ASTM E84-03

SURFACE BURNING CHARACTERISTICS

ANC FR Coating, Coated to 25 mils

Report No. 16759 - 114404

May 22, 2003

Prepared For:

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ABSTRACT

Test Material:	**ANC FR Coating, Coated to 25 mils**		
Test Standard:	**ASTM E84-03 Standard Test Method for SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS (ANSI 2.5, NFPA 255, UBC 8-1, UL 723)**		
Test Date:	**May 21, 2003**		
Test Sponsor:	ANC		
Test Results:	**FLAME SPREAD INDEX** **SMOKE DEVELOPED INDEX**	**=** **=**	**20** **350**

The description of the test procedure and specimen evaluated, as well as the observations and results obtained, contained herein are true and accurate within the limits of sound engineering practice. These results are valid only for the specimen(s) tested and may not represent the performance of other specimens from the same or other production lots.

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The test specimen identification is as provided by the client and Omega Point Laboratories accepts no responsibility for any inaccuracies therein.

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Date: May 22, 2003

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I. INTRODUCTION

This report describes the results of the ASTM E84 Standard Test Method for SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS (1) , a method for determining t 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 materia 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 comparativ 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."

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.

(1 American Society for Testing and Materials (ASTM), Committee E-5 on Fire Standards

IV. 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

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	Flame Spread Index	Smoke Developed Index
Mineral Fiber Cement Board	0	0
Red Oak Flooring	n/a	100
AMP FR Coating, Coated to 25 mils	**20**	**350**

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

V. OBSERVATIONS

During the test, the specimen was observed to behave in the following manner: The specimen ignited at 0:29 (min:sec). Flaming drops began to fall from the specimen at 0:49. Pieces of the coating began to fall to the tunnel floor at 6:10. The test continued for the 10:00 duration.

After the test, the specimen was observed to be damaged as follows: The coating was mostly consumed from 0-ft. - 10-ft.

APPENDIX

DATA SHEETS

ASTM E84 DATASHEETS

Client: ANC
Date: 5/21/03
Time: 3:07 PM
Test Number: 4
Project Number: 16759-114404
Operator: CH/EH
Specimen ID: "AMP FIRE RETARDANT COATING, COATED TO 25 MILS". THE SPECIMEN WAS APPLIED TO CEMENT BOARD BY THE CLIENT PRIOR TO SHIPMENT OPL. THE SPECIMEN WAS SELF-SUPPORTING.

TEST RESULTS

FLAMESPREAD INDEX: 20

SMOKE DEVELOPED INDEX: 350

SPECIMEN DATA . . .

Time to Ignition (sec): 27
Time to Max FS (sec): 221
Maximum FS (feet): 4.3
Time to 980 °F (sec): Never Reached
Max Temperature (°F): 564
Time to Max Temperature (sec): 265
Total Fuel Burned (cubic feet): 40.03

FS*Time Area (ft*min): 39.3
Smoke Area (%A*min): 330.5
Fuel Area (°F*min): 5013.9
Fuel Contributed Value: 0
Unrounded FSI: 20.3

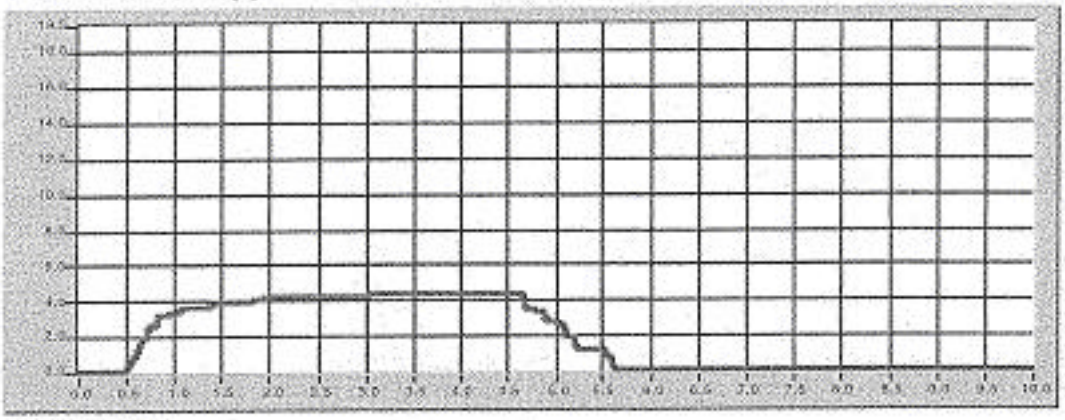
CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (sec): 53
Red Oak Smoke Area (%A*min): 100.05
Red Oak Fuel Area (°F*min): 9713
Glass Fiber Board Fuel Area (°F*min): 5051

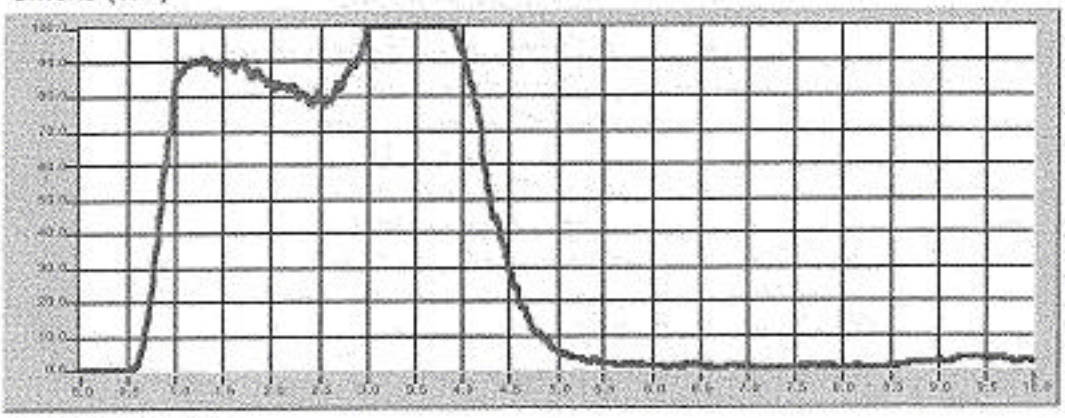
OMEGA POINT

Project No: 16759-114404

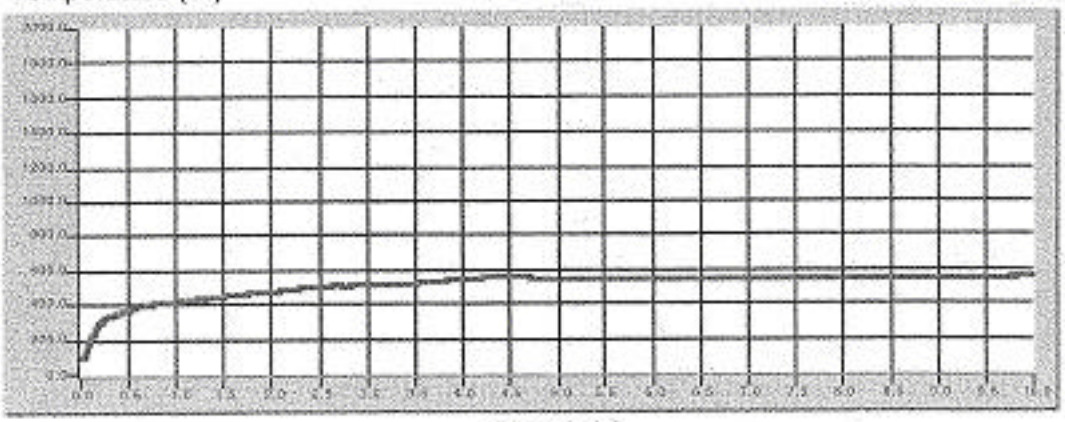
FLAME SPREAD (ft)



Smoke (%A)



Temperature (°F)



Time (min)

OMEGA POINT