Suzhou TRYBA Building Materials Technology Co., Ltd.

TEST REPORT

SCOPE OF WORK
Awning Window

REPORT NUMBER
250529005SHF-002

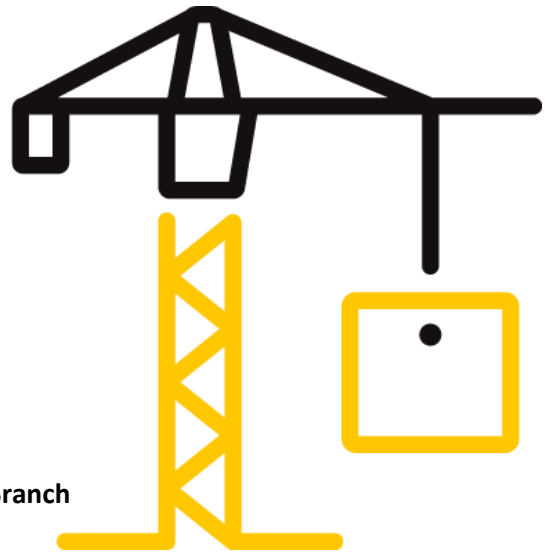
TEST DATE(S)
2025-7-23 - 2025-7-24

ORIGINAL ISSUE DATE
2025-08-06

PAGES
19

DOCUMENT CONTROL NUMBER
LFT-APAC-SHF-OP-10k(January 13, 2025)

Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



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Website: www.intertek.com

Test Report

Original Issue Date: 2025-08-06 Intertek Report No. 250529005SHF-002

Applicant:	Suzhou TRYBA Building Materials Technology Co., Ltd.
Applicant Address:	36th floor, Jinhe International Building, 35 Shishan Road, Huqiu District, Suzhou City
Attn:	Alisa
Manufacturer:	TRYBA (Shanghai) Windows Co., Ltd.
Manufacturer Address:	No.38, Mingye Road, Sheshan Industrial Park, Songjiang District, Shanghai
Product Type:	Awning Window
Product Model:	80
Primary product designator:	Class CW - PG30 - Size Tested 1500 × 800 mm (59.05 × 31.50 in.) - AP
Optional secondary designator:	Positive Design Pressure = +1440 Pa (30.08 psf) Negative Design Pressure = -1440 Pa (30.08 psf) Water penetration resistance test pressure = 440 Pa (9.19 psf)
SUBJECT:	Performance testing

Product Information

Product Name	Model	Specification
Awning Window	80	1500mm(Width) x 800mm(Height)
Sample ID	**Sample Amount**	**Sample Received Date**
S250529005SHF.002	1 Set	2025-07-20
Brand	**Sample Description**	
TRYBA	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	ASTM E283/E283M-2019; ASTM E547-00(R2016); ASTM E330/E330M-2014(R2021); ASTM F588-17; AAMA/WDMA/CSA101/I.S.2/A440-22 Clause 8.3.1, Clause 8.3.5 and Clause 8.3.6.6
Specification Standard	AAMA/WDMA/CSA 101/I.S.2/A440-22 (NAFS 2022 - North American Fenestration Standard / Specification for Windows, Doors and Skylights) Clause 8.3.1, Clause 8.3.2, Clause 8.3.3, Clause 8.3.4, Clause 8.3.5 and Clause 8.3.6.6; CSA A440S1-25 Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440-22 Clause 5.3 and Clause 5.4
Test Conclusion	The results met AAMA/WDMA/CSA 101/I.S.2/A440-22 and CSA A440S1-25 requirements specified on Awning Window, 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.
2. This test item was conducted in one of our multi-sites address of Plant 3-5, No. 6978 Daye Road, Fengxian District, Shanghai (No. 4-South Plant, No. 161 Litai Road).

Report Authorized

Name: Gio Liu
Title: Reviewer

Name: John Zhang
Title: Project Engineer

Test Report

Original Issue Date: 2025-08-06 Intertek Report No. 250529005SHF-002

Test Items, Method and Results：

1 Test Samples

Sample was submitted to Intertek directly from the client. Sample was not independently selected for testing. Sample was received at the Evaluation Center on July 20, 2025.

A full scale sample of Awning Window (Model: 80) was provided by the manufacturer that was not weathered nor conditioned.

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

Product Name	Awning Window
Model	80
Dimension of Window Frame	1500mm(Width) x 800mm(Height) x 80mm(Thickness)
Dimension of Window Sash	1428mm(Width) x 728mm(Height) x 80mm(Thickness)
Profile	Model: ES80K-B, ES80S-39, ES80WS-B; Material: Vinyl Supplier: Anhui Conch Group Co., Ltd.
Frame Corner Construction Details: Joinery type	45° cut and weld
Reinforcement	Model: ES80K-B, ES80WS-B; Reinforced lining steel Code: Q195 Supplier: Renqiu Dongjie Metal Materials Co., Ltd.
Glazing	Dimension: 1284mm(Width) x 584mm(Height) Structure: 5mm Clear Tempered(Xinyi Glass) + 12mm Lisec aluminum spacer + 5mm Clear Tempered(Xinyi Glass) with XDTN0179-D#4 + 12mm Lisec aluminum spacer + 5mm Clear Tempered (Xinyi Glass)with XD221266-D#2 Supplier: Xinyi Glass Engineering (Dongguan) Co., Ltd.
Hardware	Specify type: Lock block; Model: PSK20113 Specify type: Handle; Model: P11-L50 Specify type: The transmission; Model: PCDQWD030XX Specify type: Wind support; Model: PFC0500XX Specify type: Friction Hinge; Model: PHCS0100XXK22 Specify type: Anti-Detachment Hinge; Model: FTQ15 Supplier: Guangdong Kinlong Hardware Products Co., Ltd.
Weather-strip	None
Thermal Break	None
Drainage	None
Sealing Strip	Model: PO, PK, A; Material: EPDM Supplier: Jiangyin Haida Rubber and Plastic Co., Ltd.
Sealant	Model: Antai 173 neutral silicone sealant; Material: Silicone sealant Supplier: Guangzhou Jitai Chemical Co., Ltd.
Installation	The rough opening allowed for a 50mm shim space. The perimeter of the tested specimen was fixed by screws every 150~200mm and sealed with silicone sealant.

The sample ID was S250529005SHF.002. The drawings of the representative sample were referenced in Appendix A, the test data was referenced in Appendix B and the photo of the representative sample was referenced in Appendix C.

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Test Items, Method and Results：

2 Test Result

Table 2 Test Result

Test Description	*Requirements (Class CW-PG30)*		*Results*		*Verdict*
2025/7/23					
Operating Force Test AAMA/WDMA/CSA 101/I.S.2/A440-22, Clause 8.3.1	Maximum force to initiate motion	60 N	Maximum force to initiate motion	36 N	Pass
	Maximum force to maintain motion	60 N	Maximum force to initiate motion	30 N	
	Maximum force to initiate motion for Rotary Operators	Reported	Maximum force to initiate motion for Rotary Operators	17 N	Reported
	Maximum force to maintain motion for Rotary Operators	Reported	Maximum force to maintain motion for Rotary Operators	14 N	
Air Leakage Resistance Test AAMA/WDMA/CSA 101/I.S.2/A440-22, Clause 8.3.2 ASTM E283/E283M-2019	Maximum air leakage at+75 Pa	1.0 $L/s \cdot m^2$	Air leakage at +75 Pa	0.04 $L/s \cdot m^2$	Pass
	Maximum air leakage at-75 Pa	1.0 $L/s \cdot m^2$	Air leakage at -75 Pa	0.06 $L/s \cdot m^2$	
Water Penetration Resistance Test AAMA/WDMA/CSA 101/I.S.2/A440-22, Clause 8.3.3 ASTM E547-00 (R2016)	Minimum water pressure	220 Pa	Test Pressure	440 Pa	Pass
			After water sprayed for four cycles in 24 minutes at 440 Pa, no water penetration was observed.		

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Table 2 Test Result (Continued)

Test Description	*Requirements (Class CW-PG30)*		*Results*		*Verdict*
2025/7/23					
Uniform Load Deflection Test AAMA/WDMA/CSA 101/I.S.2/A440-22, Clause 8.3.4.2 ASTM E330/E330M-2014(R2021)	Minimum Design Pressure (DP)	1440 Pa	Design Pressure (DP)	+1440 Pa	Pass
			Maximum deflection at Stile	0.1 mm	
			Maximum deflection at Bottom Rail	0.7 mm	
			Design Pressure (DP)	-1440 Pa	Pass
			Maximum deflection at Stile	0.1 mm	
			Maximum deflection at Bottom Rail	1.3 mm	
Uniform Load Structural Test AAMA/WDMA/CSA 101/I.S.2/A440-22, Clause 8.3.4.3 ASTM E330/E330M-2014 (R2021)	Minimum Structural Pressure (STP)	2160 Pa	Structural Pressure (STP)	+2160 Pa	Pass
			No significant breakage or damage after ultimate strength was released.		
			Maximum permanent deformation at Stile	<0.1 mm	
			Maximum permanent deformation at Bottom Rail	<0.1 mm	
			Structural Pressure (STP)	-2160 Pa	
			No significant breakage or damage after ultimate strength was released.		
			Maximum permanent deformation at Stile	<0.1 mm	
			Maximum permanent deformation at Bottom Rail	0.1 mm	
2025/7/24					
Forced-entry Resistance Test AAMA/WDMA/CSA 101/I.S.2/A440-22, Clause 8.3.5 ASTM F588-17	Minimum Grade 10		Test Class	Grade 10	Pass
			During the test and upon removal of loads, all locking devices were remained engaged and could not entry.		
Awning, hopper, projected hardware load test AAMA/WDMA/CSA 101/I.S.2/A440-22, Clause 8.3.6.6	The Load to the sash	140 N	The Load to the sash	140 N	Pass
			After applied load for 10s, the sash was properly and fully close. There was no failure of screws, track, or hinge, or permanent deformation of support arms.		

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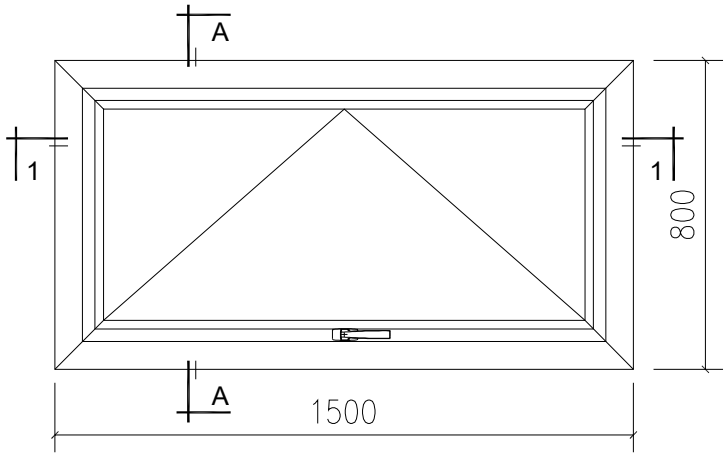
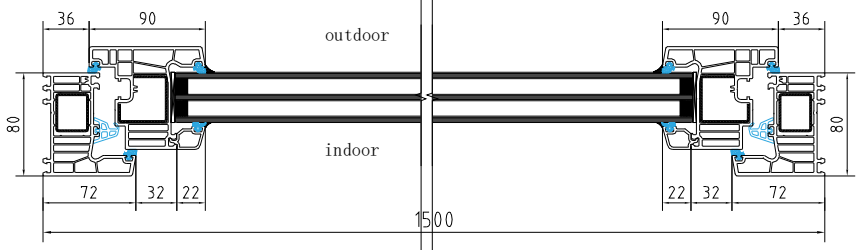
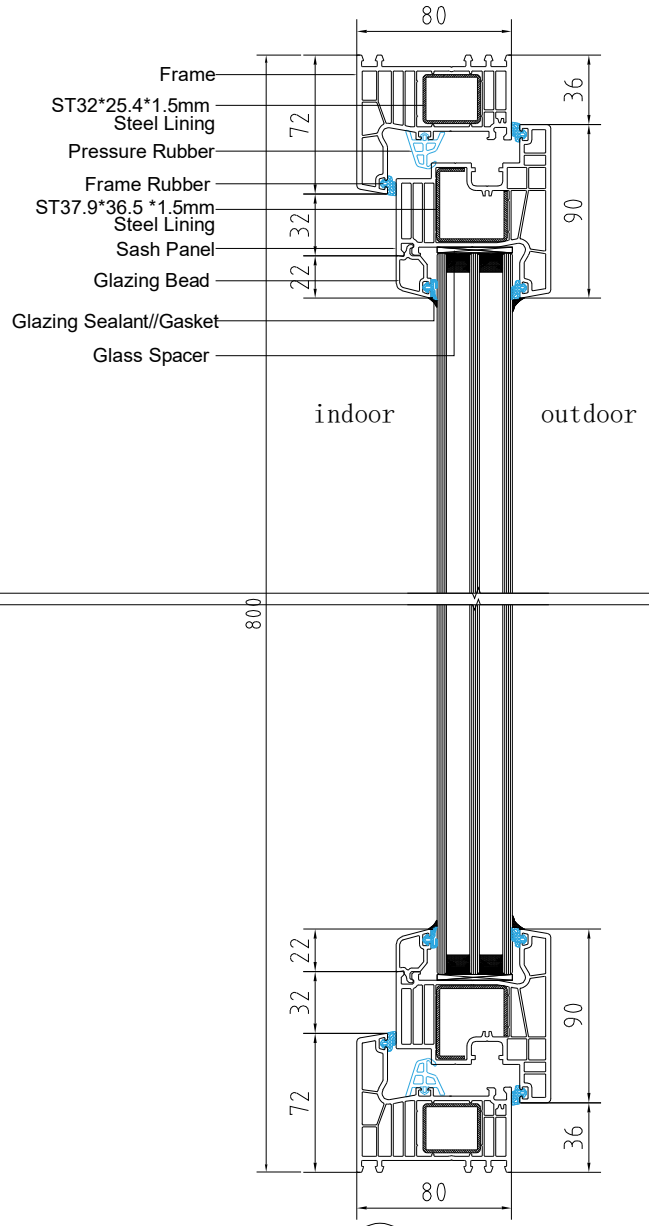
Appendix A: Sample Drawings

Report #: 2505290055HF-002
Date: 08/05/25
Verified by:





1-1 Horizontal section
1:5



A-A Vertical profile
1:5

Customer confirmation signature:

Project name
Customers:

Drawing	Yong Sun
Design	Yong Sun
Check	

Picture name
Profile cross-section layout

The picture number	DYTM03-1
Date of drawing	2025-06-01

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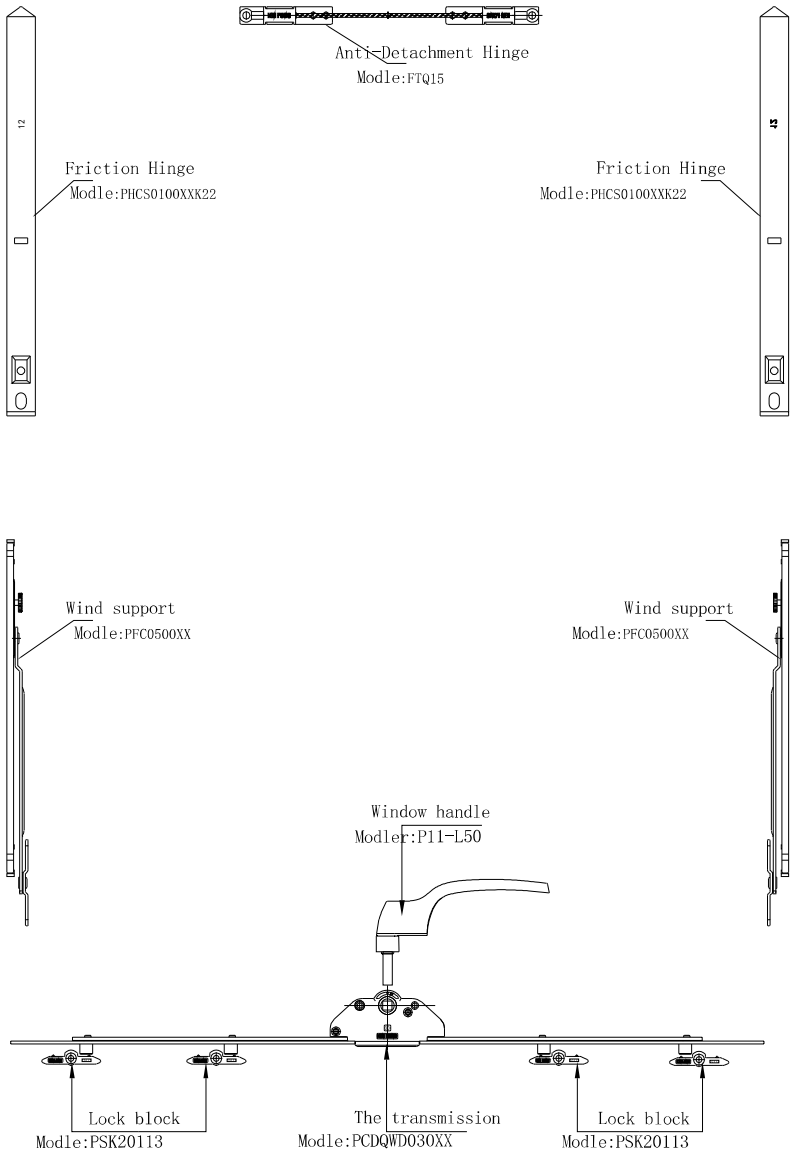


Customer confirmation signature:

Project name
Customers:

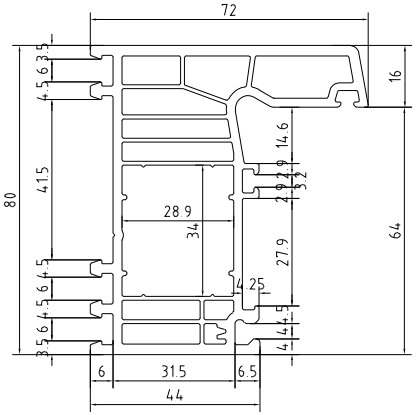
Drawing	Yong Sun
Design	Yong Sun
Check	

Picture name

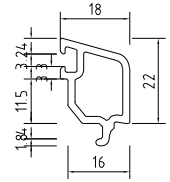
Hardware cross-section diagram

The picture number	DYTM03-2
Date of drawing	2025-06-01

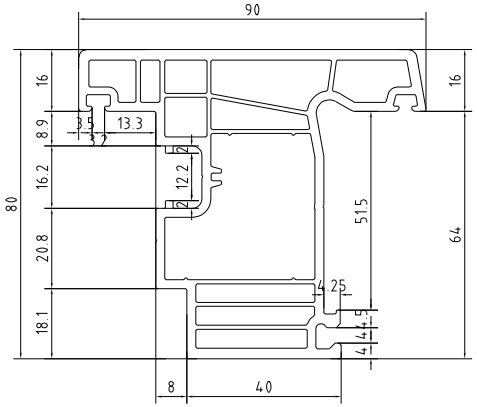
Report #:	250529005SHF-002
Date:	08/05/25
Verified by:	



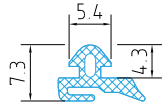
Frame
Modle:ES80K-B



Glazing Bead
Modle:ES80S-39



Sash Panel
Modle:ES80WS-B



Glass Rubber (EPDM)
Leather type: PK type

Customer confirmation signature:

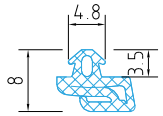
Project name
Customers:

Drawing	Yong Sun
Design	Yong Sun
Check	

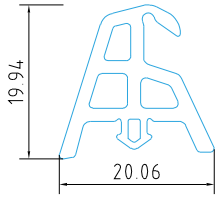
Picture name
The cross-section diagram

The picture number	DYTM03-3
Date of drawing	2025-06-01

Report #:	250529005SHF-002
Date:	08/05/25
Verified by:	



Glass Rubber（EPDM)
Leather type: PO type



Pressure Rubber（EPDM)
Leather type: A type

Customer confirmation signature:

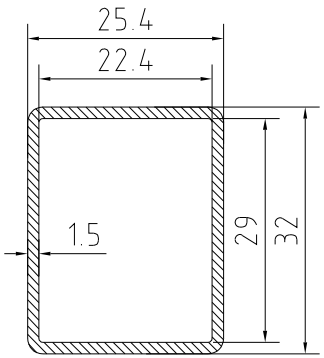
Project name
Customers:

Drawing	Yong Sun
Design	Yong Sun
Check	

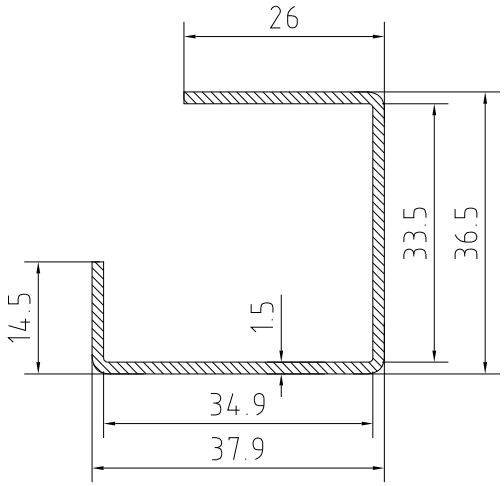
Picture name

The cross-section diagram

The picture number	DYTM03-4
Date of drawing	2025-06-01



Steel Lining
Modle:ES80K-B



Steel Lining
Modle:ES80WS-B

Customer confirmation signature:

Project name
Customers:

Drawing	Yong Sun
Design	Yong Sun
Check	

Picture name

Profile lining steel drawings

The picture number	DYTM03-5
Date of drawing	2025-06-01

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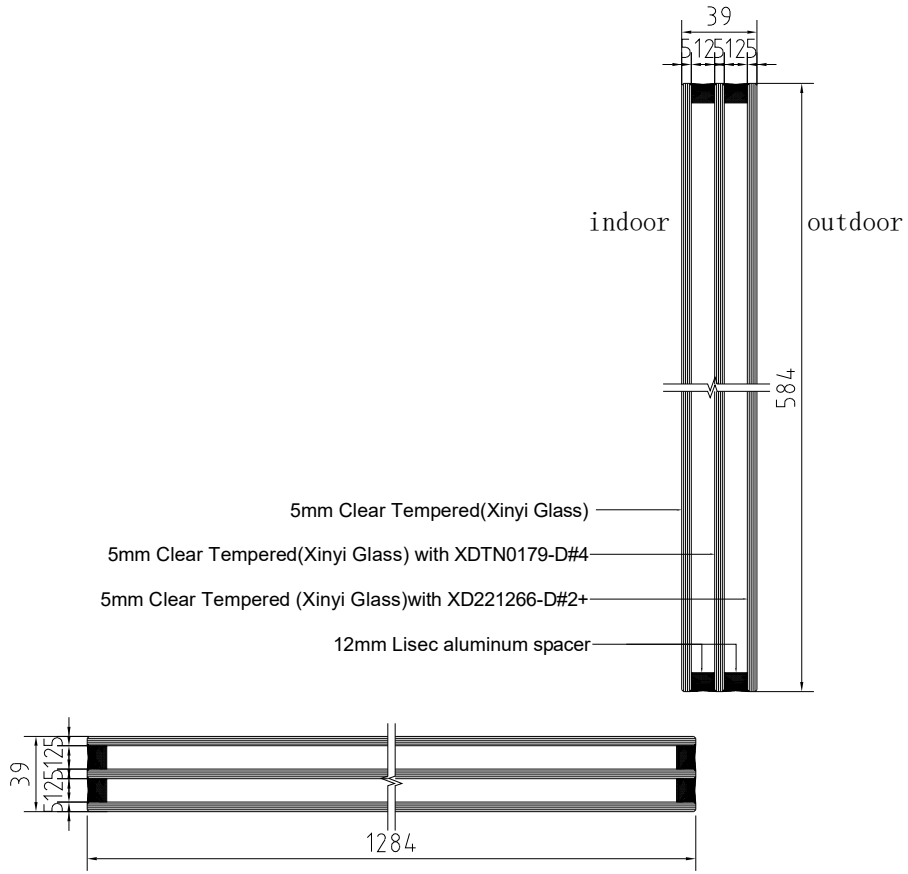
Verified by:



Fan glass

Customer confirmation signature:	
Project name Customers:	
Drawing	Yong Sun
Design	Yong Sun
Check	
Picture name	Glass cross-section diagram
The picture number	DYTM03-6
Date of drawing	2025-06-01

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Report #:	250529005SHF-002
Date:	08/05/25
Verified by:	

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Appendix B: Test Data

B.1 Air Leakage Resistance Test – Test method ASTM E283/E283M-2019

Overall Area: 1.20 m^2

Table B.1 Test Data of Air Leakage Resistance Test

Infiltration rate (75 Pa)	0.04 $L/s \cdot m^2$	0.01 cfm/ft^2
Exfiltration rate (75 Pa)	0.06 $L/s \cdot m^2$	0.01 cfm/ft^2
Requirements (75 Pa): Maximum allowable leakage for Class CW Windows	1.0 $L/s \cdot m^2$	0.2 cfm/ft^2

The Awning Window met the requirements for Class CW Windows for Air Leakage Resistance Test as per AAMA/WDMA/CSA 101/I.S.2/A440-22.

Appendix B: Test Data

B.2 Water resistance test – Test method ASTM E547-00(R2016)

No water penetration occurred when the pressure was 440 Pa (9.19 psf).
After water sprayed for four cycles in 24 minutes at 440 Pa, no water penetration was observed.

Test result: P_{max} = 440 Pa (9.19 psf).

The tested specimen met the requirements for Class CW-PG30 for Water Penetration Resistance Test as per AAMA/WDMA/CSA 101/I.S.2/A440-22.

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Appendix B: Test Data

B.3 Uniform Load Deflection Test – Test method ASTM E330/E330M-2014(R2021), Procedure A

Span length, L = 650 mm Set Points (1-3)
Span length, L = 1380 mm Set Points (3-5)

Test Pressure (DP), P = 1440 Pa (30.08 psf)

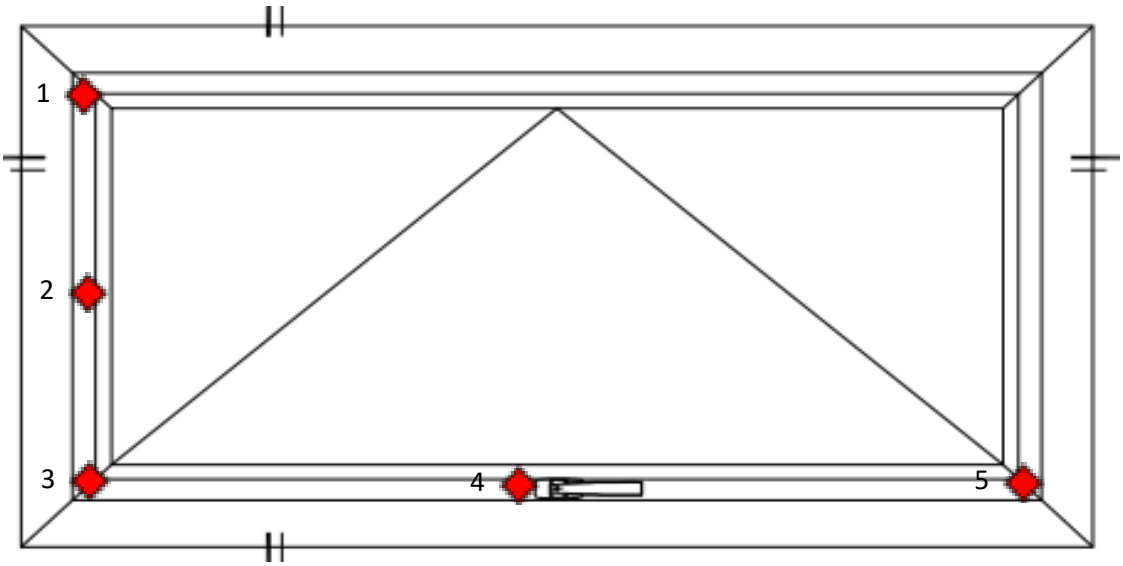

Fig.7 Locations of Displacement Measuring Devices

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Table B.3 Test Data of Uniform Load Deflection Test

Member (mm)		Test Pressure (Pa)	Deflection (mm)			Maximum Deflection(mm)
Item	Span Length		1	2	3	
Stile	650	+P = 1440	0.6	0.7	0.6	0.1
		0	0.1	0.1	0.1	<0.1
		-P = -1440	1.1	1.2	1.1	0.1
		0	0.4	0.3	0.2	<0.1
Member (mm)		Test Pressure (Pa)	Deflection (mm)			Maximum Deflection(mm)
Item	Span Length		3	4	5	
Bottom Rail	1380	+P = 1440	0.6	1.3	0.6	0.7
		0	0.1	0.1	0.1	<0.1
		-P = -1440	1.1	2.3	1.0	1.3
		0	0.2	0.3	0.2	0.1

Table B.4 Test Data of Uniform Load Deflection Test for Stile

Test Pressure	Deflection Measurements, mm (in.)			
	Positive		Negative	
	Maximum Deflection		Maximum Deflection	
1440 Pa (30.08 psf)	0.1	(<0.01)	0.1	(<0.01)
Span length, L = 650 mm (25.59 in.)		Deflection limit L/175 = 3.7 mm (0.15 in.)		

Table B.5 Test Data of Uniform Load Deflection Test for Bottom Rail

Test Pressure	Deflection Measurements, mm (in.)			
	Positive		Negative	
	Maximum Deflection		Maximum Deflection	
1440 Pa (30.08 psf)	0.7	(0.03)	1.3	(0.05)
Span length, L = 1380 mm (54.33 in.)		Deflection limit L/175 = 7.9 mm (0.31 in.)		

The tested specimen met the requirements for Class CW-PG30 for Uniform Load deflection Test at Design Pressure as per AAMA/WDMA/CSA 101/I.S.2/A440-22.

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Appendix B: Test Data

B.4 Uniform Load Structrual Test – Test method ASTM E330/E330M-2014(R2021), Procedure A

Design Pressure, P = 1440 Pa (30.08 psf)

Structural Pressure, P = 2160 Pa (45.11 psf)

Table B.8 Test Data of Uniform Load Structural Test

Member (mm)		Test Pressure (Pa)	Permanent deformation(mm)			Maximum permanent deformation(mm)
Item	Span Length		1	2	3	
Stile	650	+P = 2160	–	–	–	–
		0	0.4	0.3	0.2	<0.1
		-P = -2160	–	–	–	–
		0	0.4	0.3	0.2	<0.1
Permanent Deformation limit, L x 0.3% = 2.0 mm						
Member (mm)		Test Pressure (Pa)	Permanent deformation(mm)			Maximum permanent deformation(mm)
Item	Span Length		3	4	5	
Bottom Rail	1380	+P = 2160	–	–	–	–
		0	0.2	0.2	0.2	<0.1
		-P = -2160	–	–	–	–
		0	0.2	0.3	0.2	0.1
Permanent Deformation limit, L x 0.3% = 4.1 mm						

Table B.9 Test Data of Uniform Load Structural Test For Stile

Test Pressure	Deflection Measurements, mm (in.)			
	Positive		Negative	
	Perm. Set		Perm. Set	
2160 Pa (45.11 psf)	<0.1	(<0.01)	<0.1	(<0.01)

Table B.10 Test Data of Uniform Load Structural Test For Bottom Rail

Test Pressure	Deflection Measurements, mm (in.)			
	Positive		Negative	
	Perm. Set		Perm. Set	
2160 Pa (45.11 psf)	<0.1	(<0.01)	0.1	(<0.01)

After the test loads were released, there was no failure or permanent deformation of any part of the window system that would cause the test specimen to be inoperable. There was no permanent deformation which was in excess of 0.3% of its span.

The tested specimen met the requirements for Class CW-PG30 for Uniform Load Structure Test at Structural Pressure as per AAMA/WDMA/CSA 101/I.S.2/A440-22.

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Appendix C: Sample Received Photo

Revision:

NO.	Date	Changes
250529005SHF-002	2025-08-06	First issue