<table>
<thead>
<tr>
<th>Test Report No:</th>
<th>2119203</th>
<th>Date:</th>
<th>August 10, 2010</th>
</tr>
</thead>
</table>

**SUBJECT:** Testing to ASTM E-84

**SAMPLE ID:** Sample identified as “21” x 24” was received from the client on 8/2/10 in good condition. The sample was described by the manufacturer of containing the following items:

- **Sample Description: 21” x 24’**

**TEST REQUESTED:** Perform standard flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with ASTM Designation E84-09a, "Standard Method of Test for Surface Burning Characteristics of Building Materials". The test procedure is equivalent to UL 723, ANSI/NSFA No. 255, and UBC No. 8-1.

**PREPARATION:** The sample material was submitted in four pieces, 21” wide by 6’ long.

**TEST DATE:** 8/6/10

**RESULTS:** Results can be found on the following pages and apply only to the sample tested.

**CLASSIFICATION:** The sample received a ‘Class A’ rating in accordance with the NFPA and IBC classification chart on page two of this report.

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**SIGNED FOR AND ON BEHALF OF SGS U.S. TESTING COMPANY INC.**

KSM

Greg Eftel
Engineering Technician

J. Brian McDonald
Fire Technology Department Manager

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RESULTS:

SAMPLE: 21" x 24'

TEST DATE: 8/6/10

DATA:

<table>
<thead>
<tr>
<th></th>
<th>Ignition (minutes: seconds)</th>
<th>Flame Front (feet)</th>
<th>Time to Maximum Spread (minutes: seconds)</th>
<th>Flame Spread</th>
<th>Smoke Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>01:20</td>
<td>4.0</td>
<td>10:00</td>
<td>10</td>
<td>90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NFPA Class</th>
<th>IBC Class</th>
<th>Flame Spread</th>
<th>Smoke Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>0 through 25</td>
<td>≤ 450</td>
</tr>
<tr>
<td>B</td>
<td>B</td>
<td>26 through 75</td>
<td>≤ 450</td>
</tr>
<tr>
<td>C</td>
<td>C</td>
<td>76 through 200</td>
<td>≤ 450</td>
</tr>
</tbody>
</table>

Total Test Time, (hr:min:sec): 0:10:00

Building Codes Cited:

Observations:
- Blistering
- Cracking
- Sagging
- Afterglow
- Floor Burning
- Charring
- Falling
- Afterburn

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FIGURE 1. Flame Spread
Smoke Developed Chart

![Graph showing the comparison of light absorption over time for Test Sample and Red Oak](image)

**FIGURE 2. Smoke Developed**

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FIGURE 3. Temperature – 24 ft. Air Stream Thermocouple

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End of Report