

ASTM E 84 Surface Burning Characteristics  
of "Lab Design ABL FR TX Finish"

Submitted by: Fire Testing

Report No. 09-002-052(B)  
4 Pages

Date: February 9, 2008

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Bodycote Testing Group  
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For: Lab Design

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ACCREDITATION: Standards Council of Canada, Registration #1.

**SPECIFICATIONS OF ORDER:**

Determine the Flame Spread and Smoke Developed Indices based upon a single test conducted in accordance with ASTM E 84-08a, as per our Quotation No. 09-002-0353 dated January 16, 2009.

**SAMPLE IDENTIFICATION:** (Bodycote sample identification number 09-002-S0052-2)

High pressure laminate identified as "Lab Design ABL FR TX finish, 0.8 mm thick".

**TEST PROCEDURE:**

The method, designated as ASTM E 84-08a, "Standard Method of Test for Surface Burning Characteristics of Building Materials", is designed to determine the relative surface burning characteristics of materials under specific test conditions. Results are expressed in terms of Flame Spread Index (FSI) and Smoke Developed (SD).

Although the procedure is applicable to materials, products and assemblies used in building construction for development of comparative surface spread of flame data, the test results may not reflect the relative surface burning characteristics of tested materials under all building fire conditions.

**SAMPLE PREPARATION:**

The sample consisted of 3 sections, each approximately 8 feet in length by 21 inches in width by 0.035 inches in thickness and was adhered to 0.25 inch fiberglass reinforced cement board substrate using 3M Contact Cement adhesive. The sample was conditioned at a temperature of 73 ± 3°F and a relative humidity of 50 ± 5% prior to testing.

The testing was performed on: 2009-02-03

**SUMMARY OF TEST PROCEDURE:**

The tunnel is preheated to 150°F, as measured by the floor-embedded thermocouple located 23.25 feet downstream of the burner ports, and allowed to cool to 105°F, as measured by the floor-embedded thermocouple located 13 feet from the burners. At this time the tunnel lid is raised and the test sample is placed along the ledges of the tunnel so as to form a continuous ceiling 24 feet long, 12 inches above the floor. The lid is then lowered into place.

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#### SUMMARY OF TEST PROCEDURE (continued)

Upon ignition of the gas burners, the flame spread distance is observed and recorded every 15 seconds.  
Flame spread distance versus time is plotted ignoring any flame front recessions. If the area under the curve (A) is less than or equal to 97.5 min·ft, FSI = 0.515·A; if greater, FSI = 4900/(195-A). Smoke Developed is determined by comparing the area under the obscuration curve for the test sample to that of inorganic reinforced cement board and red oak, arbitrarily established as 0 and 100, respectively.

#### TEST RESULTS

##### SAMPLE

"Lab Design ABL FR TX finish"

##### FSI

10

SD

25

##### Observations of Burning Characteristics

-The sample began to ignite and propagate flame after approximately 0.5 minutes exposure to the test flame. The sample was observed to exhibit blistering and spalling during the test duration.

-The flame front propagated to a maximum distance of 2 feet at approximately 0.75 minutes and receded to the baseline by approximately 3 minutes.

-Smoke Developed was recorded during the test (see accompanying chart).

Authorities having jurisdiction usually refer to these categories:

Flame-Spread Index Smoke Development  
Class 1 or A 0 - 25 450 Maximum  
Class 2 or B 26 - 75 450 Maximum  
Class 3 or C 76 - 200 450 Maximum

##### Note:

This is an electronic copy of the report. Signatures are on file with the original report.

Robert A. Carleton, Ian Smith,  
Fire Testing. Fire Testing.

##### Note:

This report consists of 4 pages, including the cover page, that comprise the report "body". It should be considered incomplete if all pages are not present.

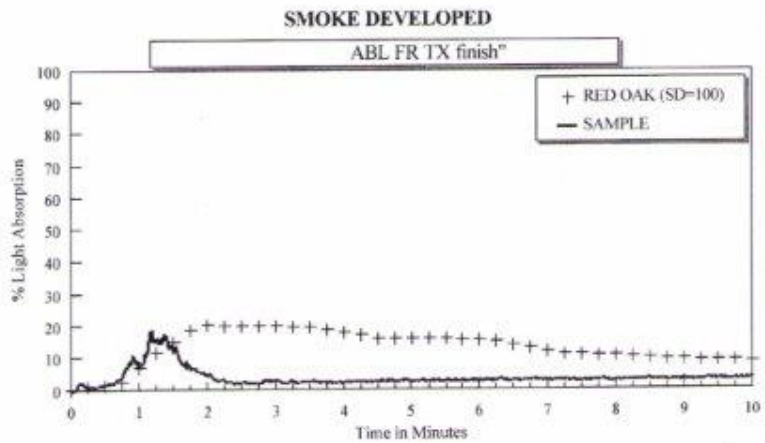
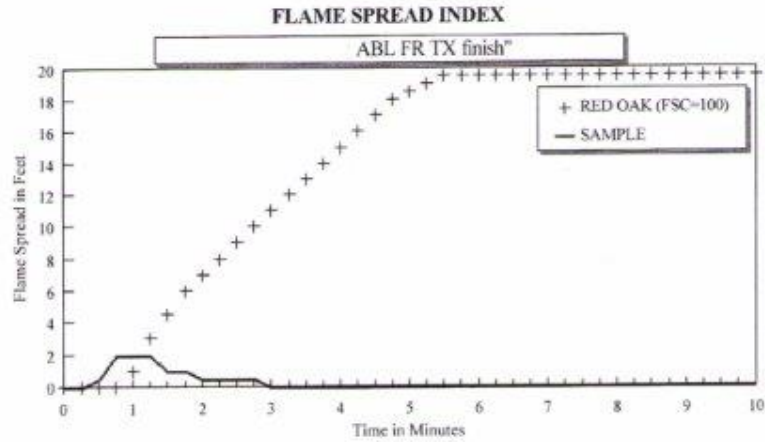
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**FSI**  
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