



TEST REPORT

No. : XMIN171202709CCM

Date : Jan.19, 2018

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CUSTOMER NAME: SMARTSTONE SYSTEMS LIMITED
ADDRESS: NO 13, SHUANGHE RD, JINGANG TOWN, ZHANGJIAGANG CITY, JIANGSU, CHINA

Sample Name : ECOSMART STONE
Material : Laminated Glass bead/ Natural stone
Spec. : 300×600×33mm
Manufacturer : SMARTSTONE SYSTEMS LIMITED
Sample info. : Insulated fire plus wall cladding panels

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

Test Required : Selected test(s) as requested by applicant
SGS Ref. No. : SDHL1712027828FB
Date of Receipt : Dec.26, 2017
Testing Start Date : Dec.26, 2017
Testing End Date : Jan.08, 2018

Test Result Summary

No.	Test(s) Requested	Result(s)	Comments
1	International Building Code(IBC) 2015 (IBC 2015) Chapter 8: Interior Finishes, Section 803 Wall and Ceiling Finishes, Test method designated as ASTM E84-17	Class A	/

For further details, please refer to the following page(s)
(Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

***** To be continued*****

Signed for
SGS-CSTC Standards Technical
Services Co., Ltd. XM Branch

Civi Huang Authorized Signatory



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Test Conducted:

As specified in Section 803 in International Building Code(IBC) 2015 (IBC 2015) Chapter 8: Interior Finishes, interior wall and ceiling finish material shall be classified for fire performance and smoke development in accordance with ASTM E84.

Introduction:

The method, designated as ASTM E84-17, "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 index (SDI).

The purpose of this test method is to determine the relative burning behavior of the material by observing the flame spread along the specimen. Flame spread and smoke developed index are reported. However, there is not necessarily a relationship between these two measurements.

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.

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.

Sample Description:

Thickness	:	Approximately 35mm
Exposed face	:	Sample face

***** To be continued*****



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Sample Preparation:

Prior to testing, the specimen was conditioned to constant weight at a temperature of 73 ± 5°F (23 ± 3°C) and a relative humidity of 50 ± 5%.

The test specimen consisted of a total of 24 sections of material. The sections were butted together during testing to form the requisite specimen length. The specimen was self-supporting on the ledges of the test chamber.

Test Results:

Test data and observations:

Maximum flame spread (ft): 2
 Time to Maximum Spread: 109 seconds.
 Fallout: Yes
 Test Duration: 10 minutes.
 FS*Time area (ft*min): 17.0
 Smoke area (%A*min): 32.1
 Red oak smoke area (%A*min): 90.8

Summary of results:

Flame-spread Index (FSI)	Smoke-developed Index (SDI)
10	35

Rating:

According to Section 803.1.1 in IBC 2015, interior wall and ceiling finish materials shall be classified in accordance with ASTM E84 or UL 723. Such *interior finish* materials shall be grouped in the following classes in accordance with their flame spread and *smoke-developed indexes*.

- Class A: = Flame spread index 0-25; smoke-developed index 0-450.
- Class B: = Flame spread index 26-75; smoke-developed index 0-450.
- Class C: = Flame spread index 76-200; smoke-developed index 0-450.

Conclusion:

The submitted sample meets the requirement of Class A.

***** To be continued*****



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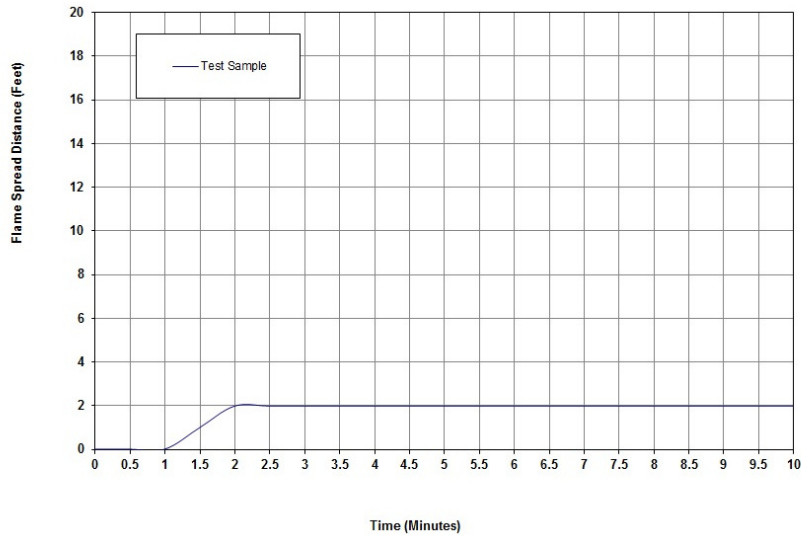
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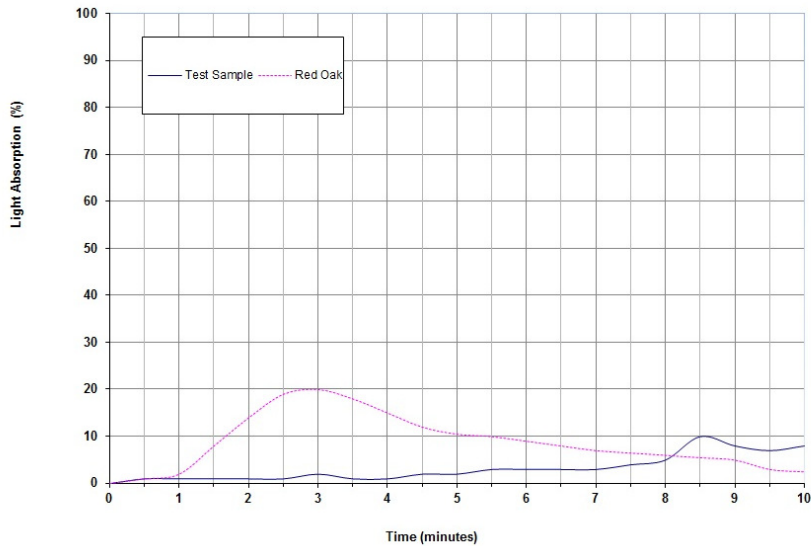
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Appendix 1-Graphs:



Graph1. Flame Spread Index



Graph2. Smoke Developed Index

Note: The above test was carried out by SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch.

***** To be continued*****



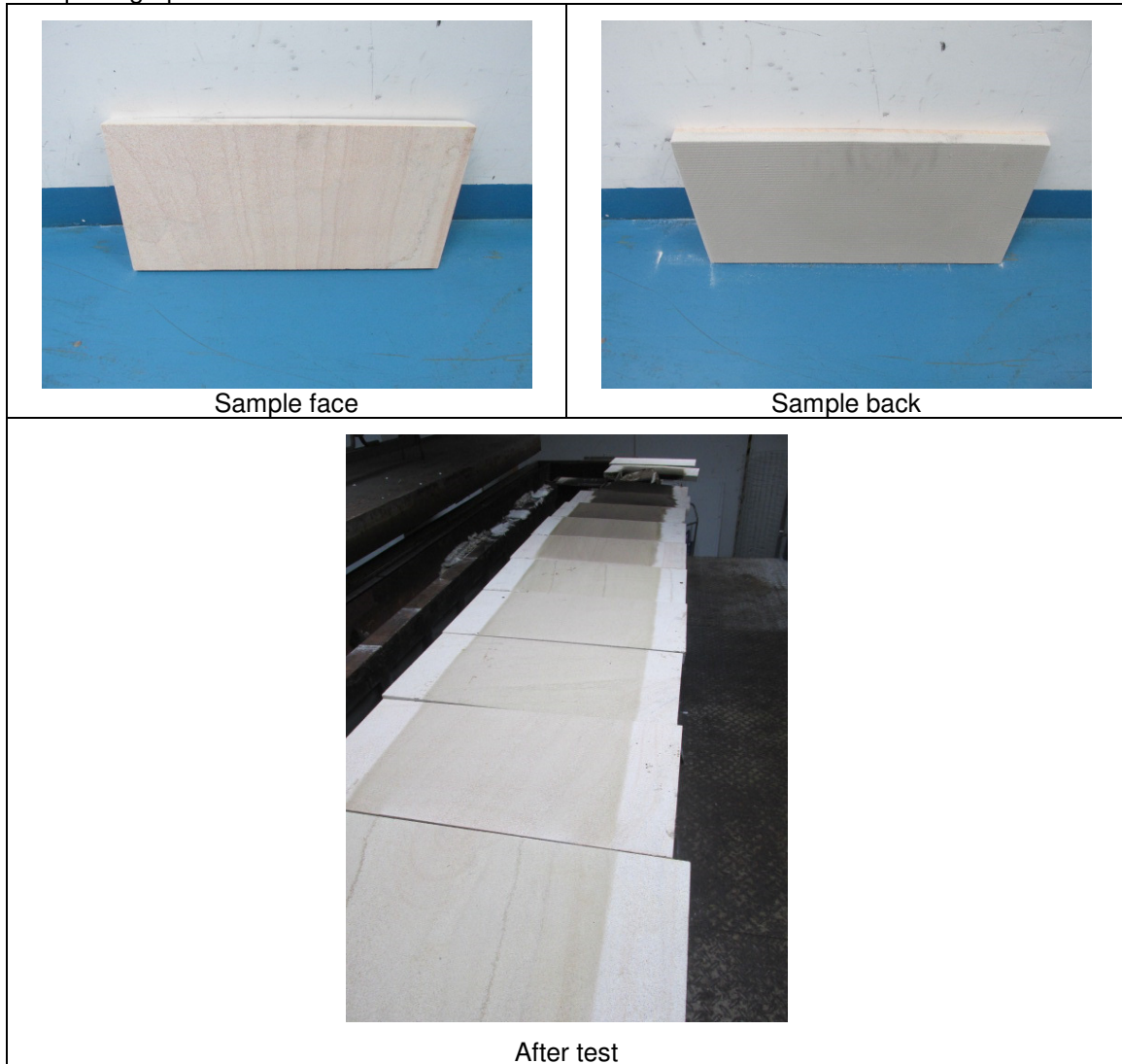
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Specimen photograph:



SGS authenticate the photo on original report only
*****End of report*****



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