



April 23, 2010

Barrier Technology Corp.  
Mr. Michael Huddy  
PO Box 379  
Watkins, MN 55389

Our Reference: R21591/10NK03669

Subject: Report Of Surface Burning Characteristics Tests On  
Prefinished Wood Particleboard As Submitted By Barrier  
Technology Corp.

Dear Mr. Huddy:

This is a Report summarizing the results of a test conducted under the Commercial Inspection and Testing Services (CITS) program identified as Assignment No. 10NK03669.

GENERAL:

The results relate only to items tested.

METHOD:

Each test was conducted in accordance with Standard ANSI/UL723, Tenth Edition, dated September 10, 2008, "Test for Surface Burning Characteristics of Building Materials", (ASTM E84-08).

The test determines the Surface Burning Characteristics of the material, specifically the flame spread and smoke developed indices when exposed to fire.

The maximum distance the flame travels along the length of the sample from the end of the igniting flame is determined by observation. The Flame Spread Index of the material is derived by plotting the progression of the flame front on a time-distance basis, ignoring any flame front recession, and using the equations described below:

A.  $CFS = 0.515 A_T$  when  $A_T$  is less than or equal to 97.5 minute-foot.

B.  $CFS = 4900/(195-A_T)$  when  $A_T$  is greater than 97.5 minute-foot.

Where  $A_T$  = total area under the time distance curve expressed in minute-foot.

The Smoke Developed Index (SDI) is determined by rounding the Calculated Smoke Developed (CSD) as described in UL 723. The CSD is determined by the output of photoelectric equipment operating across the furnace flue pipe. A curve is developed by plotting the values of light absorption (decrease in cell output) against time. The CSD is derived by expressing the net area under the curve for the material tested as a percentage of the area under the curve for untreated red oak.

The CSD is expressed as:

$$\text{CSD} = (A_m/A_{r_o}) \times 100$$

Where:

CSD = Calculated Smoke Developed

$A_m$  = The area under the curve for the test material.

$A_{r_o}$  = The area under the curve for untreated red oak.

**SAMPLES:**

The samples utilized in this investigation were neither prepared nor selected by a Laboratories' representative such that no verification of composition can be provided.

**Sample Description**

Test No.	System
1	Blazeguard/LP Flameblock boards - coated side exposed

Each test sample consisted of three 8 by 2 ft wide boards butted end-to-end to form the required 24 ft. long surface.

Due to the rigidity of the test samples, supplementary means of support was not required.

**RESULTS:**

The results are tabulated below are considered applicable only to the specific samples tested.

Data sheets and graphical plots of flame travel versus time and smoke developed versus time are also enclosed.

Table 1: Test Summary


Test No.	Test Code	Sample Description	Max. Distance in 10 min.-ft.	Max. Distance in 30 min.-ft.	CFS Calculated Flame Spread	FSI Flame Spread Index	CSD Calculated Smoke Developed	SDI Smoke Developed Index
1	04201015	Blazeguard/LP Flameblock boards - coated side exposed	0.0	0.0	0.00	0	2.6	5

The Classification Marking of Underwriters Laboratories Inc. on the product is the only method provided by Underwriters Laboratories Inc. to identify products, which have been produced under its Classification and Follow-Up Service. No use of a Classification Marking has been authorized as a result of this investigation.

Should you have any questions, please contact the undersigned.

Very truly yours

Reviewed by:



Robert S. Kiefer (ext. 42014)  
Senior Engineering Associate  
Fire Protection Division

James F. Smith (ext. 42666)  
Staff Engineering Associate  
Fire Protection Division

**Underwriters Laboratories Inc.**

Project: 10NK03669  
Tested by: KNIGHTON

File: R21591  
Engineer: KIEFER

Test Code: 04201015  
Date: 2010/20/04

TEST METHOD: The test was conducted in accordance with UL 723 Tenth Edition

Client Name: Barrier Technology Corp.		
Test Duration: 30 Mins. 2 Sec.	Test No.: 1	Hot Test: No
Mounting: Self	Test Type: CITS	Burn-Out Required: No

**Test Sample:** Blazeguard/LP Flameblock boards – coated side exposed

---

FLAME SPREAD RESULTS

**Flame Spread Data**

Distance (Feet)	Time (Sec)
Ignition	414

**Calculated Flame Spread (CFS):** 0.00  
**Flame Spread Index (FSI):** 0  
**Time to Ignition (sec):** 414  
**Maximum Flame Spread (ft):** 0.0  
**Area Under the Flame Spread Curve (ft.-min):** 0.0

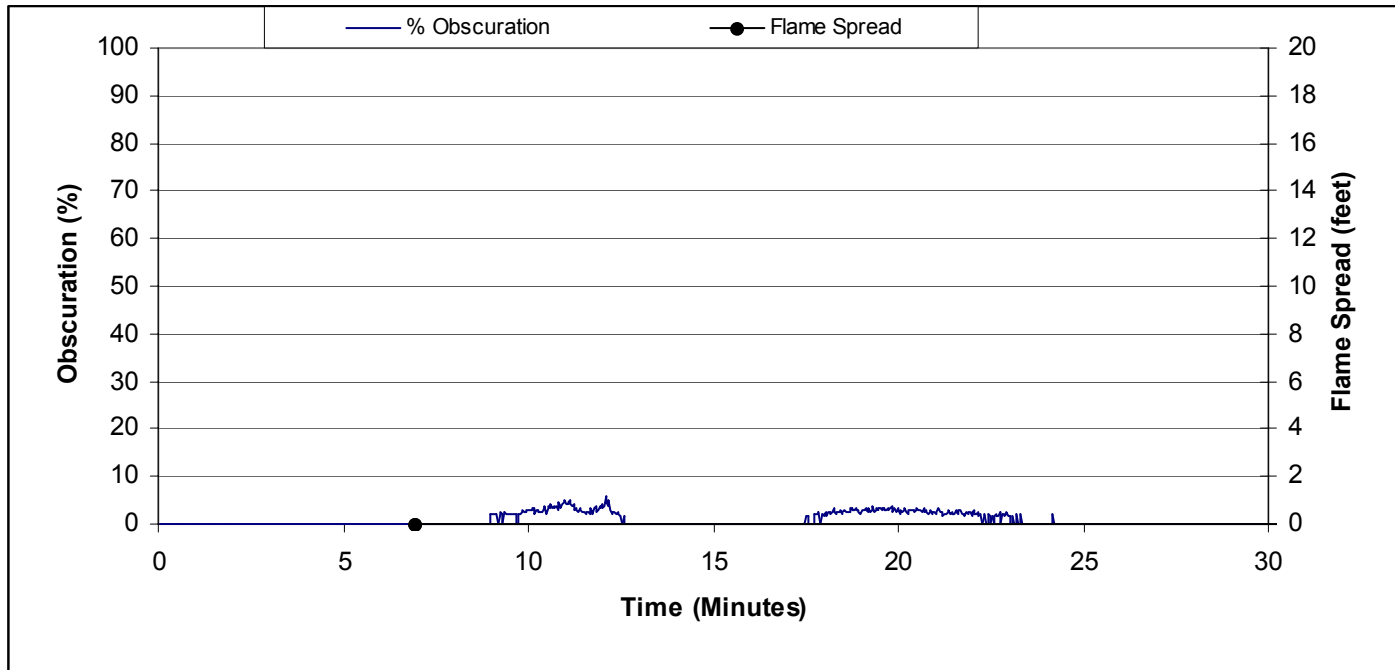
---

SMOKE RESULTS

**Calculated Smoke Developed (CSD):** 2.6  
**Smoke Developed Index (SDI):** 5  
**Area Under the Smoke Curve (sq. in.):** 2.07  
**Area Under Red Oak Curve (sq. in.):** 78.65

# Flame Spread / Smoke Results

Barrier Technology Corp.  
Blazeguard/LP Flameblock boards – coated side exposed



Test No.1  
10NK03669 / R21591  
04201015

Flame Spread Index: 0  
Smoke Developed Index: 5  
Max. Flame Spread: 0.0