TRYBA (Shanghai) Windows & Doors Co., Ltd.

TEST REPORT

SCOPE OF WORK
Spring 70 Series Thermally Broken Aluminum Awning Window & Fixed

REPORT NUMBER
240821012SHF-002

TEST DATE(S)
2024-10-22

ORIGINAL ISSUE DATE
2024-11-12

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18

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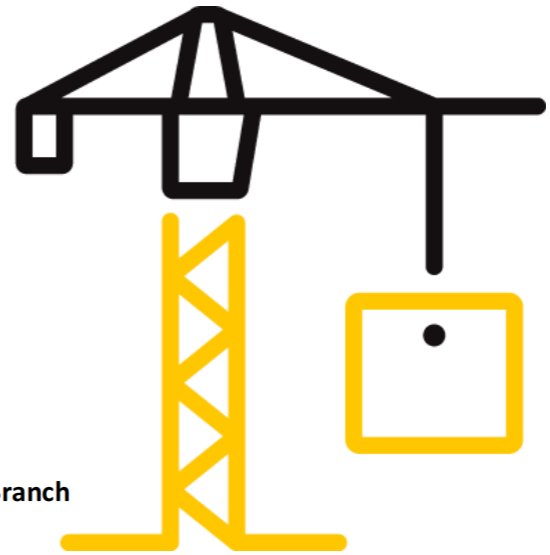

Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch

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Test Report

Original Issue Date: 2024-11-12 Intertek Report No. 240821012SHF-002

Applicant: TRYBA (Shanghai) Windows & Doors Co., Ltd.
Address: No.38, Mingye Road, Sheshan Industrial Park, Songjiang District, Shanghai
Attn: Alice
Manufacturer: TRYBA (Shanghai) Windows & Doors Co., Ltd.
Address: No.38, Mingye Road, Sheshan Industrial Park, Songjiang District, Shanghai
Test Type: Performance test, samples provided by the applicant.

Product Information

Product Name	Model	Specification
Spring 70 Series Thermally Broken Aluminum Awning Window & Fixed	C3011	2400mm(Width) x 2400mm(Height)
Sample ID	**Sample Amount**	**Sample Received Date**
S240821012SHF.002	1 Set	2024-10-21
Sample ID	**Sample Description**	
TRYBA Window	The sample was a completely assembled, glazed, functional product (including hardware) and fully operable, fitted in the test apparatus in accordance with documented instructions.	

Test Methods And Standards

Test Standard	AS/NZS 4420.1-2016 Windows, external glazed, timber and composite doors - Methods of test Part 1: Test sequence, sampling and test methods
Specification Standard	AS 2047-2014 Windows and external glazed doors in buildings (Amdt 2-2017)
Test Conclusion	The results met the applicable requirements specified in AS 2047-2014 (Amdt 2-2017), and the results were shown in the following page.

Note: 1. This report does not involve sampling. The report only reflects conformity of the tested items of the samples provided by the testing applicant. Representativeness and authenticity of the submitted samples are responsibilities of the testing applicant.

Report Authorized

Name: Gio Liu
Title: Reviewer

INTERTEK TESTING SERVICES SHENZHEN LTD. SHANGHAI FENGXIAN BRANCH

Name: John Zhang
Title: Project Engineer

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Test Items, Method and Results:

2 Test Result

Table 2 Test Results

Test Description	Test Result			Verdict
Serviceability Design Wind Pressure AS/NZS 4420.1-2016 Section 3	±	1600 Pa		Pass
Deflection / Span Ratio Framing Member 1	Stile of Awning Window	1/1886		
Deflection / Span Ratio Framing Member 2	Bottom Rail of Awning Window	1/290		
Deflection / Span Ratio Framing Member 3	Transom	1/360		
Deflection / Span Ratio Framing Member 4	Mullion	1/1073		
Operating Force AS/NZS 4420.1-2016 Section 4	Initial Movement	Required	≤ 160 N	Pass
		Open	32 N	
		Close	34 N	
	Maintain Movement	Required	≤ 80 N	
		Open	29 N	
		Close	31 N	
Air Infiltration at ±75 Pa AS/NZS 4420.1-2016 Section 5 Overall area: 5.76 m^2	at +75Pa		0.10 $L/s \cdot m^2$	Pass
	at -75Pa		0.16 $L/s \cdot m^2$	
	Air Infiltration Level		Low	
Water Penetration AS/NZS 4420.1-2016 Section 6	No water penetration at		600 Pa	Pass
	Description: After water sprayed for 15 minutes at 600 Pa, no water penetration was observed.			
Ultimate Strength Test Pressure AS/NZS 4420.1-2016 Section 7	+	3000 Pa with no collapse		Pass
	-	3000 Pa with no collapse		
	Description: No significant breakage, permanent deformation or operational malfunction after ultimate strength was released.			

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Appendix A: Test Data and Sample Drawings:

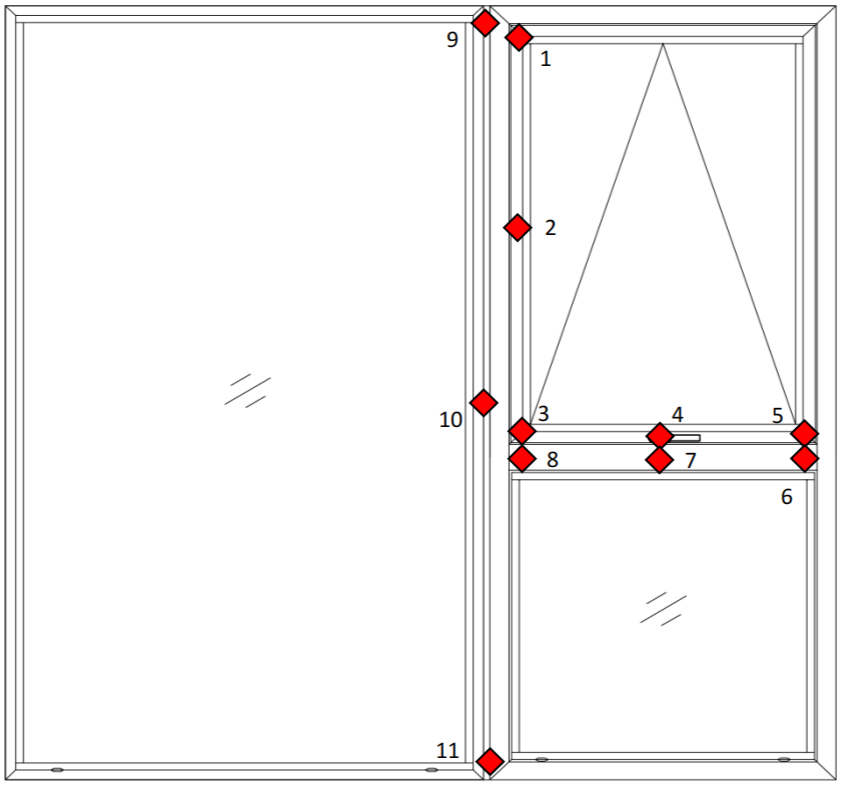

Fig.1 Locations of Displacement Measuring Devices

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Appendix A: Test Data and Sample Drawings:

A.1 Deflection Test – Test method AS/NZS 4420.1-2016

Test Pressure (Serviceability design wind pressure), P = 1600 Pa.

Note: No structural members in a completely assembled and glazed window shall deflect by an amount greater than the following, when tested at the serviceability design wind pressure:
Span/250 for windows and sliding doors.
Span/100 for doors other than sliding.

Table 3 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Deflection (mm)			Actual Deflection	Deflection /Span Ratio
Item	Span Length		1	2	3		
Stile of Awning Window	1320	+P/4 = 400	1.6	1.6	1.5	0.1	1:13200
		+2P/4 = 800	2.7	2.9	2.8	0.2	1:6600
		+3P/4 = 1200	4.4	4.8	4.6	0.3	1:4400
		+4P/4 = 1600	6.0	6.6	6.4	0.4	1:3300
		0	0.7	0.7	0.7	<0.1	<1:13200
Stile of Awning Window	1320	-P/4 = -400	2.1	2.0	1.6	0.3	1:4400
		-2P/4 = -800	3.3	3.3	2.7	0.3	1:4400
		-3P/4 = -1200	4.9	5.0	4.2	0.5	1:2640
		-4P/4 = -1600	6.9	7.1	6.0	0.7	1:1886
		0	0.9	0.8	0.6	0.2	1:6600

Table 4 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Deflection (mm)			Actual Deflection	Deflection /Span Ratio
Item	Span Length		3	4	5		
Bottom Rail of Awning Window	900	+P/4 = 400	1.5	0.9	0.1	0.7	1:1286
		+2P/4 = 800	2.8	1.7	0.2	1.3	1:692
		+3P/4 = 1200	4.6	2.7	0.2	2.2	1:409
		+4P/4 = 1600	6.4	3.7	0.2	3.1	1:290
		0	0.7	0.3	0.1	0.3	1:3000
Bottom Rail of Awning Window	900	-P/4 = -400	1.6	0.9	<0.1	0.8	1:1125
		-2P/4 = -800	2.7	1.6	0.1	1.3	1:692
		-3P/4 = -1200	4.2	2.3	0.3	2.0	1:450
		-4P/4 = -1600	6.0	3.2	0.5	2.8	1:321
		0	0.6	0.3	<0.1	0.3	1:3000

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Table 5 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Deflection (mm)			Actual Deflection	Deflection /Span Ratio
Item	Span Length		6	7	8		
Transom	900	+P/4 = 400	0.1	0.7	1.4	0.7	1:1286
		+2P/4 = 800	0.3	1.3	2.5	1.1	1:818
		+3P/4 = 1200	0.5	2.1	4.1	1.8	1:500
		+4P/4 = 1600	0.7	2.9	5.6	2.5	1:360
		0	<0.1	0.4	0.7	0.4	1:2250
Transom	900	-P/4 = -400	0.1	0.8	1.5	0.7	1:1286
		-2P/4 = -800	0.2	1.4	2.5	1.2	1:750
		-3P/4 = -1200	0.5	2.0	3.9	1.7	1:529
		-4P/4 = -1600	0.8	2.8	5.5	2.4	1:375
		0	0.1	0.3	0.6	0.3	1:3000

Table 6 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Deflection (mm)			Actual Deflection	Deflection /Span Ratio
Item	Span Length		9	10	11		
Mullion	2360	+P/4 = 400	1.6	1.5	0.7	0.5	1:4720
		+2P/4 = 800	2.6	2.7	1.4	0.7	1:3371
		+3P/4 = 1200	4.0	4.5	2.5	1.3	1:1815
		+4P/4 = 1600	5.5	6.1	3.4	1.7	1:1388
		0	0.5	0.8	0.8	0.2	1:11800
Mullion	2360	-P/4 = -400	2.1	1.6	0.6	0.8	1:2950
		-2P/4 = -800	3.2	2.7	1.0	1.1	1:2145
		-3P/4 = -1200	4.8	4.3	1.7	1.6	1:1475
		-4P/4 = -1600	6.8	6.1	2.5	2.2	1:1073
		0	0.8	0.7	0.4	0.2	1:11800

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Appendix B: Sample Received Photo

Revision:

NO.	Date	Changes
240821012SHF-002	2024-11-12	First issue