



# TEST REPORT

No. : GZMR130914391

Date : Sep. 28, 2013

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ZHANGJIAGANG FEITENG ALUMINIUM COMPOSITE PANEL CO. LTD  
HOUCHEG INDUSTRIY PARK, JINGANG TOWN, ZHANGJIAGANG CITY, JIANGSU 215631, CHINA

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

Sample Name : ALUMINIUM COMPOSITE PANEL  
SGS Ref No. : GP130801506, SDHG1309007937FB  
Test Performed : Selected test(s) as requested by applicant  
Date of Receipt : Aug. 22, 2013  
Test Period : Aug. 22, 2013 to Sep. 28, 2013

Test result(s) : Please refer to the following page(s)

Test(s) Requested	Result(s)
EN 13501-1:2007+A1:2009	classification: C—s2, d0

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

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

Kelly Lee  
Engineer

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Member of the SGS Group (SGS SA)

**Test Information:**

Sample description: See photo

**I. Test conducted**

This test is conducted as per EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests, Class C. And the test methods as following:

1. EN 13823:2010 Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item.
2. EN ISO 11925-2:2010 Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test.

**II. Details of classified product**

Description

The details of the tested specimen given below have been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

Color	White
Thickness	About 3 mm
Mass per unit area	About 4.36 kg/m <sup>2</sup>

Mounting and fixing:

As per the client's requirement, the sample was fixed on the standard substrate by rivet.  
 The specimen was tested free standing at a distance of at least 80 mm from the backing board.  
 Both wings were clamped at the top and the bottom.

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

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### III. Test results

Test method	Parameter	Number of tests	Results
EN 13823	FIGRA (W/s)	3	239.5
	LFS < edge of specimen		Yes
	THR <sub>600s</sub> (MJ)		11.6
	SMOGRA (m <sup>2</sup> /s <sup>2</sup> )		11.1
	TSP <sub>600s</sub> (m <sup>2</sup> )		84.0
	Flaming particles or droplets		No
EN ISO 11925-2 Exposure = 30 s	F <sub>s</sub> ≤ 150 mm	6	Yes
	Ignition of the filter paper		No

Note: FIGRA — Fire growth rate index used for classification purposes [W/s]

LFS — Lateral flame spread [m]

THR<sub>600s</sub> — Total heat release within 600 s [MJ]

SMOGRA — Smoke growth rate [m<sup>2</sup>/s<sup>2</sup>]

TSP<sub>600s</sub> — Total smoke production within 600 s [m<sup>2</sup>]

### IV. Classification and direct field of application

This classification has been carried out in accordance with EN 13501-1:2007+A1:2009.

Classification

The product, "ALUMINUM COMPOSITE PANEL", classification is as following,

Fire behaviour		Smoke production			Flaming droplets	
<b>C</b>	—	s	2	,	d	0

**Reaction to fire classification: C—s2, d0**

Note: 1. The classes with their corresponding fire performance are given in annex A.

2. Reaction to fire classification is based on the 7-step scale of A1 to F, where A1 is good and F is bad.

3. The above test was carried out by a SGS internal laboratory.

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

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Statement: The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

**Warning:**

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

The test laboratory has, therefore, play no part in sampling the product for the test, although it holds appropriate references to the manufacturer's factory production control that is aimed to be relevant to the samples tested and that will provide for their traceability.

**Annex A**

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

Class	Test method(s)	Classification criteria	Additional classification
A1	EN ISO 1182 <sup>a</sup> and	$\Delta T \leq 30^{\circ}\text{C}$ , and $\Delta m \leq 50\%$ , and $t_f = 0$ (i.e. no sustained flaming)	-
	EN ISO 1716	$\text{PCS} \leq 2.0 \text{MJ/kg}^{\text{a}}$ and $\text{PCS} \leq 2.0 \text{MJ/kg}^{\text{bc}}$ and $\text{PCS} \leq 1.4 \text{MJ/m}^2^{\text{d}}$ and $\text{PCS} \leq 2.0 \text{MJ/kg}^{\text{e}}$	-
A2	EN ISO 1182 <sup>a</sup> or	and $\Delta T \leq 50^{\circ}\text{C}$ , and $\Delta m \leq 50\%$ , and $t_f \leq 20 \text{ s}$	-
	EN ISO 1716		-
	EN 13823	FIGRA $\leq 120 \text{W/s}$ and LFS < edge of specimen and THR <sub>600s</sub> $\leq 7.5 \text{MJ}$	Smoke production <sup>f</sup> and Flaming droplets/particles <sup>g</sup>

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Class	Test method(s)	Classification criteria	Additional classification
B	EN 13823 and	FIGRA $\leq$ 120W/s and LFS < edge of specimen and THR <sub>600s</sub> $\leq$ 7.5MJ	Smoke production <sup>f</sup> and Flaming droplets/particles <sup>g</sup>
	EN ISO 11925-2 <sup>i</sup> Exposure =30s	Fs $\leq$ 150mm within 60 s	
C	EN 13823 and	FIGRA $\leq$ 250W/s and LFS < edge of specimen and THR <sub>600s</sub> $\leq$ 15MJ	Smoke production <sup>f</sup> and Flaming droplets/particles <sup>g</sup>
	EN ISO 11925-2 <sup>i</sup> Exposure=30s	Fs $\leq$ 150mm within 60 s	
D	EN 13823 and	FIGRA $\leq$ 750W/s	Smoke production <sup>f</sup> and Flaming droplets/particles <sup>g</sup>
	EN ISO 11925-2 <sup>i</sup> Exposure=30s	Fs $\leq$ 150mm within 60 s	
E	EN ISO 11925-2 <sup>i</sup> Exposure =15s	Fs $\leq$ 150mm within 20 s	flaming droplets/particles <sup>h</sup>
F	No performance determined		

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

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- <sup>a</sup> For homogeneous products and substantial components of non-homogeneous products.
- <sup>b</sup> For any external non-substantial component of non-homogeneous products.
- <sup>c</sup> Alternatively, any external non-substantial component having a PCS  $\leq 2,0 \text{ MJ/m}^2$ , provided that the product satisfies the following criteria of EN 13823: FIGRA  $\leq 20 \text{ W/s}$ , and LFS < edge of specimen, and THR<sub>600s</sub>  $\leq 4,0 \text{ MJ}$ , and s1, and d0.
- <sup>d</sup> For any internal non-substantial component of non-homogeneous products.
- <sup>e</sup> For the product as a whole.
- <sup>f</sup> 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  $\leq 30 \text{ m}^2/\text{s}^2$  and TSP<sub>600s</sub>  $\leq 50 \text{ m}^2$ ; s2 = SMOGRA  $\leq 180 \text{ m}^2/\text{s}^2$  and TSP<sub>600s</sub>  $\leq 200 \text{ m}^2$ ; s3 = not s1 or s2
- <sup>g</sup> d0 = No flaming droplets/ particles in EN 13823 within 600 s;  
d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s;  
d2 = not d0 or d1.  
Ignition of the paper in EN ISO 11925-2 results in a d2 classification.
- <sup>h</sup> Pass = no ignition of the paper (no classification);  
Fail = ignition of the paper (d2 classification).
- <sup>i</sup> Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.

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

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

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