FUZHOU ROPO BUILDING MATERIALS CO., LTD

TEST Report

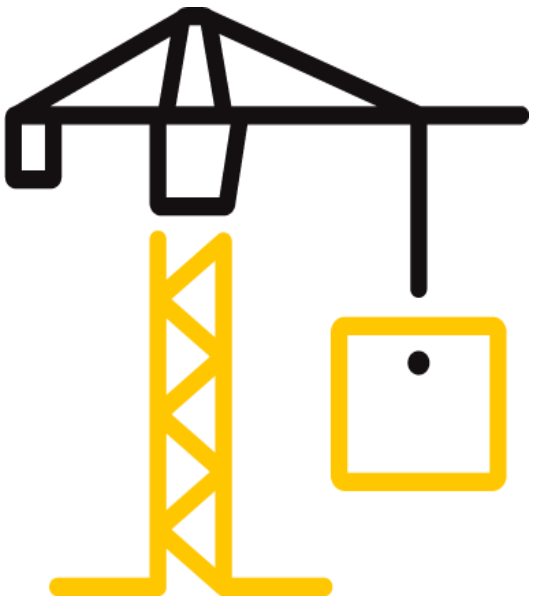
SCOPE OF WORKs
Performance test - Folding Door

REPORT NUMBER
170622002SHF-BP-3

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Intertek Testing Services Ltd., Shanghai
No.7 Building, No. 6958 Daye Road, Fengxian District, Shanghai, China
Tel: 021-61136116 Fax: 021-61189921
Website: www.intertek.com

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Applicant: Fuzhou Ropo Building Materials Co., Ltd

Applicant Address: Tieling Industrial Zone, Minhou, Fuzhou, Fujian, China

Attn: Deng Bisheng

SUBJECT: Performance testing
Folding Door

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
AS 2047-2014: Windows and External Glazed Doors in Buildings

SAMPLE ID	MODEL	SPECIFICATION
S170622002SHF.003	ROPO17D002	2500 mm (W) x 2200 mm (H)

SAMPLE RECEIEVED: 2017/6/19
TESTED FROM: 2017/7/4 TO 2017/7/5

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Test Items, Method and Results：

1 Test Samples

A full scale sample of was provided by the manufacturer that was not weathered nor conditioned. The drawings of the representative sample were referenced in Appendix A.

The description of the samples given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

Table 1 Product Information

1	Product Name	Folding Door
2	Model	ROPO17D002
3	Dimension of Door Frame	2500 mm (W) x 2200 mm (H) x 58 mm (T)
4	Dimension of Door Leaf	806 mm (W) x 2058 mm (H) x 58 mm (T), 3 pcs
5	UPVC Profile	Model: AD58 Manufacturer: VEKA Plastics (Shanghai) Co. Ltd.
6	Glazing	Dimension: 634 mm (W) x 1886 mm (H), 3 PCS Structure: 22 mm thick, 5 mm Tempered Glass + 12 mm Air + 5 mm Tempered Glass Supplier: Shanghai HJ Safety Glass Co.,Ltd
7	Hardware	Multipoint Lock D30 2001-2400mm, code: 259782, 2 pcs Locking Plate, code: 260368, 16 pcs Handle, code: 599454, 1 pcs Flat Handle, code: PHIG0010, 1 pcs Supplier: Roto Frank AG 3D Hinge, code: 224773, 4 pcs Corner Hinge, code: 260275, 4 pcs Combo B, code: PMAG0010, 6 pcs Combo C, code: PMAG0040, 1 pcs Combo 0-2500, code: PMAG0050, 1 pcs Supplier: German Siegenia AUBI
8	Weather Bar	None
9	Thermal Break	None
10	Drainage	None

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Table 1 Product Information (Continued)

11	Gasket (between sash and frame)	Model: 112.751，112.750 Material: EPDM Supplier: VEKA Plastics (Shanghai) Co. Ltd.
12	Sealant of Glass	Model: SS601 Material: Neutral Silicone Sealant Supplier: Guangzhou Baiyun Chemical Industry Co., Ltd.

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Test Items, Method and Results：

2 Test Result

Table 2 Test Results

Test Description	Test Result			Verdict
Deflection / Span Ratio Test	Serviceability design wind pressure	800	Pa	Pass
	Rating	N4	General	
Operating Force Test	Force to Initial Movement	41	N	Pass
	Force to Maintain Movement	34	N	
Air Infiltration Test	+ 75 Pa	0.07	$L/s \cdot m^2$	Pass
	- 75 Pa	0.09	$L/s \cdot m^2$	
	Average air leakage rate	0.08	$L/s \cdot m^2$	
	Rating	Low		
Water Penetration Test	Test Pressure	300	Pa	Pass
	Rating	N5	Non-exposed	
Ultimate Strength Test	Test Pressure	900	Pa	Pass
	Rating	N2	General	

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Appendix A: Sample Drawings

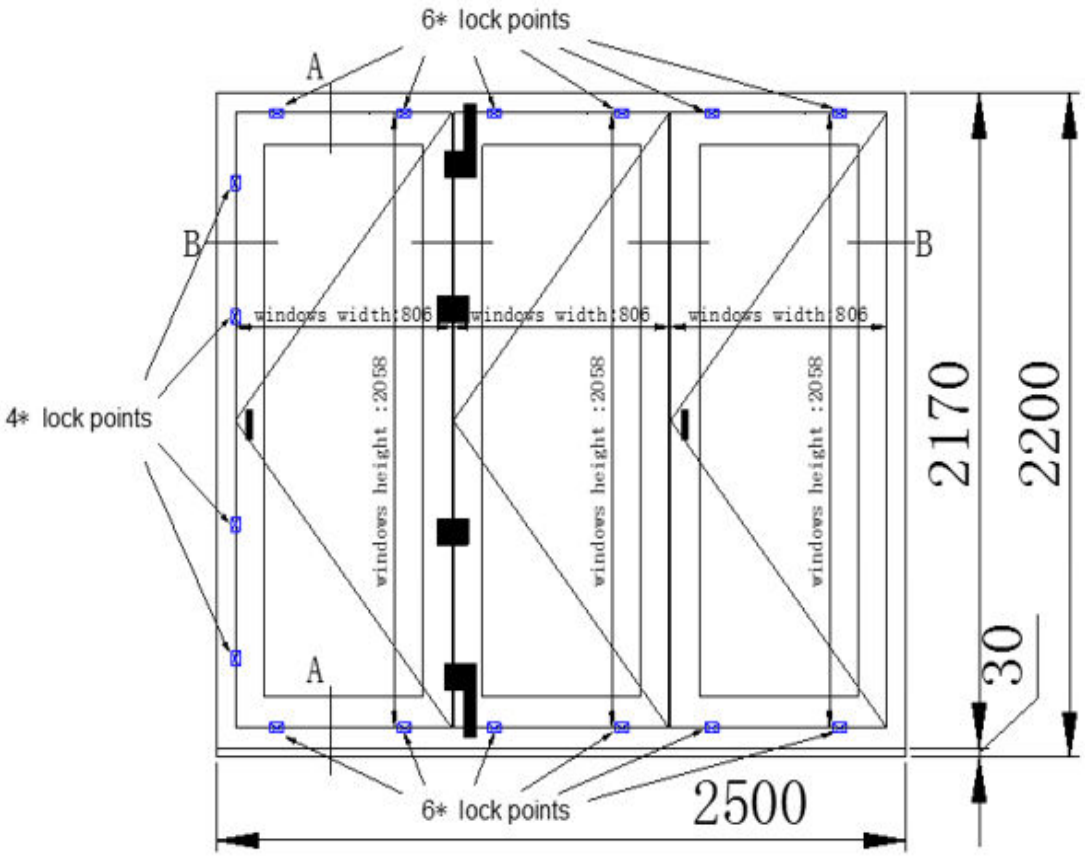


Fig.1 Drawing of Representative Sample

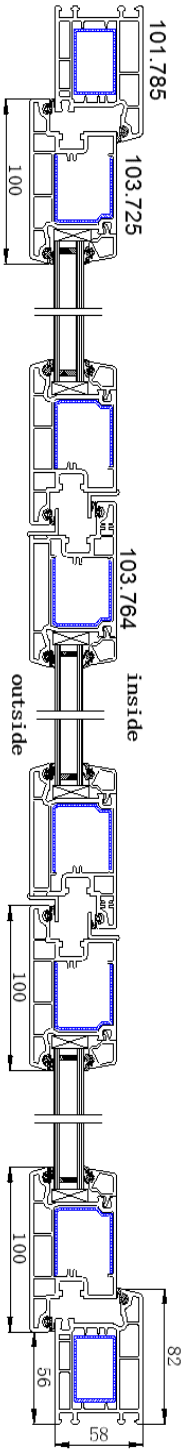


Fig.2 Drawing of Representative Sample

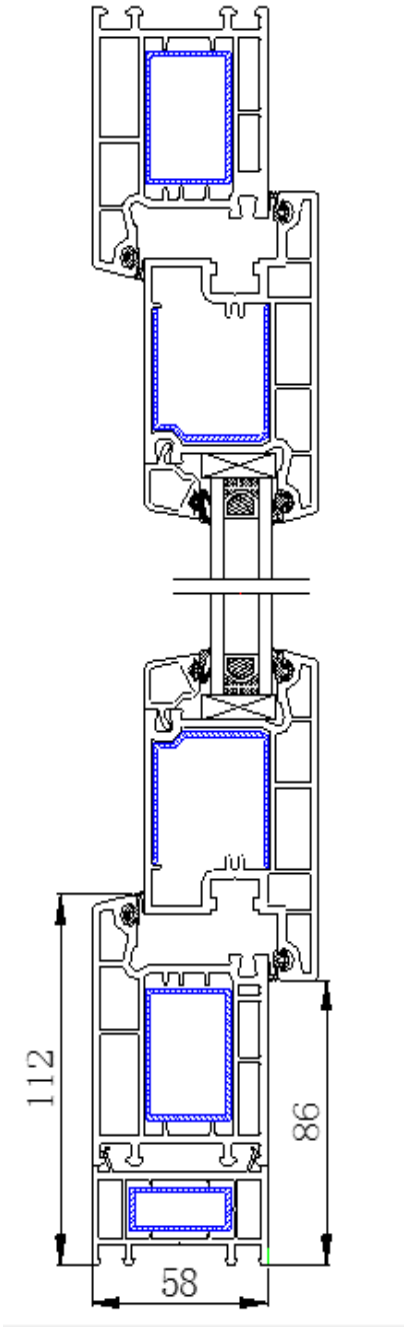


Fig.3 Drawing of Representative Sample

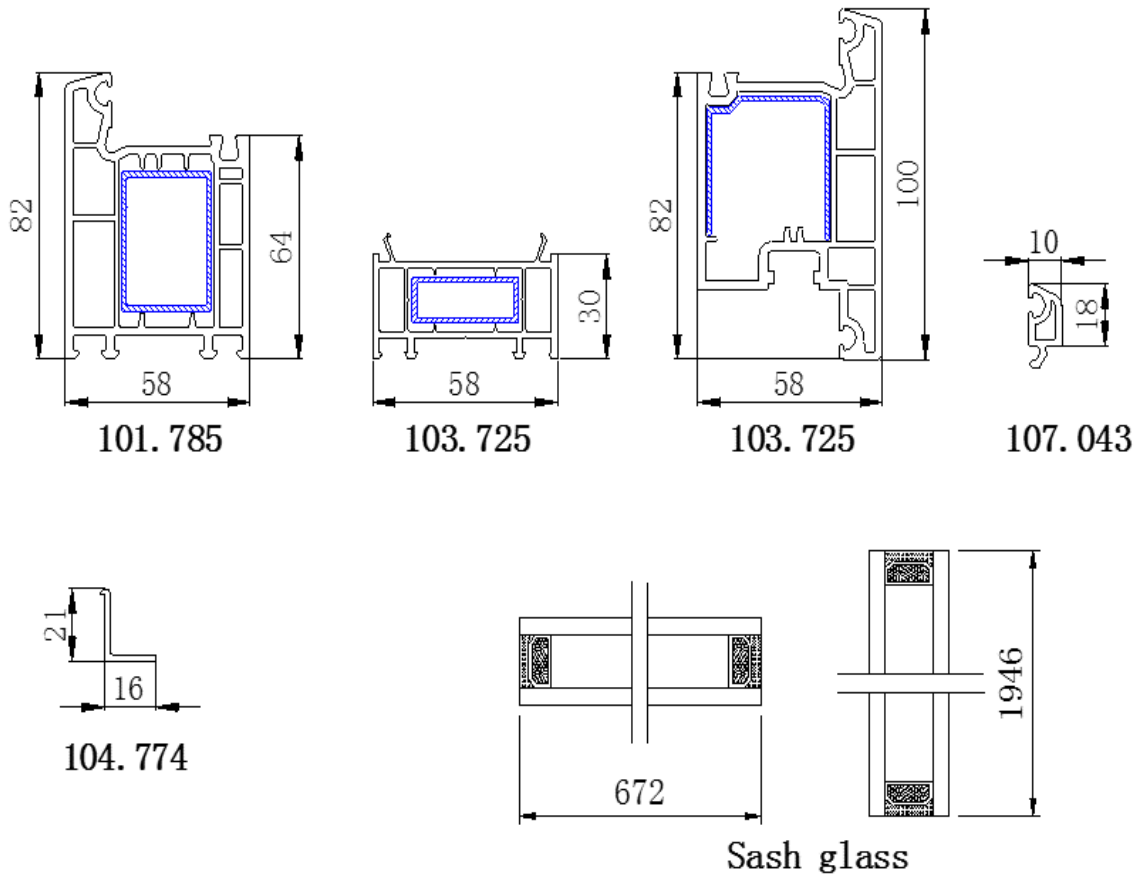


Fig.4 Drawing of Representative Sample

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Appendix B: Test Data

B.1 Deflection Test – Test method AS4420.2-1996

Span length, L = 2035 mm
Span length, L = 2035 mm

Maximum allowable deflection (Stile at handle side) = Span / 100 = 20.35 mm
Maximum allowable deflection (Mullion) = Span / 100 = 20.35 mm

Test Pressure (Serviceability design wind pressure), P = 800 Pa, rating N4, General

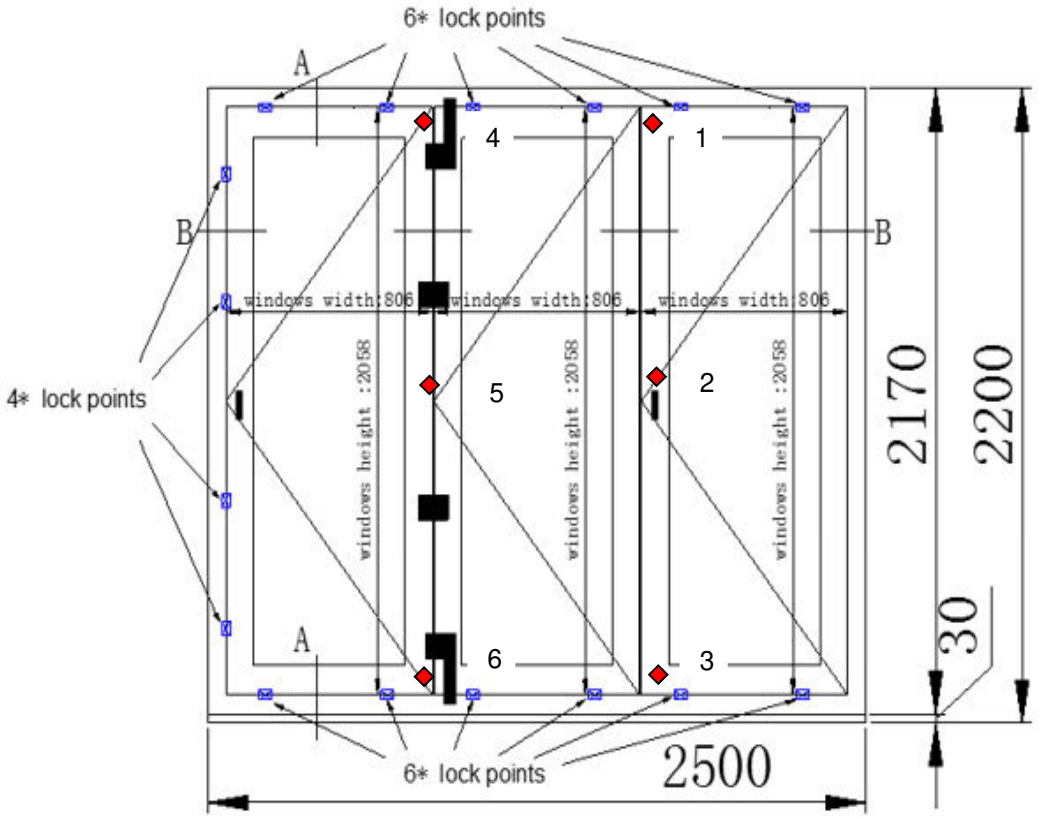


Fig.5 Location of Displacement Measuring Devices

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Table 3 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Deflection (mm)			Actual Deflection	Maximum allowable Deflection /Span Ratio	Verdict
Item	Span Length		1	2	3			
Mullion 1	2035	+P/4 = 200	0.5	1.8	0.5	4.1	20.35	Pass
		+2P/4 = 400	0.9	2.9	0.9			
		+3P/4 = 600	1.3	4.5	1.4			
		+4P/4 = 800	1.9	6.0	1.9			
		0	0.1	0.2	0.2			
Mullion 1	2035	-P/4 = -200	0.5	1.5	0.5	4.0	20.35	Pass
		-2P/4 = -400	1.1	3.1	0.9			
		-3P/4 = -600	1.6	4.4	1.4			
		-4P/4 = -800	2.3	6.2	2.1			
		0	0.2	0.1	0.1			

Table 4 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Deflection (mm)			Actual Deflection	Maximum allowable Deflection /Span Ratio	Verdict
Item	Span Length		4	5	6			
Mullion 2	2035	+P/4 = 200	0.9	2.0	0.6	4.3	20.35	Pass
		+2P/4 = 400	1.4	3.2	0.9			
		+3P/4 = 600	2.1	5.0	1.5			
		+4P/4 = 800	2.8	6.7	2.0			
		0	0.2	0.2	0.1			
Mullion 2	2035	-P/4 = -200	1.0	1.8	0.6	4.2	20.35	Pass
		-2P/4 = -400	2.1	3.7	1.3			
		-3P/4 = -600	3.2	5.6	2.0			
		-4P/4 = -800	4.9	8.1	3.0			
		0	0.5	0.4	0.2			

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Appendix B: Test Data

B.2 Operating force test – Test method AS4420.3-1996

Projecting sash

Table 6 Test Data of Operating Force Test

Force Type	Force Data	Requirements	Verdict
To Initial Movement (N)	25	160	Pass
To Maintain Movement (N)	3	80	Pass

Folding sash

Table 7 Test Data of Operating Force Test

Force Type	Force Data	Requirements	Verdict
To Initial Movement (N)	41	160	Pass
To Maintain Movement (N)	34	80	Pass

Appendix B: Test Data

B.3 Air infiltration test – Test method AS4420.4-1996

Overall area: 5.50 m^2

Table 7 Test Data of Air Infiltration Test

Test pressure of 75 Pa	Infiltration rate (positive direction)	0.07 L/s·m^2
	Exfiltration rate (negative direction)	0.09 L/s·m^2
	Average air leakage rate	0.08 L/s·m^2
	Rating	Low
	Requirement: Maximum Air Infiltration	1.0 L/s·m^2

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Appendix B: Test Data

B.4 Water resistance test – Test method AS4420.5-1996

There was no water penetration after water sprayed for 15 minutes at 300 Pa.

Test result:
Pmax = 300 Pa (required by the Applicant)
Rating: N5

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Appendix B: Test Data

B.5 Ultimate strength test – Test method AS4420.6-1996

Required ultimate strength test pressure: 900 Pa

Rating: N2

Test result:

The window was not collapsed when subjected to ultimate strength of 900 Pa (N2). No significant breakage, permanent deformation or operational malfunction after ultimate strength was released.

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APPENDIX C: SAMPLE RECEIVED PHOTO



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.

Name: Sun Sun
Title: Approver

Name: Fred Bao
Title: Reviewer

Name: Weber Wang
Title: Project Engineer

Revision:

NO.	DATE	CHANGES	AUTHOR	REVIEWER
0	2017/7/24	First issue	Weber Wang	Fred Bao