

## TEST REPORT

No. : GZIN170902787CCM-01

Date : Nov. 30, 2017

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CUSTOMER NAME: XIAMEN ZHONGJINGTAI BUILDING MATERIALS CO., LTD  
ADDRESS: UNIT 2A, LIANCHANG BUILDING, NO. 6-8 HULI AVENUE, HULI DISTRICT, XIAMEN, CHINA

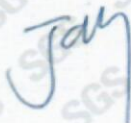
Sample Name : EPS cement sandwich panel  
Buyer : MEGALODON ENTERPRISE CO

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.

\*\*\*\*\*

SGS Ref. No. : GZIN170902787CCM  
Date of Receipt : Sep. 21, 2017  
Testing Start Date : Sep. 27, 2017  
Testing End Date : Nov. 29, 2017  
Test result(s) : 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)

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



Jay Xue  
Authorized signatory



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### Summary of test results

No.	Test items	Test methods	Test results
1	Compressive Strength	With reference to EN 14617-15:2005 and Client's requirement	2.85MPa
2	Impact Test	With reference to EN 12600:2002 and Client's requirement	No visible damage when the drop height is 450mm.
3	Hanging Nail Force	As Client's requirement	The weight did not fall off and specimen had no visible damage.
4	Thermal conductivity	EN 12667:2001	0.223 W/(m·K)
5	Fire resistance tests	EN 13501-2:2016 & EN 1364-1:2015	See test result
6	Sound Transmission Loss	ISO140-3:1995 & ISO 717-1:1996	See test result

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**Test Information:**

Sample description: See photo(s)

**Test Item 1:** Compressive Strength (Lateral compression)

**Test Method:** With reference to EN 14617-15:2005 and Client's requirement

**Test Condition:**

Specimen: 125mm×121mm×101mm

Testing speed: 5mm/min

**Test Result:**

Specimens identification No.	1	2	3	4
Compressive strength (MPa)	3.89	3.90	3.64	3.88
Mean value (MPa)	3.85			

**Test Item 2:** Impact Test

**Test Method:** With reference to EN 12600:2002 and Client's requirement

**Test Condition:**

Specimen: 1940mm×610mm×100mm

Impact height: 450mm

Mass of the impactor: 50kg

Main frame: 1820mm×510mm

**Test Result:** No visible damage when the drop height is 450mm.

**Test Item 3:** Hanging Nail Force

**Test Method:** As Client's requirement

**Test Condition:**

Specimen: 1940mm×610mm×100mm

Weight: 50kg

Test time: 96h

**Test Result:** The weight did not fall off and specimen had no visible damage.

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**Test Item 4:** Thermal conductivity

**Test Method:** EN 12667:2001 Heat flow meter method

**Test Condition:**

Specimen: 299mm×298mm×73.5mm, 1pc

Density: about 805kg/m<sup>3</sup>

Mean temperature: 25°C

Temperature difference: 10°C

Lab environmental condition: 23±2°C, 50±5%RH

**Test Result:**

Test Item	Test Result
Thermal conductivity	0.223 W/(m·K)

Note: 1.The test result can not be compared with other results obtained from different test conditions, and should not be cited to the use condition directly.

2.The above test was carried out by SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd..

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**GZCCM**

**028259**

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### Test Item 5: Fire resistance test

#### 1. Introduction

The fire resistance of a system in accordance with EN 13501-2:2016, Clause 7.5.2 Partitions.

The sample was symmetrical element, resist fire from either side which was exposed to elevated temperatures as dictated by the EN 1364-1:2015 Fire resistance tests for non-loadbearing elements Part 1: Walls, time-temperature curve for a period of 180 minutes under Non-loaded condition.

The test was conducted on OCT.27, 2017.

#### 2. Details of classified product

##### 2.1 General

The product is defined as non-load bearing wall construction.

##### 2.2 Product description

The details of product were given below have been prepared from information provided by the sponsor of the test.

Size: 2440mm×610mm×100mm.

#### 3. Test results

Test method	Parameter	Results
EN 1364-1:2015	Integrity	
	Cotton pad	No Failure @ 180min
	Gap gauges	No Failure @ 180min
	Sustained flaming	No Failure @ 180min
	Insulation	
	Average temperature rise	No Failure @ 180min
	Maximum temperature rise	No Failure @ 180min

The Test was terminated at the request of test sponsor.

Details of test results refer to Appendix A.

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#### 4. Classification and field of application

##### 4.1 Reference of classification

This classification has been carried out in accordance with clause 7.5.2 of EN 13501-2:2016.

##### 4.2 Classification

The product, EPS CEMENT STANDWICH PANEL non-load bearing wall construction, is classified according to the following combinations of performance parameters and classes as appropriate.

**Fire resistance classification:**  
**EI 180**

##### 4.3 Field of application

This classification is only valid for the wall construction, which are the same in details to the tested construction, including materials and installation of assembly used.

#### 5. Limitations

This classification report does not represent type approval or certification of the product.

#### Appendix A, Test details

##### A.1 Test Conducted

This test is conducted as per EN 1364-1:2015 Fire resistance tests for non-loadbearing elements Part 1: Walls.

Classification in according to EN 13501-2:2016, clause 7.5.2 Partitions.

##### A.2 Test Assembly

Specimen size: 2440mm×610mm×100mm, the specimen was installed by a representative of Lab on OCT.26, 2017.

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### A.3 Equipment

Sixteen mineral insulated thermocouples, which were kept at 100 mm away from the surface of the specimen, were provided to monitor the temperature of the furnace. The locations and reference numbers of the furnace thermocouples are shown in Figure 1.

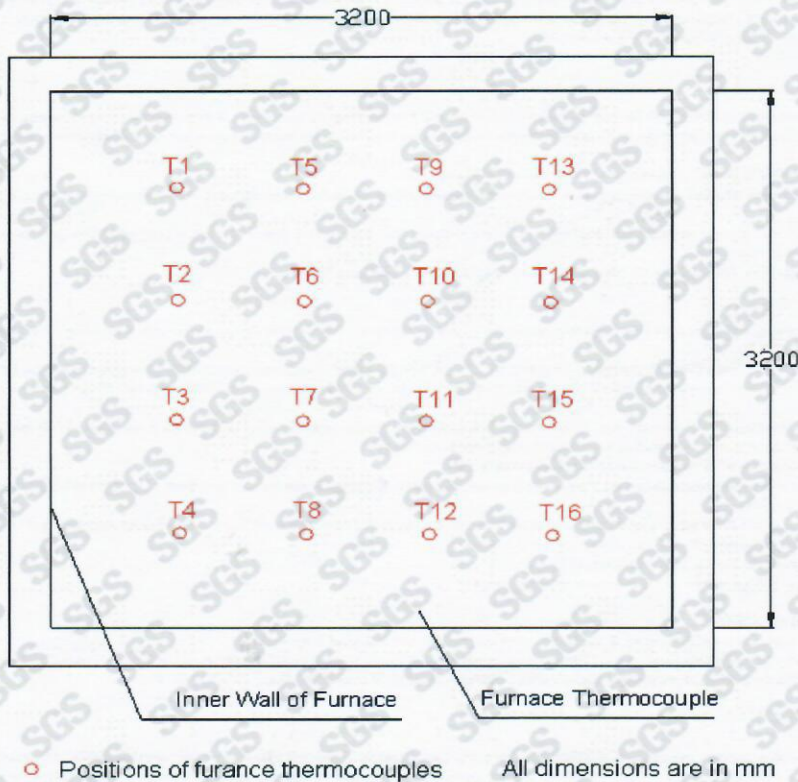


Figure 1 - Plan of Furnace Thermocouples

### A. 4 Test procedure

The test was conducted in accordance with the procedure specified in EN 13501-2:2016

The ambient temperature of test area was measured at commencement of test.

The furnace was controlled so that the mean furnace temperature, deviation from the mean furnace temperature and uniformity of temperature distribution complied with the requirement of EN 1364-1:2015. Sixteen furnace thermocouples were used to determine the mean furnace temperature.

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The temperature of the unexposed face was monitored by means of 9 thermocouples fixed to the unexposed surface of the sample. All thermocouples will be used to determine the temperature of each point of the sample and No.3, 4, 6, 8 and 9 thermocouples will be used to calculate the mean temperature of the sample.

The details of the various unexposed surface thermocouples are shown in Figure 2.



No. 3, 4, 8, 9 in the center of each quarter for specimen;

No. 6 in the center of the specimen

- positions for thermocouples for average temperature rise
- positions for thermocouples for maximum temperature rise

Figure 2 - Position for unexposed face thermocouples

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### A.5 Test Results

The following data were recorded during the test:

- a) The actual mean furnace temperature/ time curve as well as the standard furnace temperature/ time curve, which were shown in Figure 3.
- b) The value of unexposed surface temperature rise was shown in Figure 4.

The individual temperatures recorded on the unexposed surface of the specimen were shown in Table 1.

A summary of the observations made on the general behavior of the specimen was given in Table 2.

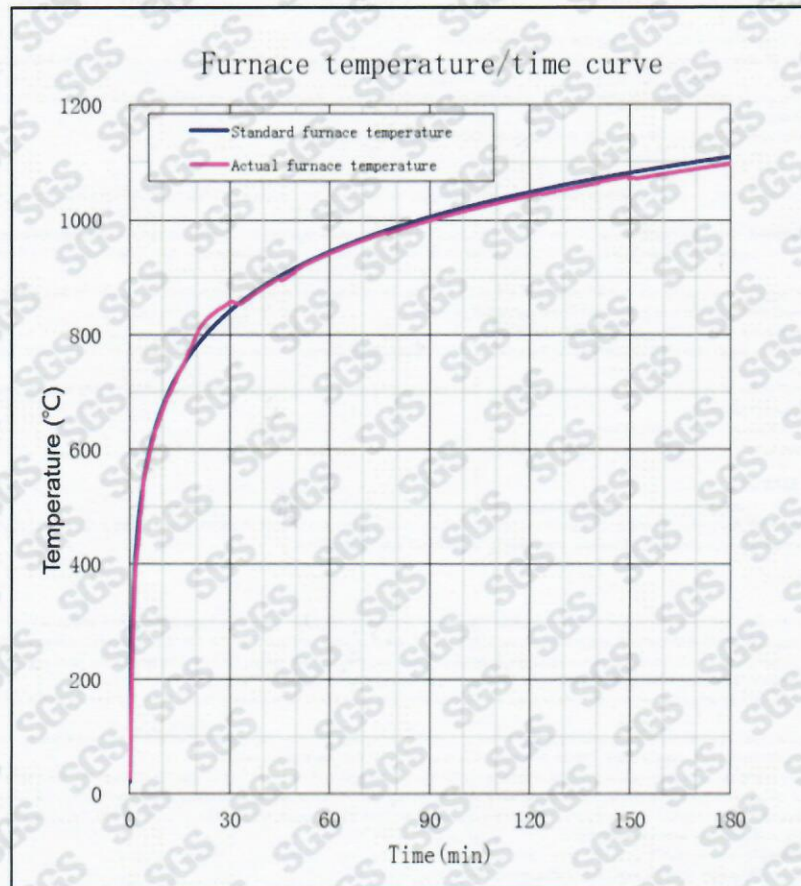


Figure 3 - Actual Mean Furnace Temperature/Time Curve and Standard Furnace Temperature/Time Curve

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Table 1 Individual Temperatures Recorded on the Unexposed Surface of the Specimen (unit: °C)

Time (min)	Thermocouples / Temperatures								
	1	2	3	4	5	6	7	8	9
0	23.4	23.1	23.2	22.8	23.1	23.3	24.0	23.3	24.0
1	23.5	23.1	23.1	22.8	23.1	23.1	24.0	23.4	23.9
2	23.6	23.1	23.2	23.0	23.2	23.3	24.3	23.3	23.8
3	23.5	23.2	23.2	23.0	23.2	23.1	23.9	23.4	23.9
4	23.8	23.2	23.4	23.0	23.4	23.4	24.2	23.4	24.0
5	23.9	23.4	23.5	23.2	23.2	23.4	24.0	23.4	24.0
6	23.8	23.4	23.5	23.0	23.4	23.2	24.1	23.4	23.9
7	23.7	23.4	23.5	23.1	23.4	23.4	24.1	23.5	24.0
8	23.9	23.2	23.4	23.1	23.4	23.4	24.2	23.5	24.1
9	23.8	23.4	23.4	23.1	23.4	23.4	24.1	23.6	24.1
10	24.0	23.4	23.6	23.1	23.4	23.5	24.2	23.5	24.1
11	24.0	23.5	23.5	23.1	23.5	23.5	24.2	23.5	24.0
12	24.0	23.4	23.5	23.1	23.3	23.5	24.0	23.4	24.0
13	23.9	23.5	23.6	23.2	23.5	23.5	24.1	23.5	24.0
14	23.9	23.3	23.6	22.9	23.4	23.4	24.0	23.5	23.9
15	24.0	23.5	23.5	23.1	23.4	23.4	24.4	23.5	24.0
16	24.0	23.6	23.7	23.2	23.5	23.5	24.2	23.5	24.0
17	24.1	23.6	23.7	23.2	23.5	23.5	24.2	23.5	24.1
18	24.1	23.6	23.8	23.3	23.5	23.4	24.2	23.7	24.1
19	24.0	23.6	23.7	23.2	23.4	23.5	24.3	23.5	24.2
20	24.1	23.6	23.7	23.2	23.5	23.4	24.2	23.5	24.2
21	24.2	23.7	23.7	23.3	23.7	23.5	24.4	23.5	24.2
22	24.2	23.6	24.0	23.4	23.5	23.6	24.4	23.7	24.2
23	24.3	23.6	23.8	23.2	23.5	23.4	24.3	23.7	24.0
24	24.2	23.7	23.8	23.2	23.5	23.5	24.2	23.6	24.1
25	24.2	23.6	23.6	23.4	23.5	23.5	24.4	23.5	24.1
26	24.4	23.7	23.8	23.2	23.6	23.6	24.4	23.5	24.3

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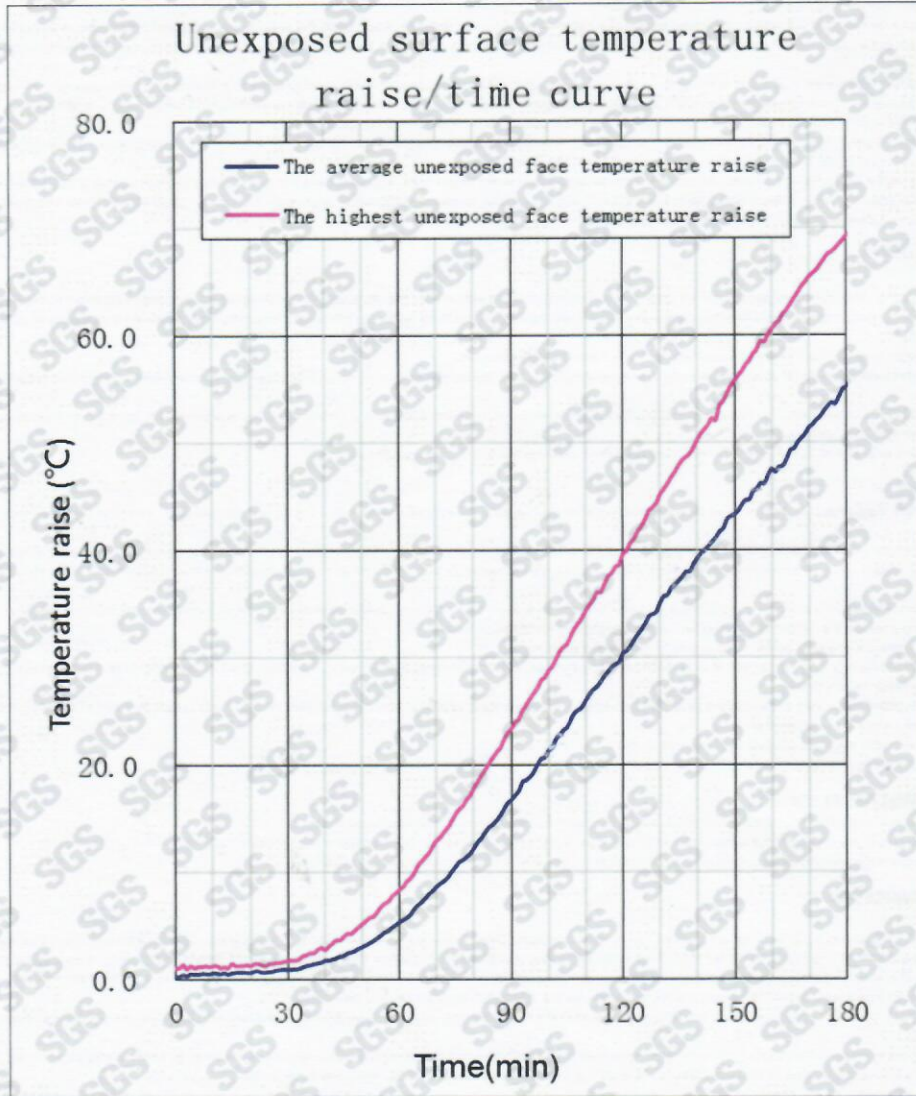


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Figure 4 –Unexposed surface temperature rise/time curve



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Time (min)	Thermocouples / Temperatures								
	1	2	3	4	5	6	7	8	9
27	24.5	23.9	24.0	23.5	23.6	23.7	24.4	23.9	24.2
28	24.5	23.9	24.0	23.5	23.7	23.7	24.5	23.5	24.2
29	24.6	24.0	24.1	23.5	23.8	23.7	24.5	23.7	24.2
30	24.7	24.0	24.1	23.5	23.7	23.8	24.4	23.8	24.2
31	24.7	24.1	24.1	23.7	23.6	23.7	24.4	23.8	24.2
32	24.7	24.2	24.2	23.6	23.7	23.8	24.4	23.8	24.2
33	24.8	24.2	24.1	23.7	23.8	23.8	24.4	23.9	24.2
34	25.1	24.4	24.2	23.8	24.0	24.0	24.5	23.9	24.2
35	25.2	24.6	24.4	24.0	24.0	24.0	24.8	23.9	24.2
36	25.4	24.7	24.5	24.2	24.1	24.1	24.6	24.0	24.2
37	25.4	24.8	24.7	24.2	24.1	24.2	24.8	24.0	24.4
38	25.7	25.0	24.7	24.3	24.2	24.3	24.9	24.1	24.5
39	25.9	25.1	24.8	24.3	24.4	24.4	24.8	24.3	24.7
40	25.7	25.3	25.0	24.5	24.6	24.5	25.0	24.2	24.7
41	26.0	25.5	25.0	24.6	24.5	24.7	24.8	24.2	24.4
42	26.3	25.5	25.0	24.8	24.6	24.7	25.1	24.5	24.4
43	26.6	25.9	25.3	24.8	24.7	24.8	25.1	24.6	24.9
44	26.6	26.0	25.4	25.0	24.9	25.1	25.1	24.7	25.0
45	26.9	26.2	25.4	25.2	24.7	25.2	25.3	24.8	25.0
46	27.2	26.5	25.6	25.3	25.1	25.4	25.6	24.9	25.1
47	27.2	26.7	25.8	25.5	25.3	25.6	25.3	25.0	25.1
48	27.5	26.8	25.8	25.7	25.4	25.8	25.4	25.2	25.2
49	27.8	27.2	26.1	25.8	25.7	26.0	25.6	25.2	25.3
50	28.1	27.7	26.3	26.1	25.8	26.1	25.7	25.4	25.4
51	28.4	27.9	26.5	26.4	25.7	26.5	25.7	25.6	25.5
52	28.7	28.2	26.7	26.7	26.0	26.5	25.9	25.7	25.7
53	28.8	28.6	27.0	26.8	26.2	26.8	26.0	26.0	25.7

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**GZCCM 028267**



## TEST REPORT

No. : GZIN170902787CCM-01

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Time (min)	Thermocouples / Temperatures								
	1	2	3	4	5	6	7	8	9
54	29.2	29.0	27.2	27.2	26.5	27.1	26.1	26.1	26.0
55	29.7	29.4	27.5	27.5	26.7	27.4	26.3	26.3	26.0
56	30.0	29.8	27.8	27.8	27.1	27.7	26.4	26.5	26.1
57	30.2	30.1	27.8	28.1	27.2	28.1	26.4	26.8	26.2
58	30.7	30.6	28.1	28.5	27.5	28.3	26.7	26.8	26.4
59	31.0	30.9	28.5	28.7	27.7	28.6	26.8	27.1	26.6
60	31.3	31.2	28.8	29.1	27.9	28.7	27.1	27.2	26.6
61	31.6	31.6	29.0	29.3	28.1	29.2	27.0	27.5	26.8
62	32.1	32.0	29.1	29.7	28.3	29.5	27.1	27.7	26.8
63	32.3	32.4	29.6	29.9	28.6	29.7	27.4	27.9	27.0
64	32.9	32.9	30.0	30.5	29.0	30.3	28.0	28.2	27.4
65	33.3	33.6	30.4	30.8	29.5	30.9	28.1	28.5	27.7
66	33.6	34.0	30.8	31.2	29.8	31.1	28.2	28.8	27.9
67	34.0	34.4	31.0	31.7	30.1	31.5	28.7	29.1	28.1
68	34.4	34.8	31.5	32.2	30.5	31.9	28.8	29.5	28.1
69	34.8	35.4	31.9	32.5	30.8	32.3	28.7	29.8	28.5
70	35.3	35.9	32.2	32.9	31.1	32.7	29.3	30.1	28.7
71	35.6	36.2	32.6	33.3	31.3	33.2	29.2	30.4	28.7
72	36.2	36.7	33.0	33.6	31.7	33.3	29.2	30.7	28.7
73	36.5	37.1	33.1	34.0	31.9	33.9	29.5	31.0	29.1
74	36.9	37.7	33.6	34.5	32.5	34.5	30.0	31.5	29.8
75	37.4	38.3	34.0	34.9	33.0	34.8	30.5	31.8	30.0
76	37.8	38.8	34.6	35.6	33.5	35.3	30.6	32.2	30.1
77	38.4	39.1	34.8	35.9	33.6	35.7	30.5	32.4	30.1
78	38.8	39.7	35.1	36.2	34.0	36.0	30.7	32.7	29.8
79	39.1	40.1	35.4	36.6	34.3	36.5	30.7	33.0	30.2
80	39.5	40.8	35.8	37.2	34.7	37.2	31.2	33.4	30.8

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**GZCCM 028268**



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Time (min)	Thermocouples / Temperatures								
	1	2	3	4	5	6	7	8	9
81	40.0	41.4	36.5	37.6	35.2	37.6	32.0	33.8	31.8
82	40.7	42.0	36.9	38.3	35.6	38.1	31.9	34.5	31.4
83	41.2	42.5	37.4	38.8	36.0	38.8	32.3	34.7	31.5
84	41.5	43.1	38.0	39.4	36.6	39.1	32.7	35.2	32.4
85	41.9	43.6	38.1	39.9	36.9	39.6	32.5	35.5	32.2
86	42.5	44.1	38.8	40.1	37.3	40.1	32.6	35.9	32.2
87	43.0	44.5	39.1	40.7	37.7	40.6	33.0	36.3	32.5
88	43.4	45.3	39.7	41.4	38.1	41.2	33.7	36.7	33.0
89	43.9	45.9	40.4	41.8	38.7	41.8	34.3	37.2	33.6
90	44.2	46.3	40.8	42.4	39.1	42.4	33.8	37.5	33.3
91	44.9	46.9	41.2	42.7	39.4	42.9	34.5	37.8	33.9
92	45.2	47.2	41.6	43.2	39.8	43.4	34.7	38.4	33.9
93	45.8	48.0	42.2	43.9	40.6	44.2	36.0	38.8	35.0
94	46.2	48.5	42.7	44.4	41.1	44.5	35.2	39.4	34.6
95	46.6	49.1	43.1	44.8	41.4	44.9	35.2	39.5	34.8
96	47.0	49.6	43.4	45.2	41.9	45.4	35.7	40.1	35.0
97	47.3	50.1	43.9	45.8	42.3	46.1	37.0	40.5	35.8
98	47.9	50.8	44.6	46.4	43.0	46.6	37.2	41.3	36.3
99	48.3	51.1	44.9	46.9	43.4	46.9	36.4	41.4	35.6
100	49.1	51.7	45.4	47.3	44.1	47.5	37.3	41.6	35.8
101	49.1	52.1	45.8	47.8	44.2	48.0	37.5	42.1	36.7
102	49.8	52.8	46.5	48.4	45.0	48.8	38.4	42.8	37.3
103	50.2	53.5	47.2	49.1	45.5	49.4	37.7	43.5	37.2
104	50.6	53.9	47.5	49.5	46.0	49.9	38.3	43.9	37.4
105	50.9	54.2	47.7	49.8	46.4	50.2	38.5	44.3	37.8
106	51.5	54.9	48.3	50.4	46.9	50.9	39.5	44.6	37.6
107	52.0	55.6	49.1	51.1	47.5	51.4	40.0	45.2	38.3
108	52.4	56.1	49.4	51.6	47.9	52.0	39.6	45.7	38.1

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## TEST REPORT

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Time (min)	Thermocouples / Temperatures								
	1	2	3	4	5	6	7	8	9
109	52.6	56.6	49.7	52.0	48.0	52.3	39.8	46.0	38.5
110	53.1	57.3	50.2	52.4	48.6	52.8	40.9	46.5	39.2
111	53.7	57.8	50.9	52.9	49.2	53.5	41.2	46.8	39.5
112	54.1	58.3	51.3	53.4	49.8	54.1	41.3	47.2	39.4
113	54.6	59.0	51.8	53.9	50.1	54.3	41.2	47.7	39.7
114	54.7	59.0	52.1	54.3	50.6	54.9	41.6	48.0	39.8
115	55.0	59.7	52.7	54.7	51.0	55.5	42.3	48.3	40.2
116	55.7	60.5	53.0	55.4	51.6	56.1	42.1	49.0	40.0
117	56.0	60.8	53.4	55.6	51.8	56.3	43.3	49.0	40.7
118	56.4	61.4	53.8	56.1	52.3	56.9	42.7	49.5	40.7
119	56.9	61.6	53.8	56.5	52.5	57.2	42.8	49.8	40.6
120	57.4	62.6	54.7	57.2	53.5	57.9	43.6	50.3	41.8
121	57.6	62.9	55.0	57.6	53.8	58.3	43.2	50.7	41.4
122	58.0	63.6	55.4	58.0	54.1	58.8	44.0	51.0	42.0
123	58.6	64.0	56.2	58.6	54.4	59.3	44.5	51.4	42.0
124	59.0	64.7	56.6	59.1	55.2	59.9	44.9	51.7	42.2
125	59.3	65.2	57.2	59.5	55.5	60.4	45.4	52.6	43.7
126	59.8	65.8	57.7	60.2	56.3	60.9	45.7	53.2	44.3
127	60.3	66.6	58.4	60.6	57.0	61.5	46.7	53.8	44.6
128	60.7	66.9	58.7	61.0	57.4	61.7	46.3	54.2	43.8
129	61.1	67.3	59.1	61.5	57.6	62.1	46.0	54.5	43.7
130	61.7	68.1	59.7	61.9	58.4	63.0	47.6	55.1	45.6
131	62.5	68.6	60.5	62.6	59.3	63.3	47.8	55.9	46.0
132	62.8	69.1	60.9	63.0	59.8	63.8	46.7	56.3	45.1
133	63.2	69.7	61.4	63.6	60.2	64.2	48.0	56.6	46.2
134	63.7	70.2	61.8	64.1	60.8	64.6	47.7	57.1	45.7
135	64.1	70.8	62.2	64.4	61.0	64.9	48.2	57.5	46.2
136	64.4	71.3	62.6	64.9	61.4	65.5	48.4	57.9	45.8

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Time (min)	Thermocouples / Temperatures								
	1	2	3	4	5	6	7	8	9
137	64.8	71.6	62.9	65.5	61.8	66.0	48.9	58.3	46.8
138	65.2	71.9	63.3	65.8	62.0	66.2	47.9	58.6	46.0
139	65.3	72.5	63.7	66.1	62.2	66.9	49.9	58.8	48.0
140	65.8	73.2	64.2	66.7	63.0	67.3	50.2	59.6	48.6
141	66.6	73.8	64.9	67.0	63.7	67.7	50.4	60.3	49.0
142	66.7	74.2	65.2	67.7	64.2	68.1	50.1	60.5	47.6
143	67.0	74.6	65.6	68.0	64.6	68.5	50.1	60.9	47.4
144	67.4	75.2	66.1	68.3	64.8	68.8	50.9	61.3	48.6
145	68.0	75.0	66.7	69.0	65.4	69.4	50.4	61.5	48.3
146	68.4	76.4	67.1	69.4	66.1	69.9	51.2	62.1	48.8
147	68.6	76.8	67.4	69.8	66.6	70.4	50.9	62.7	49.8
148	69.4	77.5	68.4	70.3	67.0	70.8	52.8	63.3	50.2
149	69.8	78.2	68.6	70.8	67.6	71.3	52.4	63.8	49.9
150	70.2	78.7	69.1	71.2	68.0	71.6	51.7	64.1	49.9
151	70.6	79.2	69.6	71.6	68.4	72.1	51.5	64.6	49.8
152	71.2	79.6	70.0	72.1	68.7	72.5	52.8	65.0	50.6
153	71.7	80.2	70.6	72.7	69.2	72.9	52.8	65.4	50.6
154	71.8	80.6	70.9	73.0	69.3	73.3	52.0	65.7	50.6
155	72.3	81.2	71.4	73.4	69.8	73.7	53.9	66.3	52.0
156	72.6	81.6	71.7	73.9	70.4	74.3	53.1	67.0	51.6
157	73.3	82.4	72.3	74.3	71.3	74.6	53.6	67.6	52.3
158	73.6	82.3	72.7	74.7	71.0	75.0	52.4	67.6	51.3
159	73.9	83.0	72.9	75.1	71.7	75.4	54.5	68.0	52.7
160	74.4	83.5	73.5	75.5	72.1	76.0	55.6	68.7	53.1
161	74.4	84.0	73.7	76.1	72.5	76.3	52.7	68.8	51.9
162	74.9	84.3	73.7	76.4	72.6	76.7	54.3	69.0	53.2
163	75.4	84.9	74.4	76.9	72.9	76.9	53.0	69.6	52.3

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## TEST REPORT

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Time (min)	Thermocouples / Temperatures								
	1	2	3	4	5	6	7	8	9
164	75.9	85.3	74.9	77.3	73.6	77.3	54.3	70.0	53.3
165	76.3	85.8	75.5	77.7	73.8	78.0	56.4	70.3	54.2
166	77.0	86.4	76.2	78.3	74.4	78.4	55.0	71.1	54.8
167	77.8	86.9	76.6	78.7	75.1	78.7	56.1	71.9	54.7
168	78.1	87.5	77.4	79.3	75.9	79.1	55.5	72.5	54.7
169	78.7	87.9	77.8	79.7	76.4	79.5	55.7	73.0	55.7
170	79.0	88.4	78.1	80.2	77.0	80.0	56.7	73.5	55.6
171	79.1	88.7	78.3	80.7	77.4	80.6	56.4	73.7	56.7
172	79.7	89.0	78.9	81.4	77.9	81.0	56.4	74.4	56.4
173	79.7	89.5	79.0	81.6	78.0	81.3	57.2	74.4	56.9
174	80.4	90.0	79.4	82.1	78.6	81.8	57.9	75.2	58.0
175	80.8	90.5	80.0	82.5	79.1	82.4	57.9	75.6	58.2
176	80.9	90.7	80.4	83.0	79.5	82.8	58.0	76.3	58.5
177	81.3	91.0	80.7	83.2	80.0	83.1	56.1	76.5	57.2
178	81.9	91.4	81.2	83.7	80.5	83.6	57.3	76.9	58.2
179	82.4	91.8	81.7	84.3	81.0	84.1	58.7	77.6	59.4
180	82.9	92.2	82.1	84.7	81.4	84.5	58.3	78.2	59.8

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Table 2 Observations Made during the Test

Time (min:sec)	Observations
00:00	Furnace fired.
21:00	Slight smoke was released from the sample.
100:00	Slight smoke released continued.
180:00	The sample wall kept the Integrity and Insulation, end test.

### A.6 Performance Criteria (EN 13501-2:2016, clause 7.5.2.3.1 & clause 7.5.2.3.2)

The performance of the specimen was assessed against the criteria for integrity and insulation in accordance with EN 13501-2:2016, Clause 7.5.2.3.

Integrity: Failure is deemed to occur:

- a) When collapse occurs; or
- b) When sustained flaming for not less than 10s on the unexposed surface occurs; or
- c) For situations where the cotton pad is suitable, when flames and/or hot gases cause flaming or glowing of the cotton fibre pad; or
- d) For situations where the cotton pad is not suitable, when either:
  - i) the 6 mm diameter gap gauge can penetrate a through gap such that the end of the gauge projects into the furnace and the gauge can be moved in the gap for a distance of at least 150 mm; or
  - ii) the 25 mm diameter gap gauge can penetrate a through gap such that the end of the gauge projects into the furnace.

Insulation: Failure is deemed to occur:

- a) When the mean unexposed surface temperature rise more than 140 °C; or
- b) When the temperature rise recorded at any position on the unexposed surface, either by a fixed thermocouple or by the roving thermocouple is in excess of 180 °C; or
- c) When integrity failure occurs.

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### A.7 Statements

The results only relate to the behaviour of the specimen of the element of construction under the particular conditions of the test. They are not intended to be the sole criteria for assessing the potential fire performance of the element in use nor do they reflect the actual behaviour in fires.

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

### Test Item 6: Sound Transmission Loss

#### I、 Condition

- 1) Volume of source room:88.6m<sup>3</sup>, Volume of receive room :67.9m<sup>3</sup>;
- 2) Area of test Specimen: 10.5m<sup>2</sup>
- 3) Specifications: 100mm Thick.
- 4) Temperature:22°C
- 5) Relative humidity:67%

#### II、 Accordance

According to 'Acoustics-Measurement of sound insulation in buildings and of buildings elements- Part 3: Laboratory measurement of airborne sound insulation of building elements (ISO140-3:1995) ' and 'Acoustics-Rating of sound insulation in buildings and of building elements Part1: Airborne sound insulation (ISO 717-1:1996) '.

The sound reduction index  $R$  shall be calculated by the following equation:

$$R = \bar{L}_{p1} - \bar{L}_{p2} + 10 \lg \frac{S}{A} \quad (dB) \quad (1)$$

$\bar{L}_{p1}$  ——average sound pressure level in the source room, dB;

$\bar{L}_{p2}$  ——average sound pressure level in the receiving room, dB;

$S$  ——area of test specimen that is exposed in the receiving room, m<sup>2</sup>, (2.25m<sup>2</sup>) ;

$A$  ——sound absorption of the receiving room with the test specimen in place, m<sup>2</sup>.

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### III、 Instruments

B&K 2270 Investigation、 Power amplifier B&K 2716、 Omni directional speaker B&K 4292、  
Microphone B&K 4189 and accessories.

### IV、 Test Results:

Specifications	EPS CEMENT SANDWICH PANEL : EPS CEMENT SANDWICH PANELS are mounted in the middle of the wall (area:10.5 m <sup>2</sup> ) between the source room and the receive room.
Frequency (Hz)	The sound reduction index <i>R</i> , dB
100	37.1
125	34.5
160	30.9
200	33.2
250	35.4
315	33.2
400	32.5
500	35.3
630	35.9
800	41.7
1000	45.1
1250	50.9
1600	54.2
2000	58.0
2500	60.1
3150	63.2
4000	63.1
5000	62.4
<b>Rw (C;Ctr)</b>	<b>42 (-1,-3)</b>

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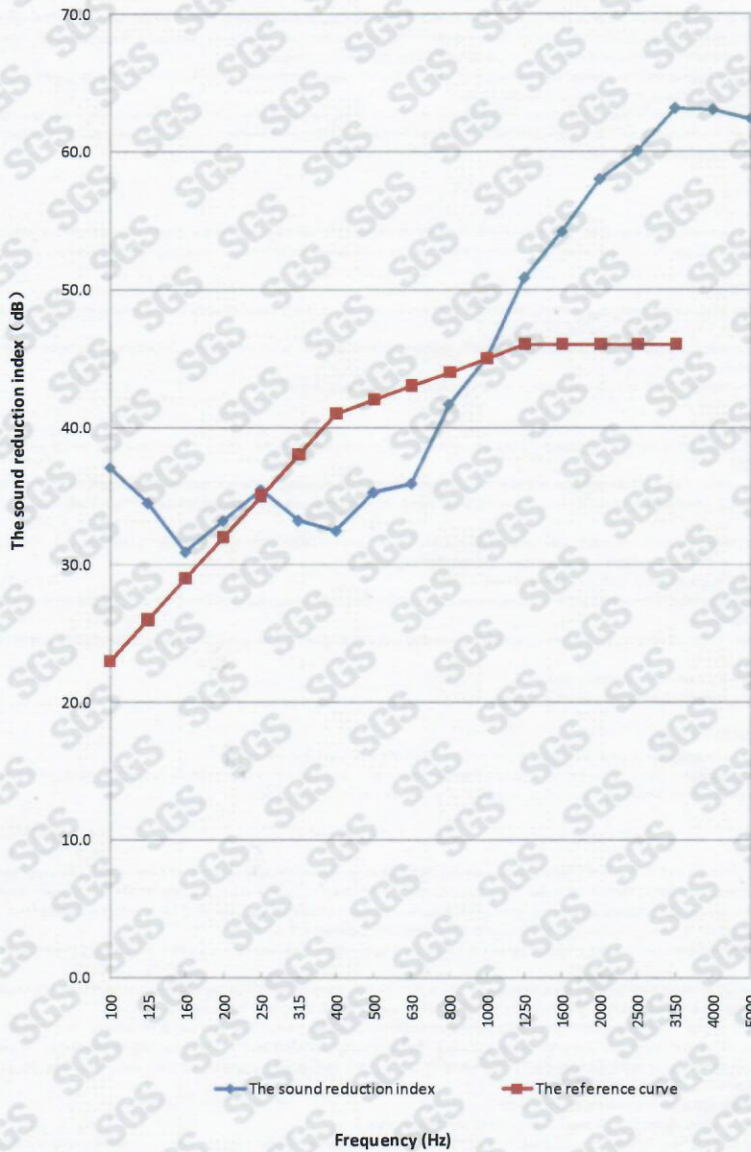
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And The sound transmission loss of the tested specimen are plotted as follows.

### EPS CEMENT SANDWICH PANEL (Thickness:100mm)



Note: The above test was carried out by Subtropical Architecture Institute South China University of Technology.

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Photo:



Sample for test item 1



Sample for test item 2 and 3



Sample for test item 4

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Sample for test item 2-During test



Sample for test item 3-During test



Sample for test item 2-After test



Sample for test item 3-After test

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The unexposed face before test item 4

The exposed face before test item 4



The unexposed face after test item 4

The exposed face after test item 4

Note: This test report supersedes the test report GZIN170902787CCM, the original test reports (paper and electronic) are void.

\*\*\*\*\*End of report\*\*\*\*\*

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