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Guangdong ACG Windows & Doors & Curtain Wall Co. Ltd

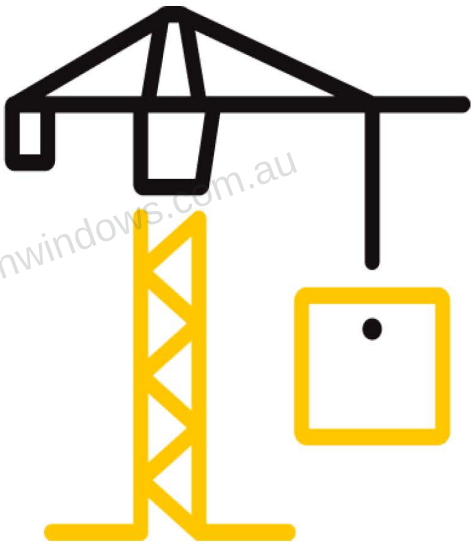
TEST REPORT

SCOPE OF WORK
Window and Door

REPORT NUMBER
220223081GZU-003

ISSUE DATE
2022/3/10

PAGES
14



Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

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Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

Applicant:	Guangdong ACG Windows & Doors & Curtain Wall Co. Ltd
Applicant Address:	GuTangNorth Road Dawang High tech Industrial Zone, Zhaoqing, Guangdong, China.
Attn:	Xinfang Zhang

Manufacturer:	/
Manufacturer Address:	/
Attn:	/

SUBJECT: Performance testing
< ACG-100 Double Hung Window >

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
S220223081GZU.003	ACG-100 Double Hung Window	1260 mm (Width) × 2060 mm (Height) × 118 mm (Thickness)

SAMPLE RECEIVED: 2022/2/23
TESTED FROM: 2022/2/28 TO 2022/3/1

TEST LOCATION: C2-1 Building Heping Fair, Yongning Street, Zengcheng District, Guangzhou, China

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Test Items, Method and Results:

1 Test Samples

A full scale of sample 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

1	Product Name	ACG-100 Double Hung Window
2	Model	ACG-100 Double Hung Window
3	Dimension of Window Frame	1206 mm (Width) x2060mm (Height) x 118 mm (Thickness)
4	Dimension of Window Sash	Operable Sash: 1230mm (Width) x 1030 mm (Height) x 50mm (Thickness) Fixed Sash: 1230mm (Width) x 1030 mm (Height) x 50mm (Thickness)
5	Aluminum Profile	Model: ACG-100 Manufacturer: Guangdong ACG Windows & Doors & Curtain Wall Co.Ltd
6	Frame Corner Construction Details	Mechanically assembled: Screw: ST4.2*25 & Aluminium Connector: 50*50*30*T4
7	Reinforcement	None
8	Glazing	Operable Sash: 1108(Width) x 900 mm (Height) Fixed Sash: 1108(Width) x 900 mm (Height) Structure: 5mm+12A+5mm tempered double glazing Supplier: XIYI
9	Hardware	Specify type: Double Hung Model: UXC100 Supplier: CALDWELL
10	Weather-strip	None
11	Thermal Break	Model: C14.8 Material: PA66+25%F Supplier: Yile
12	Drainage	Sizes: 40mmx 8 mm (Width x Height) quantity: 3
13	Gasket (between sash and frame)	Material: EPDM Supplier: haiDa
14	Sealant of Glass	Model: ss511 Neutral silicone sealant Material: silicone sealant Supplier: baiyun
15	Installation	The rough opening allowed for a 10mm shim space. The exterior perimeter of the test specimen was sealed with silicone sealant.

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Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

Test Items, Method and Results:

2 Test Result

Table 2 Test Results

Test Description	Test Result			Rating	Verdict
Deflection / Span Ratio AS/NZS 4420.1-2016 section 3	Serviceability Design Wind Pressure	± 800 Pa		N4 (General) N3 (Corner windows)	Pass
	Structural member #1: ***Meeting rail***	1/817			
	Structural member #2: ***Sliding sash bottom rail***	1/3267			
Operating Force AS/NZS 4420.1-2016 section 4	Initial Movement Requirement: < 200N	Open	110N	/	Pass
		Close	61N		
	Maintain Movement Requirement: < 160N	Open	100N		
		Close	60N		
Air Infiltration at ±75 Pa AS/NZS 4420.1-2016 section 5	Overall area: 2.60 m^2	at +75Pa:	4.02 $L/s{\cdot}m^2$	High	Pass
		at -75Pa:	4.35 $L/s{\cdot}m^2$		
Water Penetration AS/NZS 4420.1-2016 section 6	No water penetration at:	300 Pa		N5 (Non-exposed) N4 (Exposed)	Pass
	Description: Water penetration was occurred at the joint between operable sash bottom rail and frame after spraying for 2 minute at 450Pa.				
Ultimate Strength Test AS/NZS 4420.1-2016 section 7	±	2000	Pa with no collaspe	N4 (General) N3 (Corner windows)	Pass
	Description: No significant breakage, permanent deformation or operational malfunction after ultimate strength was released.				

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Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

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=800 Pa, rating N4 (General).

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:

(a) Span/250 for windows and sliding doors

(b) Span/100 for doors other than sliding

Table 3 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Displacement(mm)			Actual Deflection	Deflection/Span Ratio
Item	Span Length		1	2	3		
Meeting rail	980	+P/4=200	0.1	0.4	0.2	0.3	/
		+2P/4=400	0.4	0.9	0.6	0.4	/
		+3P/4=600	0.8	1.6	1.0	0.7	/
		+4P/4=800	1.4	2.4	1.5	1.0	1:980
		0	0.2	0.3	0.2	0.1	/
Meeting rail	980	-P/4=-200	0.2	0.5	0.3	0.3	/
		-2P/4=-400	0.6	1.2	0.7	0.6	/
		-3P/4=-600	1.1	2.0	1.2	0.9	/
		-4P/4=-800	1.7	2.9	1.8	1.2	1:817
		0	0.3	0.3	0.2	0.1	/

Table 4 Test Data of Deflection Test

Member (mm)		Test Pressure (Pa)	Displacement(mm)			Actual Deflection	Deflection/Span Ratio
Item	Span Length		4	5	6		
Sliding sash bottom rail	1040	+P/4=200	0.1	0.1	0.1	0.0	/
		+2P/4=400	0.4	0.4	0.2	0.1	/
		+3P/4=600	0.8	0.8	0.6	0.1	/
		+4P/4=800	1.2	1.2	0.8	0.2	1:4900
		0	0.2	0.2	0.2	0.0	/
Sliding sash bottom rail	1040	-P/4=-200	0.1	0.2	0.1	0.1	/
		-2P/4=-400	0.3	0.4	0.3	0.1	/
		-3P/4=-600	0.6	0.8	0.5	0.3	/
		-4P/4=-800	1.0	1.2	0.8	0.3	1:3267
		0	0.5	0.3	0.2	0.2	/

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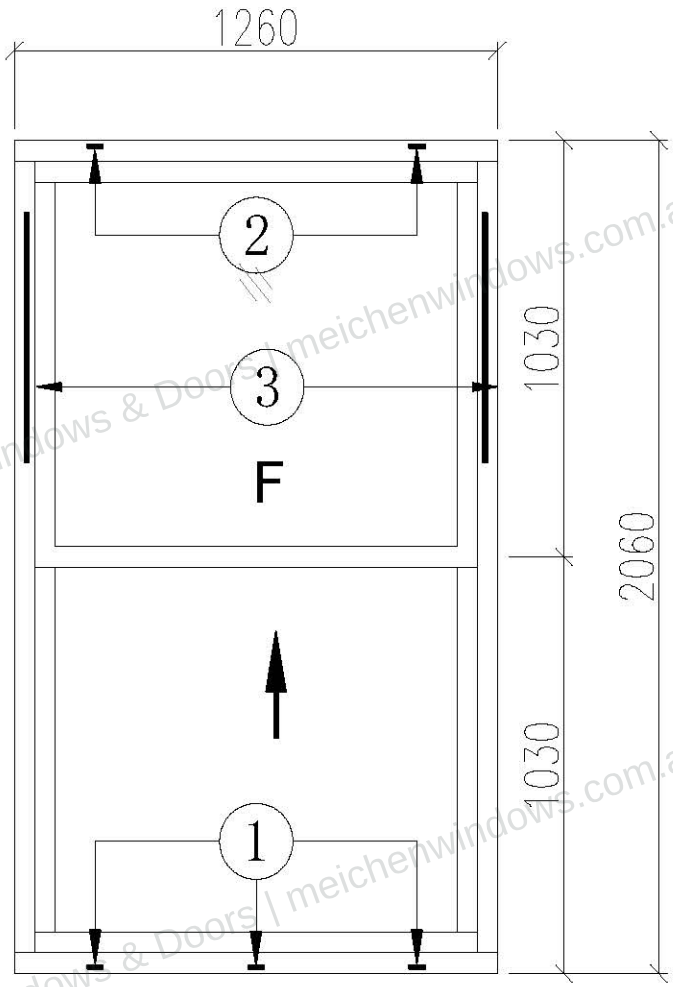
Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

A.2 Sample Drawings



① pressure-relief vent ② drainage location ③ Double Hung

Fig.1 Drawing of Representative Sample

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Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

A.2 Sample Drawings(Cont.)

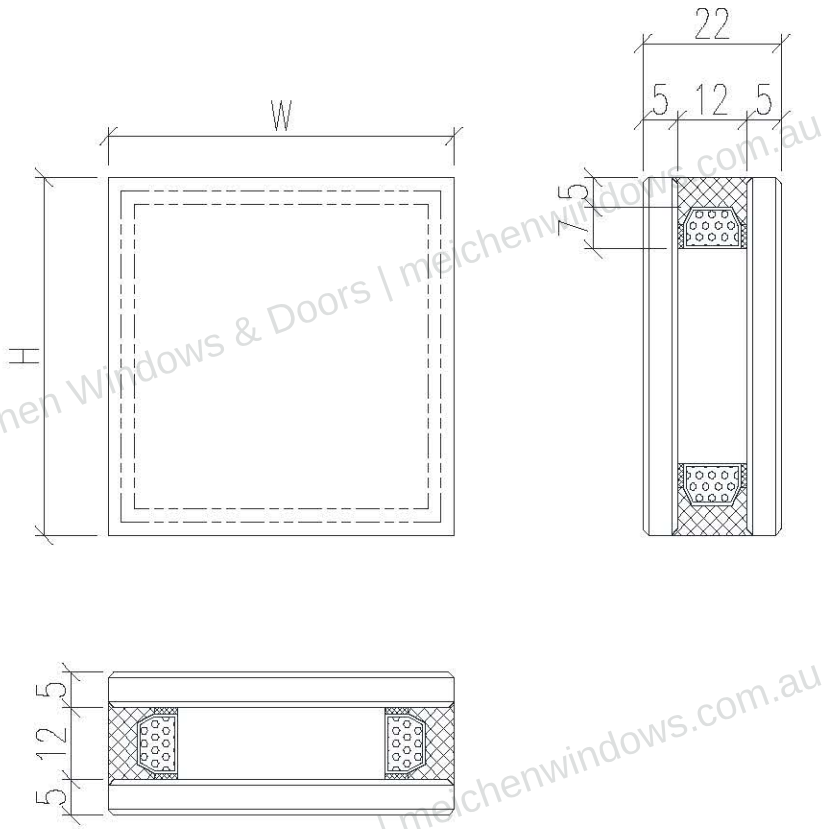

Fig.5 Drawing of glazing

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Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

A.2 Sample Drawings(Cont.)

Fig.6 Drawing of hardware

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Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

A.2 Sample Drawings(Cont.)

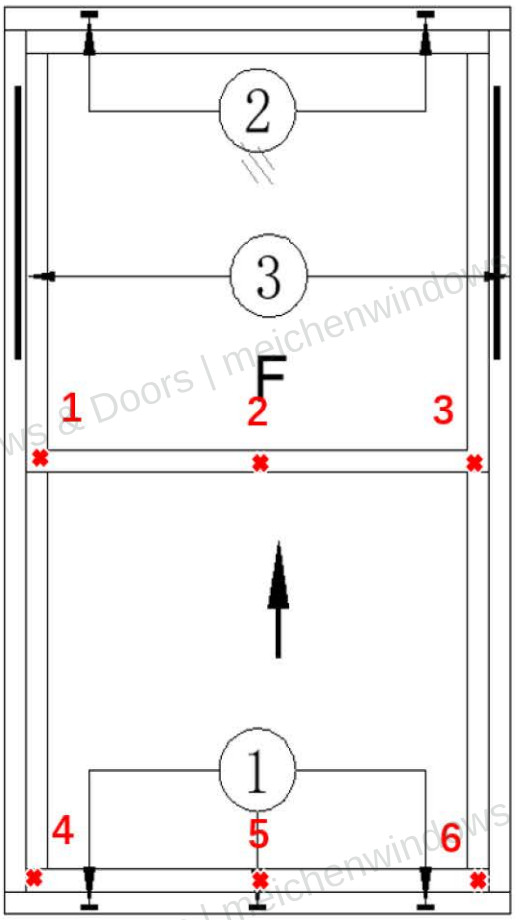

Fig.7 Locations of Displacement Measuring Devices

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Test Report

Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

A.2 Sample Drawings(Cont.)

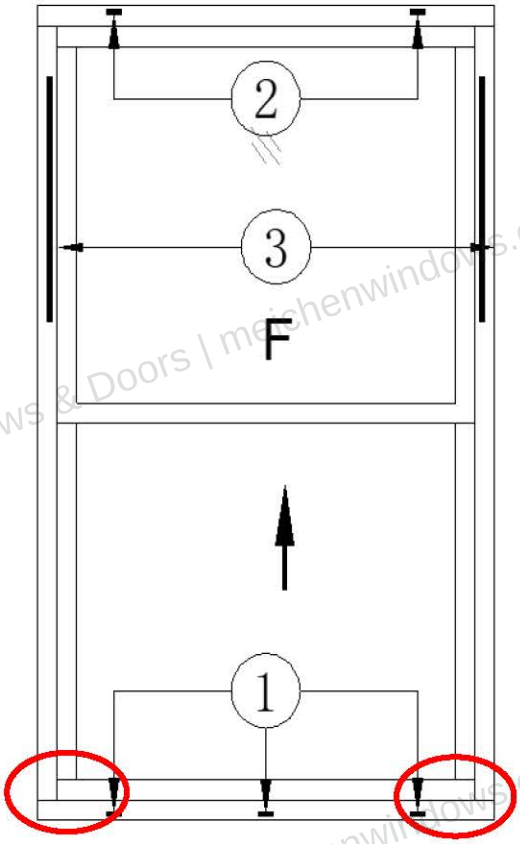

Fig.8 Locations of water penetration

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Issue Date: 2022/3/10 Intertek Report No. 220223081GZU-003

APPENDIX : 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.

Approved by:	**Prepared by:**
Oliver zhu	Ziqing Chen
Name: Oliver Zhu	Name: Ziqing Chen
Title: Reviewer	Title: Project Engineer

Revision:

Report No.	Date	Revision Reason	Revision Summary	Author	Reviewer
220223081GZU-003	2022/3/10	/	First issue	Ziqing Chen	Oliver Zhu

End of Test Report

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