

TEST REPORT

No. : GZMR120819569

Date : Aug. 23, 2012

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JIANGSU PIVOT NEW DECORATIVE MATERIALS CO., LTD.
PIVOT INDUSTRIAL PARK, NO.1 MENGNA ROAD, HUASHI TOWN, JIANGYIN, JIANGSU, CHINA

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

Sample Name : A2 CLASS FR ACP
Material : A2 CLASS FR ACP
Spec. : 4MM50S
Manufacturer : JIANGSU PIVOT NEW DECORATIVE MATERIALS CO., LTD.
Sample Information : W6B6P201205214F2
SGS Ref No. : GP120820434-2.1, AJD201204481
Test Performed : Selected test(s) as requested by applicant
Date of Receipt : Aug. 03, 2012
Test Period : Aug. 03, 2012 to Aug. 22, 2012
Test result(s) : Please refer to the following page(s)

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

Signed for and on behalf of
SGS-CSTC Ltd.



Doris Yin
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 ISO 1716-2010, Reaction to fire tests for building products — Determination of the heat of combustion.
2. EN 13823:2010 Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item.

II. Details of classified product

a) Nature and end use application

The product “CLASS A2 ACP” is defined as decorative sheet. Its classification is valid for the following end use application:

“CLASS A2 ACP is applicable for curtain wall decoration of major constructional projects that have high demand for weather and fire resistance”.

b) Description

The product “CLASS A2 ACP” is consists of coating and Aluminum and core materials.

Color	Silver
Thickness	About 4.2mm
Mass per unit area	About 8.0kg/m ²

Mounting and fixing:

The test specimen is fixed mechanically in the trolley, clamped at the top and the bottom. Calcium Silicate board, with its density approximate 900kg/m³, thickness 9mm, is as the backing board. The test specimen is free standing at a distance of 80mm from the backing board, no joint in the long wing of the specimen.

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

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III. Test results

Test method	Parameter	Number of tests	Results
EN ISO 1716	PCS/ MJ/kg ^a	3	2.3
	PCS/ MJ/ m ² ^b		0
	PCS/ MJ/m ² ^d		---
	PCS/ MJ/kg ^e		0.28
EN 13823	FIGRA (W/s)	3	21.6
	LFS < edge of specimen		Yes
	THR _{600s} (MJ)		4.8
	SMOGRA (m ² /s ²)		13.8
	TSP _{600s} (m ²)		16.5
	Flaming particles or droplets		No

Note: PCS — gross calorific potential [MJ/kg or MJ/m²]

IV. Classification and direct field of application

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

a) Classification

The product, CLASS A2 ACP, classification is as following,

Fire behaviour		Smoke production		Flaming droplets
A2	—	s	1	d 0

Reaction to fire classification: A2—s1, d0

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

2. The above test was carried out by a SGS laboratory.

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

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b) Field of application

This classification for the submitted sample as described in §II b, is valid for the following end use condition:

- With mechanical fixing
- No joint
 - Free standing
 - With airgap

This classification is valid for the following product parameters:

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

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	$\Delta T \leq 30^\circ\text{C}$, and $\Delta m \leq 50\%$, and $t_f = 0$ (i.e. no sustained flaming)	-
	EN ISO 1716	$PCS \leq 2.0\text{MJ/kg}$ ^a and $PCS \leq 2.0\text{MJ/kg}$ ^{bc} and $PCS \leq 1.4\text{MJ/m}^2$ ^d and $PCS \leq 2.0\text{MJ/kg}$ ^e	-
A2	EN ISO 1182 ^a 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 $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7.5\text{MJ}$	Smoke production ^f and Flaming droplets/particles ^g
B	EN 13823 and	$FIGRA \leq 120\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7.5\text{MJ}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ Exposure = 30s	60s 内 $F_s \leq 150\text{mm}$	
Class	Test method(s)	Classification criteria	Additional classification
C	EN 13823 and	$FIGRA \leq 250\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 15\text{MJ}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ Exposure = 30s	$F_s \leq 150\text{mm}$ within 60 s	

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D	EN 13823 and	FIGRA \leq 750W/s	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ Exposure=30s	F _s \leq 150mm within 60 s	
E	EN ISO 11925-2 ⁱ Exposure =15s	F _s \leq 150mm within 20 s	flaming droplets/particles ^h
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 \leq 2,0 MJ/m², provided that the product satisfies the following criteria of EN 13823: FIGRA \leq 20 W/s, and LFS < edge of specimen, and THR_{600s} \leq 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 \leq 30m²/s² and TSP_{600s} \leq 50m²; s2 = SMOGRA \leq 180m²/s² and TSP_{600s} \leq 200m²; 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.

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

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Photo:



Before test

After test

Before test

After test

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

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