Intertek

TEST REPORT
Performance Test

Report Reference No.....:	130507075GZU-001
Tested by (name and signature).....:	Jacky Yao
Approved by (name and signature)..:	Jeff Deng
Date of issue.....:	July 5, 2013
Contents .....:	Total test report 8 pages including: Report text: 4 pages Appendix A for Classes of reaction to fire performance: 2pages Appendix B for product photos: 1 page Appendix C for Revision page: 1 page
Testing Laboratory name .....:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Address.....:	Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
Testing location.....:	Same as above
Applicant's name.....:	Changzhou Shuangou Flooring Co.,Ltd.
Address.....:	8# Hengcui Road,Economic Development District,Changzhou City,Jiangsu Province
Test specification:	
Standard .....:	EN13501-1:2007+A1:2009
Non-standard test method.....:	N/A
Test item description .....:	A2 Grade Fire-Resistance Aluminum Composite Panel
Trade Mark .....:	—
Model and/or type reference.....:	XMA2FR-50450
Manufacturer .....:	Changzhou Shuangou Flooring Co.,Ltd.
Rating(s) .....:	Reaction to fire classification: A2-s1, d0

Summary of testing:

The submitted samples were tested and results were listed in text.

Possible test case verdicts:

- Test case does not apply to the test object.....: N/A
- Test object does meet the requirement.....: P (Pass)
- Test object does not meet the requirement.....: F (Fail)

Testing

Date of receipt of test item .....: May 7, 2013

Date (s) of performance of tests .....: May 7, 2013 to July 5, 2013

General remarks:

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"(See remark #)" refers to a remark appended to the report.
"(See Appendix #)" refers to an appendix appended to the report.
Throughout this report a comma (point) is used as the decimal separator.

When determining the test result, measurement uncertainty has been considered.

The clause which indicated with * is the subcontract test item.

General product information:

Submitted samples are A2 Grade Fire-Resistance Aluminum Composite Panel, model name is XMA2FR-50450, measured thickness is about 4,2mm, and mass per unit area is 7,9kg/m^2.
Its end use application: external and internal decorative.

Detailed photos refer to Appendix A.

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Performance test			
Item	Requirement - Test	Result - Remark	Verdict
Reaction to fire	This test is conducted as per EN 13150-1:2007+A1:2009 Fire classification of construction products and building material – 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 product – Determination of the heat of combustion. 2. EN 13823:2010 Reaction to fire tests for building products – Building products excluding floorings expose to the thermal attack by a single burning item. Mounting and fixing: Calcium silicate board, with its density approximate 900 kg/m^2, thickness 9mm, is as the substrate. The test specimens are fixed mechanically to the substrate with no cavity behind it. No joint in the long wing of the specimen.	Fire behaviour : A2 Smoke production: S1 Flaming droplets: d0 Reaction to fire classification: A2-s1, d0 Test results refer table 1	—

Note 1: This classification for the submitted sample as described in above is valid for the following end use condition:

----with mechanically fixing

----No joint

----No an air gap

2: This classification is valid for the following product parameters:

-----Characteristics are described in above of test result.

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Table 1 Test results

Test method	Parameter	Number of tests	Results
EN ISO 1716	PCS≤ 3.0MJ/kg [a]	3	1.16
	PCS≤ 4.0MJ/m^2 [b]		0
	PCS≤ 4.0MJ/m^2 [d]		---
	PCS≤ 3.0MJ/kg [e]		---
EN 13823	FIGRA (W/s)	3	6.3
	LFS < edge of specimen		Yes
	THR_{600s} (MJ)		0.83
	SMOGRA (m^2/s^2)		0
	TSP_{600s} (m^2)		9.4
	Flaming particles or droplets		No

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Appendix 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		$PCS \leq 2.0$MJ/kg [a] and $PCS \leq 2.0$MJ/kg [b c] and $PCS \leq 1.4$MJ/m^2 [d] and $PCS \leq 2.0$MJ/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		$PCS \leq 3.0$MJ/kg [a] and $PCS \leq 4.0$MJ/m^2 [b] and $PCS \leq 4.0$MJ/m^2 [d] and $PCS \leq 3.0$MJ/kg [e]	-
	EN 13823		$FIGRA \leq 120$W/s and $LFS <$ edge of specimen and $THR_{600s} \leq 7.5$MJ	Smoke production [f] and Flaming droplets/particles [g]
B	EN 13823 and		$FIGRA \leq 120$W/s and $LFS <$ edge of specimen and $THR_{600s} \leq 7.5$MJ	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure =30s		$Fs \leq 150$mm within 60 s	
C	EN 13823 and		FIGRA≤250W/s and LFS< edge of specimen and THR600s≤15MJ	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure=30s		$Fs \leq 150$mm within 60 s	

********** To be Continue **********

Class	Test method(s)	Classification criteria	Additional classification
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]
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.

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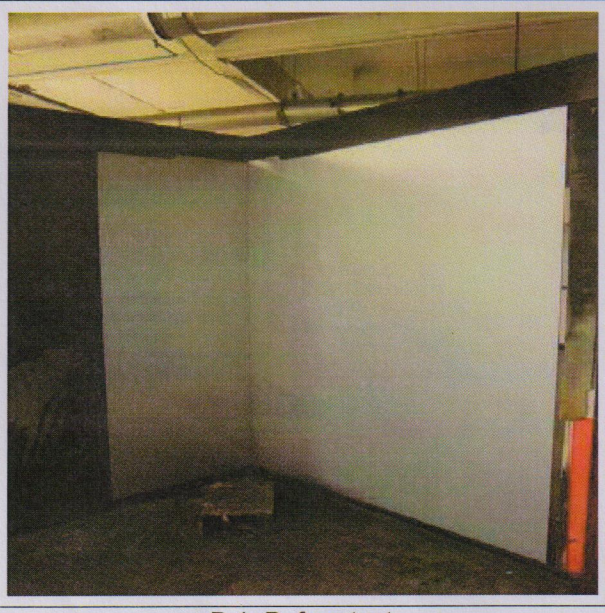
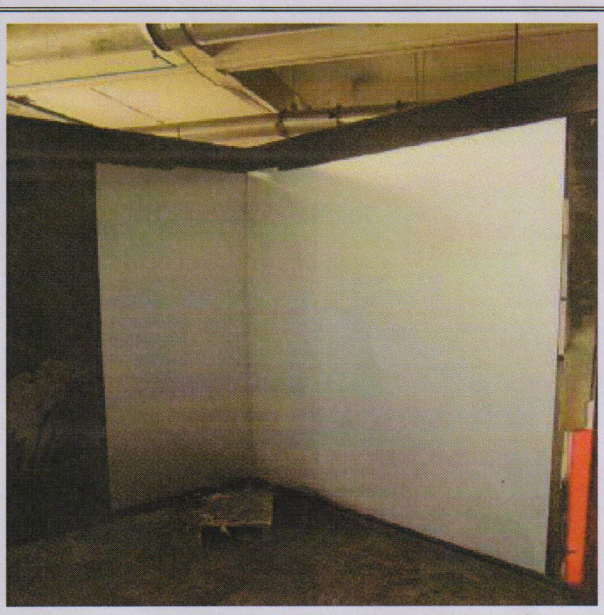
Appendix B

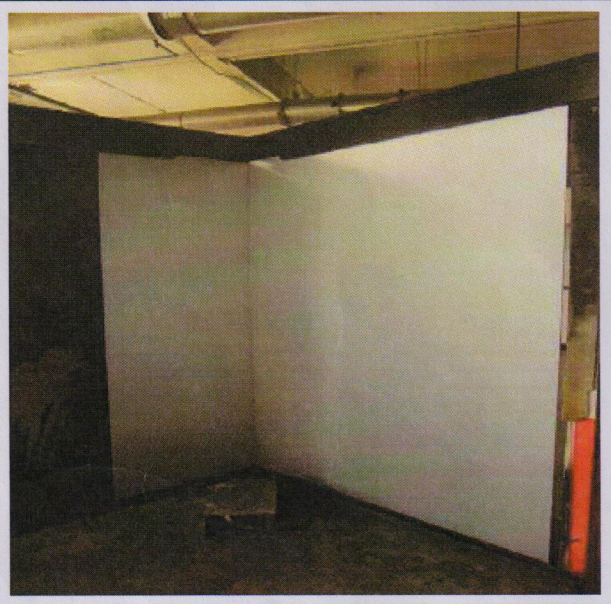
Product photos



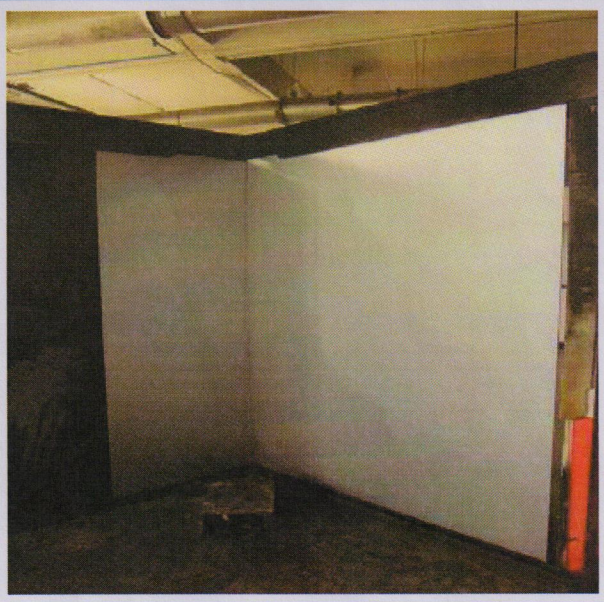
B.1: Before test



B.2: After test



B.3 Before test



B.4 After test

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Appendix C

Revision history

Revision No.	Date	Author	Reviewer
Original	July 5, 2013	Jacky Yao	Jeff Deng

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

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