TEST REPORT

No. : GZMR120509331
Date : June . 5 , 2014

BBOND

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

Sample Name	:	ALUMINUM COMPOSITE PANEL
SGS Ref No.	:	GP120520208-3.2, AJD201202406
Test Performed	:	Selected test(s) as requested by applicant
Date of Receipt	:	May .02, 2012
Test Period	:	May .02, 2012 to May .30, 2012
Test result(s)	:	Please refer to the following page(s)

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

Signed for and on behalf of
SGS-CSTC Ltd.

Michelle Xu
Engineer

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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. 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

a) Nature and end use application

The product “ALUMINUM COMPOSITE PANEL” is defined as a decorative sheet. Its classification is valid for the following end use application:

“Building curtain wall”

b) 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.

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

General description	Aluminum composite panel
Trade name / product reference	Aluminum composite panel / 1100
Name of manufacturer	BBOND
Composition details	Alloy, Paint, PE film, Fireproofing core
Colour	White
Thickness	3mm
Bulk Density/Mass per unit area	3mm-4.812kg/m^2
Brief Description of manufacturing process	Flame retardant core material by high temperature extrusion into the panel which required the thickness, using the heat film heating and composite with the aluminum roll to form the panel.
Flame retardant details	Magnesium hydroxide
End use	Building curtain wall

Mounting and fixing:

The test specimens are fixed mechanically in the trolley free standing of a distance of 80mm from the backing board, No joint in the long wing of the specimen.

III. Test results

Test method	Parameter	Number of tests	Results
EN 13823	FIGRA（W/s）	3	17.3
	LFS < edge of specimen		Yes
	THR_{600s}（MJ）		1.7
	SMOGRA（m^2/s^2）		8.4
	TSP_{600s}（m^2）		8.8
	Flaming particles or droplets		No
EN ISO 11925-2 Exposure = 30 s	*Fs* ≤ 150 mm	6	Yes
	Ignition of the filter paper		No

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

IV. Classification and direct field of application

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

a) Classification

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

Fire behaviour		Smoke production			Flaming droplets	
B	—	s	1	,	d	0

Reaction to fire classification: B—s1, d0

Remark: The classes with their corresponding fire performance are given in annex A.
ALUMINUM COMPOSITE PANEL

b) Field of application

This classification for the submitted sample, is valid for the following end use condition:

---With mechanical fixing

---No joint

This classification is valid for the following product parameters:

---Characteristics are described in § II b of this test reports.

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.

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

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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 [a] and		$\Delta T \leq 30℃$, and $\Delta m \leq 50\%$, and $t_f = 0$(i.e. no sustained flaming)	-
	EN ISO 1716		*PCS*≤2.0MJ/kg [a] and *PCS*≤2.0MJ/kg [b c] and *PCS*≤1.4MJ/m^2 [d] and *PCS*≤2.0MJ/kg [e]	-
A2	EN ISO 1182 [a] or	and	$\Delta T \leq 50℃$, and $\Delta m \leq 50\%$, and $t_f \leq 20$ s	-
	EN ISO 1716		*PCS*≤3.0MJ/kg [a] and *PCS*≤4.0MJ/m^2 [b] and *PCS*≤4.0MJ/m^2 [d] and *PCS*≤3.0MJ/kg [e]	-
	EN 13823		*FIGRA*≤120W/s and *LFS*＜edge of specimen and THR_{600s}≤7.5MJ	Smoke production [f] and Flaming droplets/particles [g]
B	EN 13823 and		*FIGRA*≤120W/s and *LFS*＜edge of specimen and THR_{600s}≤7.5MJ	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure =30s		within 60s *Fs*≤150mm	
C	EN 13823 and		*FIGRA*≤250W/s and *LFS*＜edge of specimen and THR_{600s}≤15MJ	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure=30s		*Fs*≤150mm within 60 s	
D	EN 13823 and		*FIGRA*≤750W/s	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure=30s		*Fs*≤150mm within 60 s	
E	EN ISO 11925-2 [i] Exposure =15s		*Fs*≤150mm within 20 s	flaming droplets/particles [h]

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

F	No performance determined

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

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

[c] Alternatively, any external non-substantial component having a PCS ≤ 2,0 MJ/m^2 , provided that the product satisfies the following criteria of EN 13823: FIGRA ≤ 20 W/s, and LFS < edge of specimen, and THR_{600s} ≤ 4,0 MJ, and s1, and d0.

[d] For any internal non-substantial component of non-homogeneous products.

[e] For the product as a whole.

[f] 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

[g] 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.

[h] Pass = no ignition of the paper (no classification);
Fail = ignition of the paper (d2 classification).

[i] Under conditions of surface flame attack and, if appropriate to the end–use application of the product, edge flame attack.

Note: The above test was carried out by a SGS laboratory.

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

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Photo:

	
Before test	After test
	
Before test	After test

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