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Foshan Vallen Decoration Materials Co., Ltd.

TEST REPORT

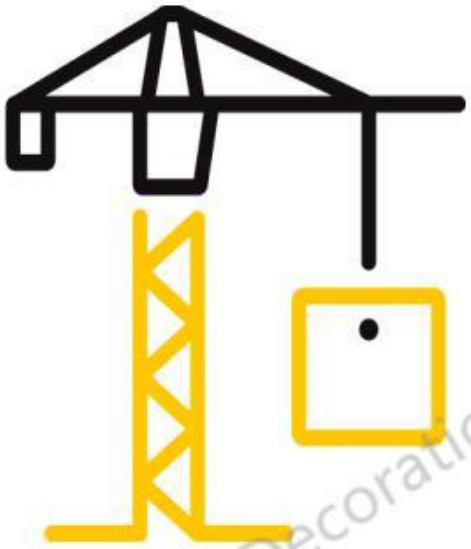
REPORT NUMBER
171101003SHF-BP-1-R1

ISSUE DATE
2017-11-23

REVISED DATE
2017-12-4

PAGES
12

DOCUMENT CONTROL NUMBER
LFT-APAC-SHF-OP-10a



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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Applicant: Foshan Vallen Decoration Materials Co., Ltd.

Applicant Address: 2nd, ChuangYe Road, XinJiao Industrial zone, DaLiang Shunde District, Foshan city Guangdong Pr.China

Attn: Crystal

Manufacturer: Foshan Vallen Decoration Materials Co., Ltd.

Manufacturer Address: 2nd, ChuangYe Road, XinJiao Industrial zone, DaLiang Shunde District, Foshan city Guangdong Pr.China

SUBJECT: Performance testing
Aluminum core composite panel

Dear Sir,
This test report for 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
S171101003SHF.001~008	4mm(0.6,0.6)	/

SAMPLE RECEIEVED: 2017/11/1; 2017/11/3
TESTED FROM: 2017/11/1 TO 2017/11/23

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Test Report

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Test Items, Method and Results:

Test Items	Test Methods	Test Results	Test Requirements	Verdict
Climbing Drum Peel for Adhesives	ASTM D1781-98(2012)	Average peel torque: 162 mm·N/mm Failure mode: Within the adhesive	N/A[1]	N/A[1]
Core shear ultimate strength	ASTM C393/C393M-16	Mean value: MD: 1.27 Mpa AMD: 1.43 MPa	N/A[1]	N/A[1]
Shear strength	ASTM D732-10	Mean value: 33.93 MPa	N/A[1]	N/A[1]
Thickness	In house method	Mean value: 4.18 mm	N/A[1]	N/A[1]
Coating thickness		Mean value: 28 μm	N/A[1]	N/A[1]
Measuring adhesion by tape test	ASTM D3359-17 Method B	Dry adehesion: Adhesion classification: 5B Percent area removed: 0%, None	N/A[1]	N/A[1]
Muriatic acid resistance (72 hours, 10%HCl)	ASTM D1308-02(2013) spot test, covered	No visual change	N/A[1]	N/A[1]
Sulfuric acid Resistance (18 hours, 20% H_2SO_4)		No visual change	N/A[1]	N/A[1]
Alkaline resistance (1 hour, 20%NaOH)		No visual change	N/A[1]	N/A[1]
Dry Film Hardness	ASTM D3363-05(2011)$^{\varepsilon 2}$	Scratch hardness: 2H	Grade≥F[2]	Pass
Mortar Resistance (24 Hour Pat Test)	AAMA 2605 Section 8.7.2	There was no loss of film adhesion or visual change in apperance.	There shall no loss of film adhesion or visual change in apperance.[2]	Pass
Detergent Resistance	AAMA 2605 Section 8.7.4	No loss of adhesion of the film to the metal. No blistering and no siginificant visual change in apperance.	No loss of adhesion of the film to the metal. No blistering and no siginificant visual change in apperance.[2]	Pass

Note:

1. N/A = Not applicable, no requirement and verdict can be given.

1. The requirement was cited from the AAMA 2605-17a

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Test Items, Method and Results:

Test Item: Climbing Drum Peel for Adhesives
Conditioning: Condition the test specimens at (23 ± 1)°C and (50 ± 2)% relative humidity for 7 days
Test Speed: 25.4 mm/min

Test Item	Test Method	Test Result
Climbing Drum Peel for Adhesives	ASTM D1781-98(2012)	Average peel torque: 162 mm·N/mm Failure mode: Within the adhesive

Note:
Sample received: 2017/11/03
Sample ID: S171101003SHF.001

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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Test Items, Method and Results:

Test Item: Core shear ultimate stress
Test Method: 3-Point Mid-span Loading
Test span: 150 mm
Test speed: 6 mm/min
Specimen: 200mm*75mm*4mm, 5 pieces/direction, Nominal facing thickness: 0.6mm

Test Item	Test Method	Test Result
Core shear ultimate strength	ASTM C393/C393M-16	Mean value: MD: 1.27 MPa AMD: 1.43 Mpa

Note:
MD = Manufacturing direction; AMD = Across-manufacturing direction.
Sample received: 2017/11/03
Sample ID: S171101003SHF.002

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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Test Items, Method and Results:

Test Item: Shear strength
Test speed: 1.25 mm/min
Specimen: 50mm*50mm, 5 pieces

Test Item	Test Method	Test Result
Shear strength	ASTM D732-10	Mean value: 33.93 MPa

Note:
Sample received: 2017/11/01
Sample ID: S171101003SHF.003

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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Test Items, Method and Results:

Test Item: Thickness and coating thickness
Conditioning: Condition the test specimens at (23 ± 1)°C and (50 ± 2)% relative humidity for 24h.

Test Item	Test Method	Test Result
Thickness	In house method	Mean value: 4.18 mm
Coating thickness		Mean value: 28 μm

Note:
Sample received: 2017/11/01
Sample ID: S171101003SHF.004

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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Test Items, Method and Results:

AAMA 2605-17a Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Etrusions and Panels

Test items	Test Methods	Test Results	Test Requirements	Verdict
Dry Film Hardness	ASTM D3363-05(2011)$^{\varepsilon 2}$	Scratch hardness: 2H	Grade≥F	Pass

Note:
Sample received: 2017/11/01
Sample ID: S171101003SHF.005

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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Test Items, Method and Results:

Test Item: Measuring adhesion by tape test
Test Method: ASTM D3359-17 Method B

Test Item	Test Method	Test Result	
Measuring adhesion by tape test	ASTM D3359-17 Method B	Dry adehesion:	
		Adhesion classification	5B
		Percent area removed	0%, None

Note:
Sample received: 2017/11/01
Sample ID: S171101003SHF.006

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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Test Items, Method and Results:

Test Item: Effect of household chemicals
Specimen: 150mm*150mm, 9 pieces

Test Item	Test Method	Test Result
Muriatic acid resistance (72 hours, 10%HCl)	ASTM D1308-02(2013) spot test, covered	No visual change
Sulfuric acid Resistance (18 hours, 20% H_2SO_4)		No visual change
Alkaline resistance (1 hour, 20%NaOH)		No visual change

Note:
Sample received: 2017/11/01
Sample ID: S171101003SHF.007

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Test Report

Issue Date: 2017-12-4 Intertek Report No. 171101003SHF-BP-1-R1

Test Items, Method and Results:

AAMA 2605-17a Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Etrusions and Panels

Test items	Test Methods	Test Results	Test Requirements	Verdict
Mortar Resistance (24 Hour Pat Test)[1]	AAMA 2605 Section 8.7.2	There was no loss of film adhesion or visual change in apperance.	There shall no loss of film adhesion or visual change in apperance.	Pass
Detergent Resistance[2]	AAMA 2605 Section 8.7.4	No loss of adhesion of the film to the metal. No blistering and no siginificant visual change in apperance.	No loss of adhesion of the film to the metal. No blistering and no siginificant visual change in apperance.	Pass

Note:

1. The specimens were exposed for 24 hours to 100% relative humidity at 38°C.
2. The specimens was immersed in the detergent solution at 38°C for 72 hours.
3. Sample received: 2017/11/01
   Sample ID: S171101003SHF.008

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APPENDIX: SAMPLE RECEIVED PHOTO

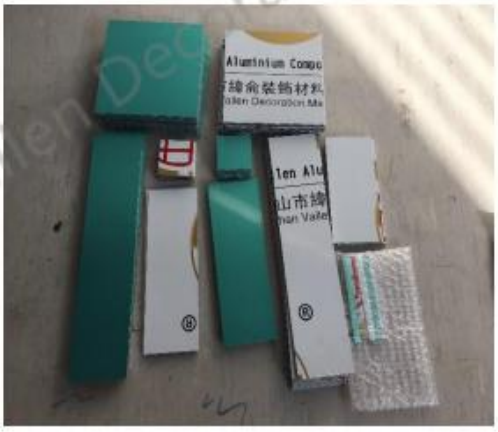

Fig.1 Sample received on 2017/11/1

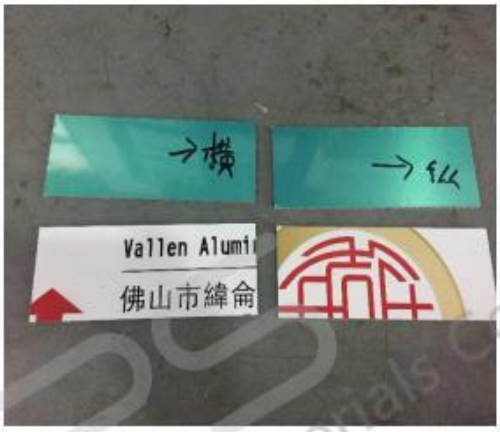

Fig.2 Sample received on 2017/11/3

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.

INTERTEK TESTING SERVICES LTD., SHANGHAI 天祥质量技术服务有限公司 检验检测专用章

Name: Sun Sun
Title: Approver

Name: Daniel Zhang
Title: Reviewer

Name: Evyn Cui
Title: Project Engineer

Revision:

NO.	DATE	CHANGES	AUTHOR	REVIEWER
171101003SHF-BP-1	2017/11/23	First issue	Evyn Cui	Daniel Zhang
171101003SHF-BP-1-R1	2017/12/4	Add the summary page	Evyn Cui	Daniel Zhang