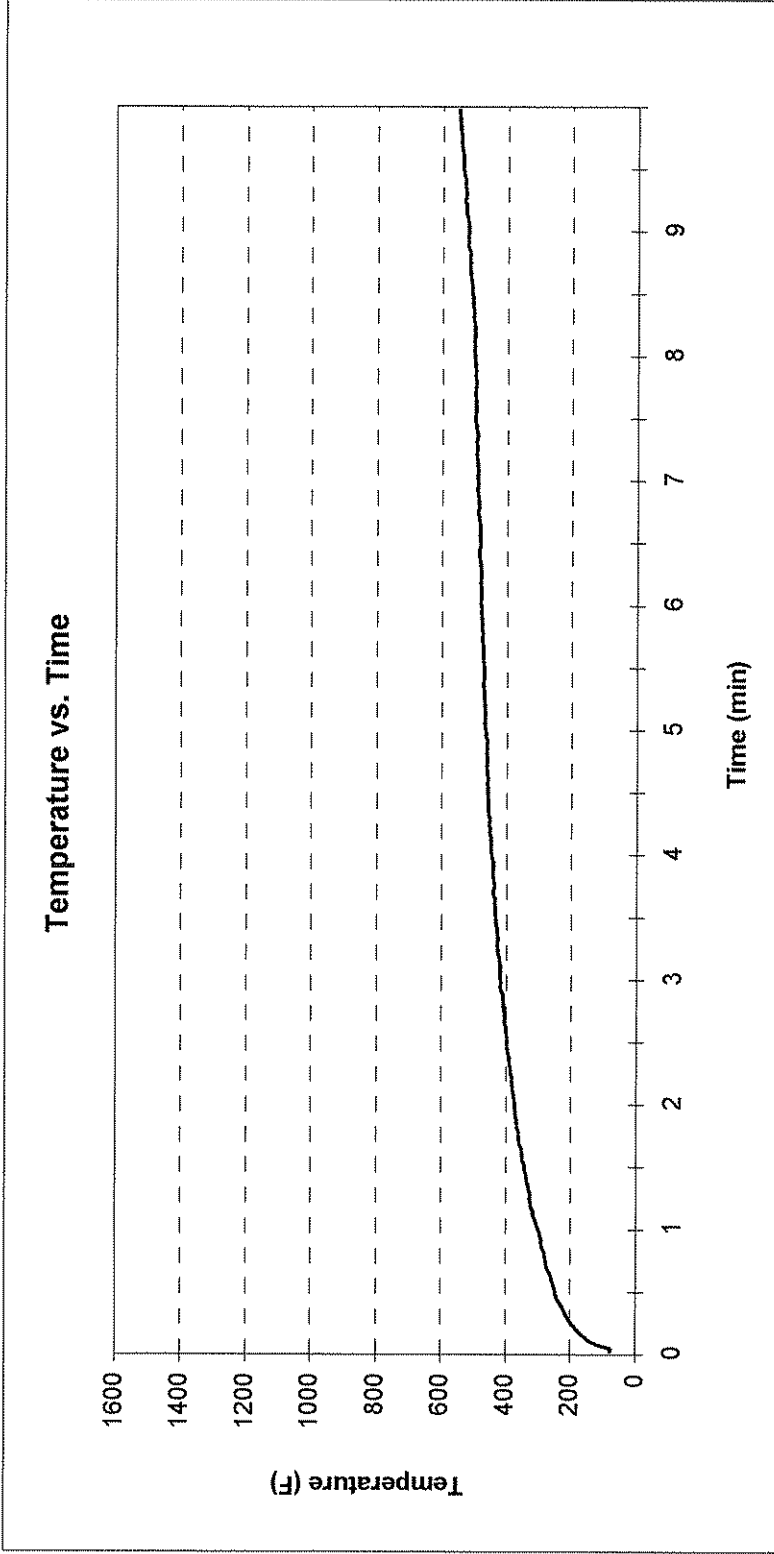
Date: 2005/12/08  
 Time: 08:30:50.0  
 File: 3088540 1  
 Test #: 1

Parameter	Rounded (Index)	Unrounded
Max. Flame Spread (ft):	4.8	N/A
Flame Spread Index:	5	4.75
Smoke Index:	5	5.00
Flame Spread Area (min*ft):	9.22	Smoke Area - Red Oak (min*%): 71
Smoke Area (min*%):	3.55	Time to Max. Flame Spread (min:sec): 9:42

Job No.: 3088540  
 Description: 50%TPR2 Fire Retardant impregnated Polyethylene panel  
 Client: TPR2

TECH: Brian Connor  
 READER: Don Pendell

# INTERTEK / ETL SEMKO UL 723



Maximum Temperature (Deg. F):	548.06	Total Methane Consumption (ft <sup>3</sup> ):	51.35	Date:	2005/12/08
Time to Maximum Temp. (min:sec):	9:56	Consumption Rate (ft <sup>3</sup> /min):	5.13	Time:	08:30:50.0
Time to 980 F (min:sec):	0:00			File:	3088540
Temperature Area (min*deg F):	4324.27			Test #:	1
Temp. Area - Cement Board (min*deg F):	5311				
Temp. Area - Red Oak (min*deg F):	9094				

Job No.: 3088540 Description: 5041TPP2 Fire Retarded Integrated Polymers panel Client: TPR2

TECH.: Brian Connor READER: Don Pendell