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Submitted by: Advanced Heat Exchange  
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Date: September 24, 2009

Attn: Chuck Armstrong

Report No: 41694-J

## REPORT

Lab Sample No.

41694 Cement Board (1/2")

## PROCEDURE / INTRODUCTION

Sample was tested for Flame Spread. The test is conducted in accordance with the procedure outlined in ASTM E84-08a, *Standard Test Method for Surface Burning Characteristics of Building Materials* (NFPA 255, ANSI/UL 723 and UBC 8-1).

Test specimens are conditioned in an atmosphere maintained between 68 and 78 °F and 45 to 55% relative humidity. Immediately prior to the test, the specimen is mounted in the furnace with the side to be tested facing the test flame. Cement board is placed on the unexposed side of the specimen to protect the furnace lid assembly. The test is conducted with the material in the ceiling position.

The flame front position and light obscuration are recorded throughout the 10-minute test and used to calculate the Flame Spread and Smoke Developed indices. The temperature at 23 ft is also recorded. The Flame Spread and Smoke Developed indices reported herein are relative to the results obtained for mineral fiber-reinforced cement board and select grade red oak.

The results apply specifically to the specimens tested, in the manner tested, and not to the entire production of these or similar materials, nor the performance when used in combination with other materials. For reference purposes, the IBC/NFPA classification criteria are listed below:

Classification	Flame Spread Index (FSI)	Smoke Developed Index (SDI)
A	0 – 25	0 - 450
B	26 – 75	0 – 450
C	76 - 200	0 – 450



## RESULTS

### Description

Material:  
Thickness:

### Sample

Cement Board  
½" (Nominal)

### Calibration/Set-Up

Calibration Media:  
Flame Spread and Smoke Basis  
Moisture (Red Oak):  
Leakage Test:

Red Oak/Cement Board  
100 / 0  
6-8%  
Acceptable

### Test/Data

Raw Flame Spread Factor: 0.0  
Raw Smoke Generation Factor: 3.2

### Observations During Test

Ignition Time: 0.0 Seconds  
Time to Max Temperature 9.75 Minutes  
Max Temperature: 536°F  
Sagging: None  
Dripping: None  
Shrinkage: None  
After Flame:  
    Top: None  
    Bottom: None  
Fallout: None  
Delamination: None  
Flaming on Floor: None


### Final Test Results

Flame Spread Index (FSI) 0  
Smoke Developed Index (SDI) 5

## CONCLUSION

Sample meets **Class A** for Flame Spread of 25 or less. Sample also has a very low smoke development.

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Kevan W. Jones, Vice President

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