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# TAIZHOU TECHBOND METAL COMPOSITE MATERIAL CO., LTD

# TEST REPORT

**REPORT NUMBER**
171124002SHF-BP-1

**ISSUE DATE**
2017-12-08

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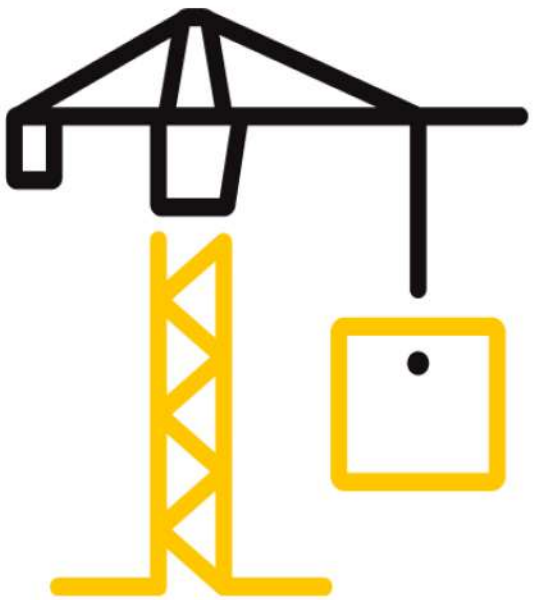

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# Test Report

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Applicant: TAIZHOU TECHBOND METAL COMPOSITE MATERIAL CO., LTD

Applicant Address: COASTAL INDUSTRIAL ZONE, SANMEN COUNTY,
TAIZHOU CITY, ZHEJIANG PROVINCE, CHINA

Attn: Regina

**SUBJECT:** Performance testing
A2 FIREPROOF ALUMINUM COMPOSITE PANEL

Dear Sir,
This test report for represents the results of our evaluation of the above referenced product(s) to the requirements contained in the following standards:

| TEST METHODS AND STANDARDS |
|---|
| Refer to the next following Pages. |

| SAMPLE ID | MODEL | SPECIFICATION |
|---|---|---|
| S171124002SHF.001 | / | / |
| | | |
| | | |

SAMPLE RECEIEVED: 2017-11-23
TESTED FROM: 2017-11-24 TO 2017-12-08

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**Test Items, Method and Results:**

Test method: EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

### 1.1 HEAT OF COMBUSTION TEST

The test was conducted in accordance with EN ISO 1716. This test evaluates the gross heat of combustion ($Q_{PCS}$) of products at constant volume in a bomb calorimeter.

### 1.2 SINGLE BURNING ITEM TEST

The test was conducted in accordance with EN 13823. This test evaluates the potential contribution of a product to the development of a fire, under a fire situation simulating a single burning item near to the product.

### 1.3 CLASSIFICATION CRITERIA

The classification was determined in accordance with EN 13501-1:2007+A1:2009. The classes A2 with their corresponding fire performance are given in the table below.

Table - Classes of reaction to fire performance for construction products excluding floorings and linear pipe thermal insulation products.

| Class | Test Method(s) | Classification criteria | Additional classifications |
|---|---|---|---|
| A2 | EN ISO 1716 and | PCS ≤3.0 MJ/kg [a] and<br>PCS ≤4.0 MJ/m$^2$ [b] and<br>PCS ≤4.0 MJ/m$^2$ [c] and<br>PCS ≤3.0 MJ/kg [d] | -- |
| | EN 13823 | FIGRA ≤ 120 W/s and<br>LFS < edge of specimen and<br>$THR_{600s}$ ≤ 7.5 MJ | Smoke production [e] and<br>Flaming droplets/particles [f] |

**Note:**

a. For homogeneous products and substantial components of non-homogeneous products.

b. For any external non-substantial component of non-homogeneous products.

c. For any internal non-substantial component of non-homogeneous products.

d. For the product as a whole.

e. In the last phase of the development of the test procedure, modifications of the smoke measurement system have been introduced, the effect of which needs further investigation. This may result in a modification of the limit values and/or parameters for the evaluation of the smoke production.

s1 = SMOGRA ≤ 30m$^2$/s$^2$ and $TSP_{600s}$ ≤ 50m$^2$; s2 = SMOGRA ≤ 180m$^2$/s$^2$ and $TSP_{600s}$ ≤ 200m$^2$; s3 = not s1 or s2.

f. d0 = no flaming droplets/particles in EN 13823 within 600s;

d1 = no flaming droplets/particles persisting longer than 10s in EN 13823 within 600s;

d2 = not d0 or d1.

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**Test Items, Method and Results:**

**2 RESULTS AND OBSERATIONS**

| Method | Parameter | | Result |
|---|---|---|---|
| EN ISO 1716:2010 | PCS | Facing coating, MJ/$m^2$ | 2.3 |
| | | Aluminium Substrate, MJ/kg | 0 |
| | | Adhesive, MJ/$m^2$ | 3.4 |
| | | Core, MJ/kg | 2.7 |
| | | Adhesive, MJ/$m^2$ | 3.4 |
| | | Aluminium Substrate, MJ/kg | 0 |
| | | Bottom coating, MJ/$m^2$ | 1.6 |
| | | The whole product, MJ/kg | 3.0 |
| EN 13823:2010+A1:2014 | $FIGRA_{0.2MJ}$ , W/s | | 47 |
| | $THR_{600s}$ , MJ | | 0.7 |
| | LFS, m | | <Edge of Specimen |
| | SMOGRA, $m^2/s^2$ | | 0 |
| | $TSP_{600s}$, $m^2$ | | 30 |
| | Flaming Droplets/Particles | | No flaming droplets/particles occur within 600s |

Note

1. This test was conducted at the external approved facility, located at Guangzhou.
2. Per EN 13823, the samples were free standing at a distance of 80mm from the backing board. Backing board was a 9mm thick calcium silicate board. The density of the calcium silicate board was 900kg/$m^3$.

**3 CLASSIFICATION**

The classification has been carried out in accordance with EN 13501-1.

| Fire behaviour | | Smoke production | | | Flaming Droplets | |
|---|---|---|---|---|---|---|
| *A2* | - | s | *1* | - | d | *0* |

Reaction to fire classification *A2 - s1, d0*

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**4 Test Photos**

Before test (Long wing)

Before test (Short wing)

After test (Long wing)

After test (Short wing)

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**APPENDIX: SAMPLE RECEIVED PHOTO**

Test specimens

Adhesive

Core

Facing coating

Bottom coating

**REPORT AUTHORIZED**

When signed with physical or electronic signature, the contents of this report have been prepared and approved per Intertek's quality process in accordance with ISO 17025.

Name: Sun Sun
Title: Approver

Name: Sally Xie
Title: Reviewer

Name: Tod Qian
Title: Project Engineer

**Revision:**

| NO. | DATE | CHANGES | AUTHOR | REVIEWER |
|---|---|---|---|---|
| 171124002SHF-BP-1 | 2017-12-08 | First issue | Tod Qian | Sally Xie |