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国际互认  
检测  
TESTING  
CNAS L4743

## Test Report

Report No.: AJFS2405004870RS

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TIANCHANG CITY PREET COMPOSITE MATERIAL CO., LTD.

SOUTH OF WEIER RD, YONGFENG INDUSTRIAL PARK, TIANCHANG CITY, ANHUI PROVINCE, CHINA

**Sample Description:** FRP GRATINGS-ISOPHTHALIC RESIN

**Color:** GREY

**Thickness:** 38

**Composition:** ISO

**Style/Item No.:** 38\*38

The above sample(s) was / were submitted and identified on behalf of the client. SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion arising therefrom. Results apply to the sample as received.

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### **Test Requested:**

ASTM E84-2023c Standard Test Method for Surface Burning Characteristics of Building Materials.

**Test Results:** -- See attached sheet --

### **Test Period:**

Sample Receiving Date : MAY 08, 2024

Test Performing Date : MAY 08, 2024 TO MAY 17, 2024

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Anji Branch

Echo Li  
Approved Signatory

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AJFS2405004870RS  
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### I. Test conducted

This test was conducted in accordance with ASTM E84-2023c Standard Test Method for Surface Burning Characteristics of Building Materials.

### II. Introduction

The method, designated as ASTM E84-2023c, 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.

### III. Test procedure

The tunnel is preheated to 65.6°C (150°F), as measured by the floor-embedded thermocouple located 7.09m (23.25 ft) downstream of the burner ports, and allowed to cool to 40.6°C (105°F), as measured by the floor-embedded thermocouple located 3.96m (13 ft) 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 7.32m (24 ft) long, 304.8mm (12 in) 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 30 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 ft·min,  $FSI = 0.515 \cdot A$ ; if greater,  $FSI = 4900 / (195 - A)$ .

The test results for smoke shall be plotted and the area under the curve shall be divided by the area under the curve for heptane, multiplied by 100, and rounded to the nearest multiple of five to establish a numerical smoke-developed index (SDI).

### IV. Conditioning

Prior to testing, the sample was conditioned,

To a constant weight at a temperature of 23±2.8°C (73.4±5°F) and at a relative humidity of 50±5%.



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### Sample details

|                    |                                                     |
|--------------------|-----------------------------------------------------|
| Sample description | FRP GRATINGS-ISOPHTHALIC RESIN (provided by client) |
| Color              | Grey                                                |
| Thickness          | 35.6mm                                              |
| Area density       | 16.6 kg/m <sup>2</sup>                              |
| Exposed face       | Any surface                                         |

### Mounting methods:

The specimen was self-supporting and placed directly on the inner ledges of the tunnel.

The specimen is consisted of 4 pieces of 605mm wide by 1825mm long, all sections jointed end-to-end.

### Test results:

|                         |                            |
|-------------------------|----------------------------|
| Flame Spread Index, FSI | Smoke-developed Index, SDI |
| 0                       | 40                         |

### Rating:

The National Fire Protection Association Life Safety Code 101, Chapter 10, Section 10.2.3 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 ASTM E84 or UL 723 Method of Test of Surface Burning Characteristics of Building Materials.

International Building Code, Chapter 8, Interior Finishes, Section 803 Wall and Ceiling Finishes, was classified in accordance with ASTM E 84 or UL 723. Such interior finish materials shall be grouped in the following classes in accordance with their flame spread and smoke-developed indexes.

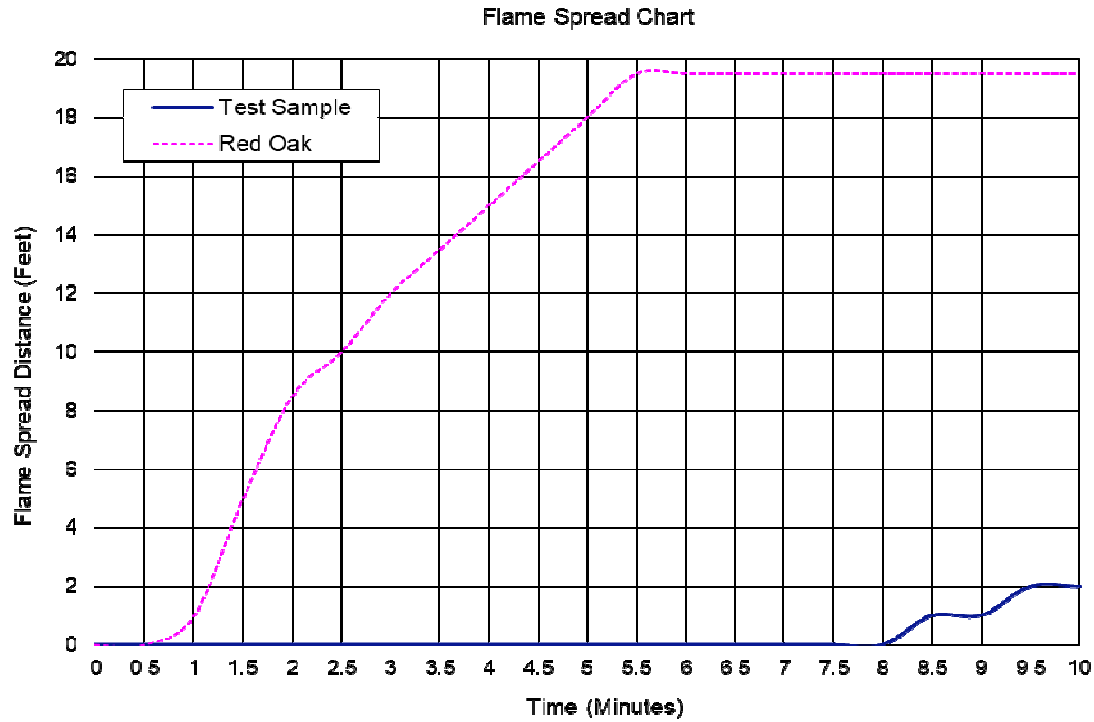
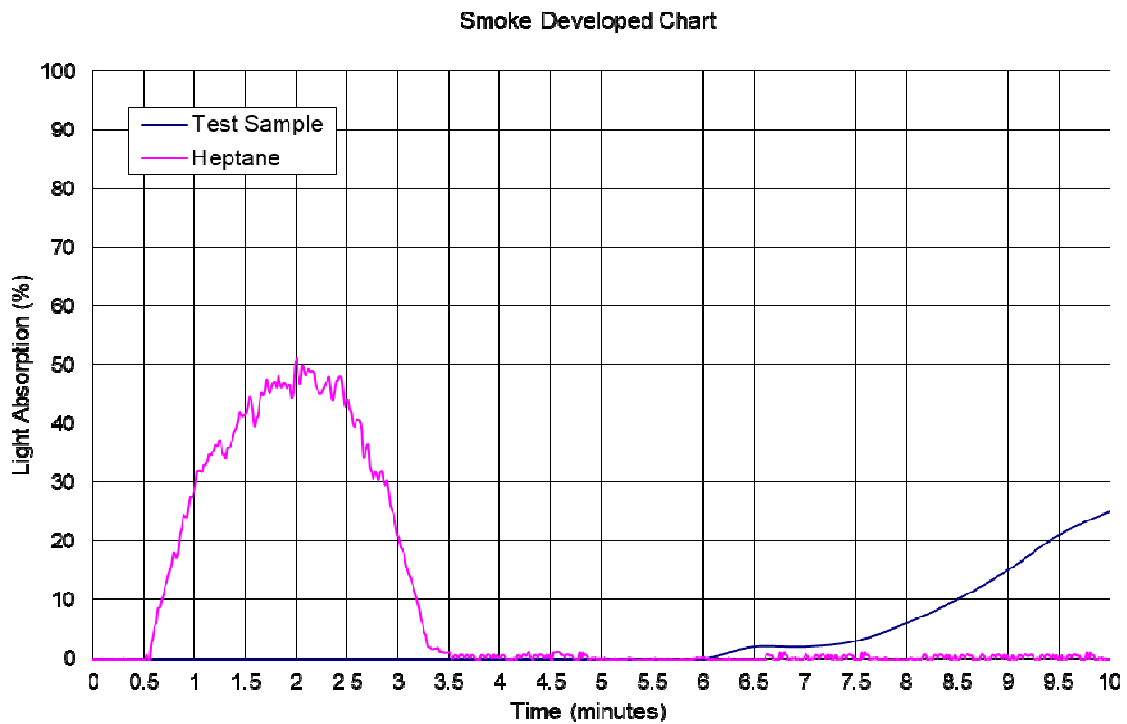
### The classifications are as follows:

| Index                 | Class A | Class B | Class C |
|-----------------------|---------|---------|---------|
| Flame Spread Index    | 0-25    | 26-75   | 76-200  |
| Smoke-developed Index | 0-450   | 0-450   | 0-450   |

Since the tested sample received a Flame Spread Index 0 and a Smoke-developed Index 40, it would **meet** the requirements of **Class A** interior Wall & Ceiling Finish Category.



### Graphical results:



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### Observations:

|                        |      |
|------------------------|------|
| Time to ignition (sec) | 317  |
| Time to Max. FS (sec)  | 562  |
| Maximum FS (feet)      | 2    |
| Observations           | None |

**Statement:** This declaration of conformity is only based on the result of this laboratory activity, the impact of the uncertainty of the results was not included.

### Photo Appendix:



SGS authenticate the photo on original report only

\*\*\*End of Report\*\*\*