BEC INDUSTRIAL (SHANGHAI) CO., LTD (FORMALLY IIG – CHINA COMPANY)
NO.5050, LONGWU ROAD, MINHANG DISTRICT, SHANGHAI, CHINA 200241

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description	:	ASBESTOS – FREE CALCIUM SILICATE
SGS Ref No.	:	SDHL1702002569FB
Manufacture	:	BEC INDUSTRIAL (SHANGHAI) CO., LTD (FORMALLY IIG – CHINA COMPANY)
Supplier	:	BEC INDUSTRIAL (SHANGHAI) CO., LTD (FORMALLY IIG – CHINA COMPANY)
Sample Receiving Date	:	Feb. 21, 2017
Test Performing Date	:	Feb. 21, 2017 to Mar. 3, 2017
Test Performed	:	Selected test(s) as requested by applicant
Test Result(s)	:	For further details, please refer to the following page(s)

Test Result Summary

No.	Test(s) Requested	Result(s)	Comments
1	ASTM E84-16	Class A	/
For further details, please refer to the following page(s)			

Signed for and on behalf of
Xiamen Branch, SGS-CSTC Co., Ltd.

Sharky Xia
Approved Signatory

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Test Conducted:

This test was conducted in accordance with ASTM E84-16 Standard Test Method for Surface Burning Characteristics of Building Materials

Introduction:

The method, designated as ASTM E84-16, "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℉, as measured by the floor-embedded thermocouple located 23.25 feet downstream of the burner ports, and allowed to cool to 105℉, 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 50mm
Exposed face	:	One face

Sample Preparation:

Prior to testing, the specimen was conditioned to constant weight at a temperature of 73 ± 5℉ (23 ± 3℃) 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):	0.5
Time To Maximum Spread:	57 seconds.
Fallout:	Yes
Test Duration:	10 minutes.
FS*Time area (ft*min):	4.6
Smoke area (%A*min):	2.0
Red oak smoke area (%A*min):	90.8

Summary of results:

Flame-spread Index (FSI)	Smoke-developed Index (SDI)
5	5

Rating:

The National Fire Protection Association Life Safety Code 101, “Interior Wall and Ceiling Finish Classification”, has a means of classifying materials with respect to Flame Spread and Smoke Developed when tested in accordance with NFPA 255, (ASTM E84) “Method of Test of Surface Burning Characteristics of Building Materials”.

The classifications are as follows:

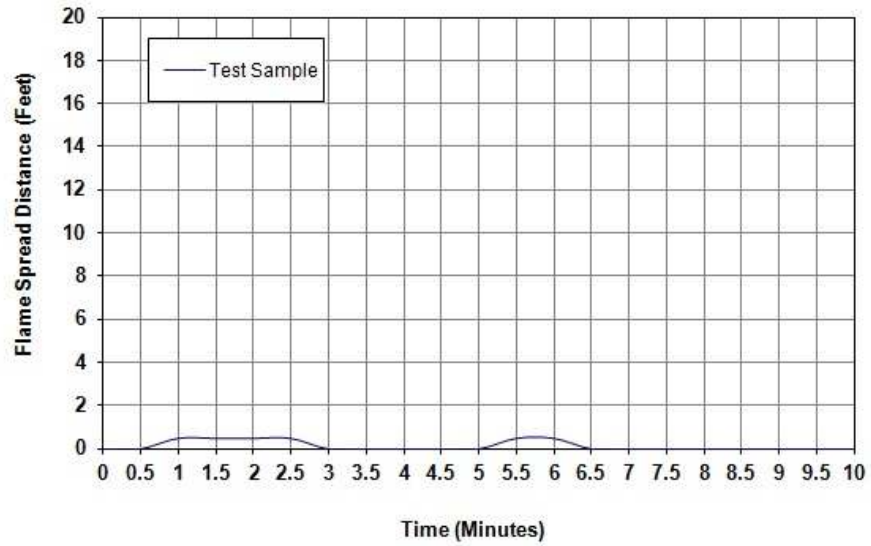
	Flame-Spread Index (FSI)	Smoke-developed Index(SDI)
Class A	0 - 25	0 - 450
Class B	26 - 75	0 - 450
Class C	76 - 200	0 - 450

Conclusion:

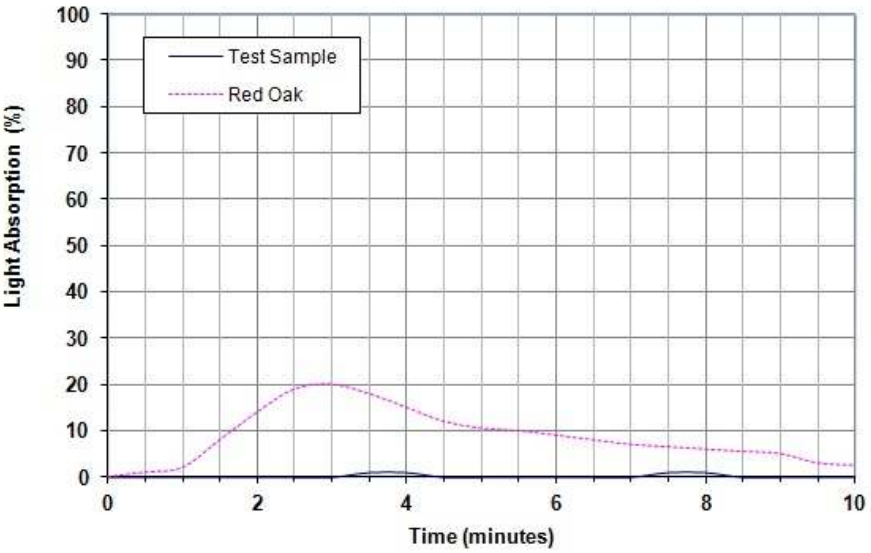
Refer to the National Fire Protection Association Life Safety Code 101, “Interior Wall and Ceiling Finish Classification”, the submitted sample meets the requirement of Class A.

Remark : This test was subcontracted to SGS other qualified subcontractor.

Appendix 1-Graphs:



Graph1. Flame Spread Index



Graph2. Smoke Developed Index

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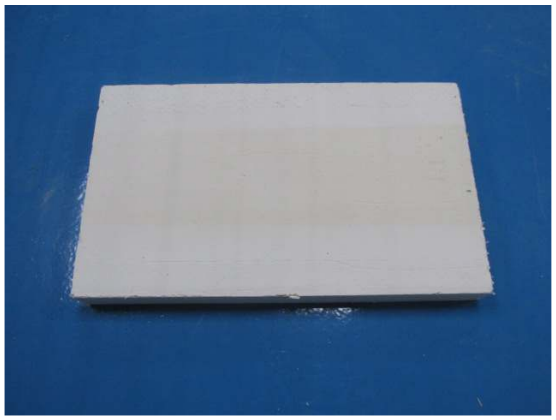
Appendix 2-Pictures:



Sample picture

Before test

After test

The testing report/certificate only refers to the sample(s) tested.

End of Report

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