

Alucobond Composites (Jiangsu) Ltd.

TEST REPORT

REPORT NUMBER

190605005SHF-001-R1

ISSUE DATE

2019/6/10

REVISED DATE

2019/6/11

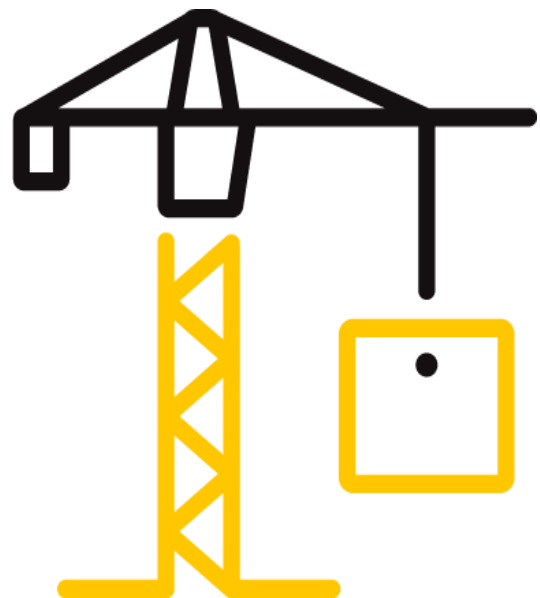
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Test Report

Issue Date: 2019/6/11 Intertek Report No. 190605005SHF-001-R1

Applicant: Alucobond Composites (Jiangsu) Ltd.

Applicant Address: 10 South Hehuan Road, Changzhou, 213023 Jiangsu, China

Attn: Lili Guo

SUBJECT: Performance testing
Solid Aluminum Sheet

Brand: ALUCOLUX®

Dear Sir,

This test report 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
S180710004SHF.002, 004	3mm	/

SAMPLE RECEIVED: 2018/7/4
TESTED FROM: 2018/7/10 TO 2018/7/30

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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 A1 with its 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
A1	EN ISO 1716 and	$PCS \leq 2.0 \text{ MJ/m}^2$ ^a and $PCS \leq 2.0 \text{ MJ/kg}$ ^b	--
	EN 13823	$FIGRA_{0.2MJ} \leq 20 \text{ W/s}$ and LFS < edge of specimen and $THR_{600s} \leq 4.0 \text{ MJ}$ and satisfy the conditions for s1 of smoke production ^c and d0 of flaming droplets/particles ^d	--

Note:

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

b. For the product as a whole.

c. 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 $TSP_{600s} \leq 50 \text{ m}^2$; s2 = $SMOGRA \leq 180 \text{ m}^2/\text{s}^2$ and $TSP_{600s} \leq 200 \text{ m}^2$; s3 = not s1 or s2.

d. 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	0.5
		The whole product, MJ/kg	0.1
EN 13823:2010+A1:2014*	FIGRA _{0.2MJ} , W/s		0
	THR _{600s} , MJ		0
	LFS, m		<Edge of Specimen
	SMOGR _A , m ² /s ²		0
	TSP _{600s} , m ²		20
	Flaming Droplets/Particles		No flaming droplets/particles occur within 600s

Note

1. This test with* 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 12mm thick calcium silicate board. The density of the calcium silicate board was 900kg/m³.
3. The information of each component of the product was declared by applicant, see below table.

Layer No. (from face to back)	Material of each Layer	Mass per unit area (kg/m ²)	Thickness (mm)
1	Facing coating	0.038	0.028
2	Aluminium Substrate	8	3

3 CLASSIFICATION

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

Fire behaviour		Smoke production		Flaming Droplets
A1	-	s	Not applicable	- d

Reaction to fire classification A1

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4 Test Photos of EN 13823



Before test (Long wing)



Before test (Short wing)



After test (Long wing)



After test (Short wing)

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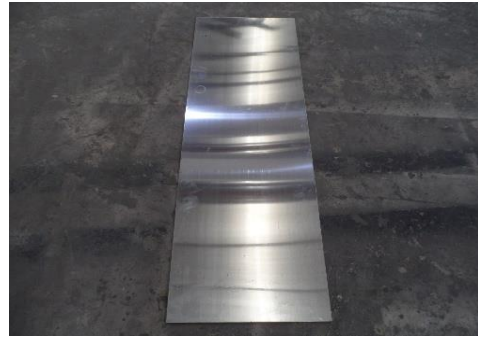
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APPENDIX: SAMPLE RECEIVED PHOTO



Front View(Test Face)



Back View



Facing 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.

Sally Xie

Name: Sally Xie

Title: Reviewer

Tod Qian

Name: Tod Qian

Title: Project Engineer



Revision:

NO.	DATE	CHANGES	AUTHOR	REVIEWER
190605005SHF-001	2019/6/10	First issue	Tod Qian	Sally Xie
190605005SHF-001-R1	2019/6/11	Add model of sample	Tod Qian	Sally Xie

Note: The test result was cited from Report No. 180710004SHF-BP-5-R1.