INTERTEK ETL SEMKO

3933 US ROUTE 11, CORTLAND, NY 13045

RENDERED TO:

TPR^2
PO Box 1029
Richmond Hill, GA 31324

ORDER NO. 3096260 **TESTED ON** April 27, 2006

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^2, authorized the test with signed quote no. 20024599.

SPECIMEN DESCRIPTION

The test was performed on a specimen submitted and identified by the client as 8 mil of TPR^2 Heatshedder™ primer/sealer over 8 mil of TPR^2 Fireshell™ Ultra intumescent coating applied 1/2" CDX plywood.

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[2] 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: TPR2
Order No.: 3096260
Test No.: 1

Date Received: April 27, 2006
Date Tested: April 27, 2006
Technician: Brian Connor

SPECIMEN DESCRIPTION: 8 mil of TPR^2 Heatshedder™ primer/sealer over 8 mil of TPR^2 Fireshell™ Ultra intumescent coating applied 1/2" CDX plywood.

PLEASE SEE APPENDIX A FOR RESULTS.

CONCLUSION

The specimen, submitted by TPR2^2, and previously described as 8 mil of TPR^2 Heatshedder™ primer/sealer over 8 mil of TPR^2 Fireshell™ Ultra intumescent coating applied 1/2" CDX plywood, when tested in accordance with ASTM E84-05 Standard Test Method for Surface Burning Characteristics of Building Materials, on April 27, 2006, achieved the following results:

Flame Spread Index:	0
Smoke Index:	0

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 ASTM E84-05

Standard Method for Surface Burning Characteristics of Building Materials

CLIENT: TPR^2 DATE: 2006/04/27

Project No. 3096260 File No. 3096260 1

TEST NO.: 1

DESCRIPTION: 8 mil of TPR^2 Heatshedder^{TM} primer/sealer over 8 mil of TPR^2 Fireshell^{TM} Ultra intumescent coating applied 1/2 " CDX plywood

Thickness (in): 0.016
No. of sections: 3
Length of individual sections (ft): 8
Total length of sample (ft): 24

Time to Ignition (min:sec):	0:57
Afterflame (min:sec):	0
Dripping on to the floor (min:sec):	N/A
Falling glowing embers (min:sec):	N/A
Flaming drips (min:sec):	N/A
Flaming on the floor (min:sec):	N/A

From end of flame exposure

Ash Length (ft):	0
Char Length (ft):	3
Melt Length (ft):	19.5
Discoloration (ft):	19.5

MOUNTING (mark box with "X"):

Self Supporting	Wire & Rods	Cementboard	Sheetrock
X			

NOTES:

STARTING TEMPS.:

87 °F TC. EXPOSED (23 ft)

101 °F TC. BURIED (13 ft)

LABORATORY CONDITIONS:

71 °F (DRY BULB)

52 % RH

0.010 IN. WC PRESS.

DRAFT CONTROLLER:

0.110 IN. WC DRAFT IND.

235 Fuel Flow Rate

BURNOUT : [ ]

TECH : Brian Connor READER : Don Pendell

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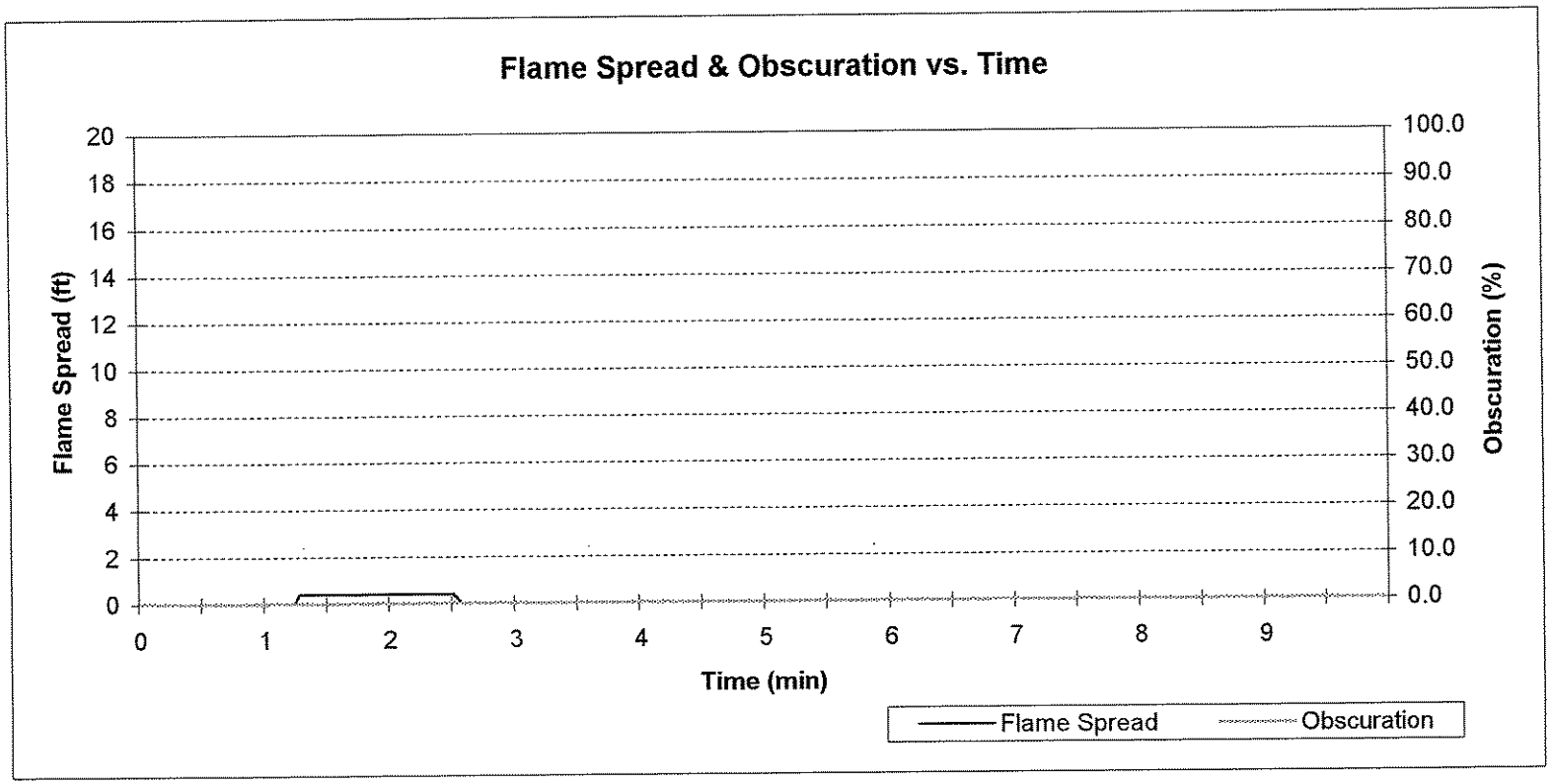
ASTM E84



Parameter	Rounded (Index)	Unrounded
Max. Flame Spread (ft):	0.4	N/A
Flame Spread Index:	0	1.80
Smoke Index:	0	0.95

Flame Spread Area (min*ft):	3.49	Smoke Area - Red Oak (min*%):	71
Smoke Area (min*%):	0.68	Time to Max. Flame Spread (min:sec):	1:16

Date: 2006/04/27
Time: 08:57:59.5
File: 3096260 1
Test #: 1

Job No.: 3096260 Description : 8 mil of TPR2 HeatshedderTM primer/sealer over 8 mil of TPR2 FireshellTM Ultra intumescent Client: TPR2

TECH.: Brian Connor READER: Don Pendell

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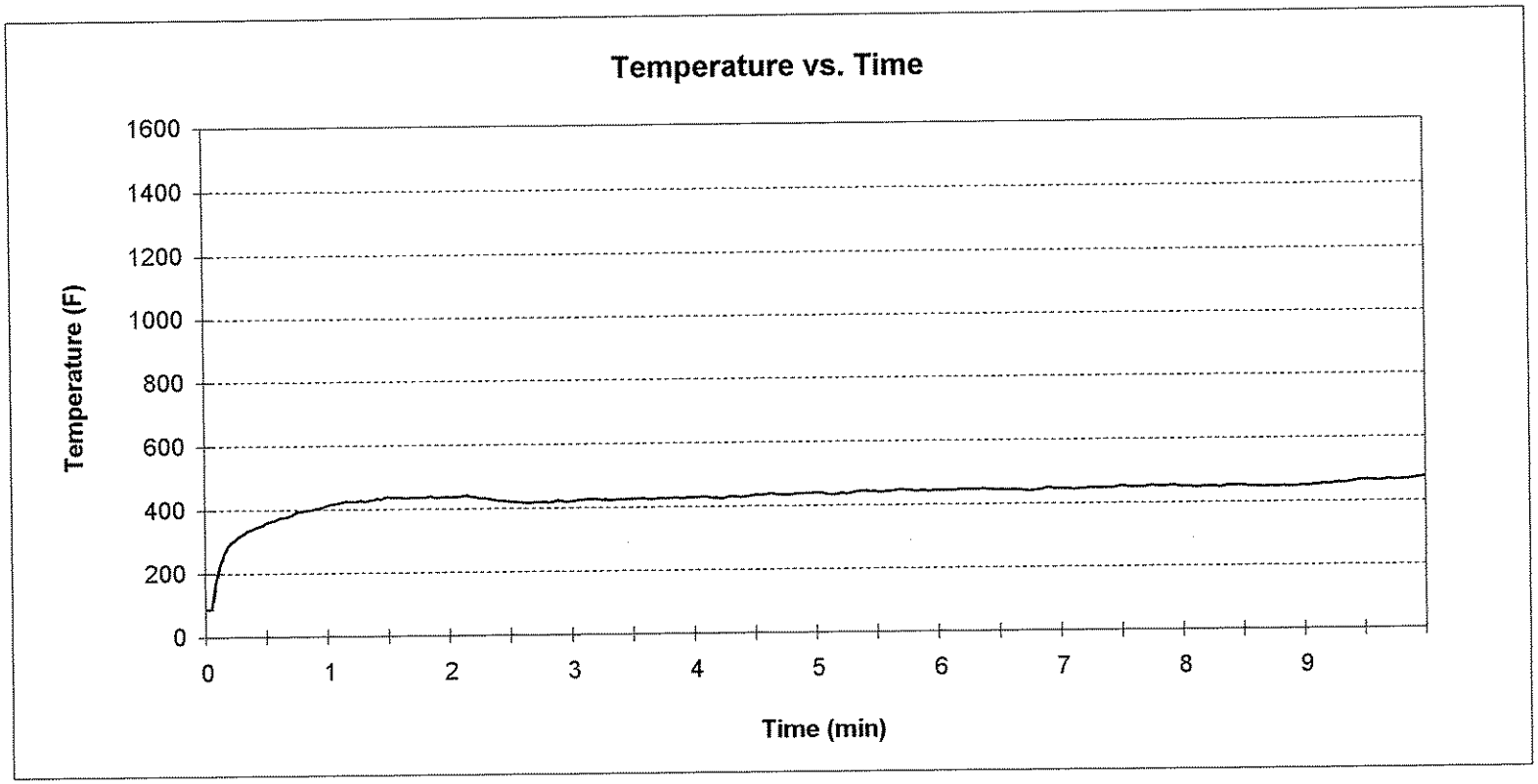
ASTM E84



Maximum Temperature (Deg. F):	473.00	Total Methane Consumption (ft^3):	50.65	Date:	2006/04/27
Time to Maximum Temp. (min:sec:):	9:58	Consumption Rate (ft^3/min):	5.07	Time:	08:57:59.5
Time to 980 F (min:sec):	0:00			File:	3096260
Temperature Area (min*deg F):	4269.72			Test #:	1
Temp. Area - Cement Board (min*deg F):	5311				
Temp. Area - Red Oak (min*deg F):	9094				

Job No.: 3096260 Desciption : Client: TPR2

TECH.: Brian Connor READER: Don Pendell