

Fengdu New Material (Yancheng) Co., Ltd.

TEST REPORT

SCOPE OF WORK

Turn and Tilt Window

REPORT NUMBER

240821010SHF-001

TEST DATE(S)

2024-10-09

ORIGINAL ISSUE DATE

2024-12-11

PAGES

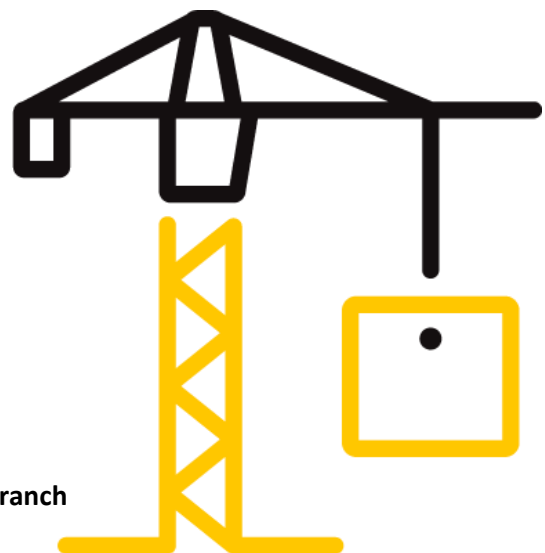
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DOCUMENT CONTROL NUMBER

LFT-APAC-SHF-OP-10I(February 1, 2024)

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Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



Test Report

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Test Report

Original Issue Date: 2024-12-11 Intertek Report No. 240821010SHF-001

Applicant: Fengdu New Material (Yancheng) Co., Ltd.
Address: Block 4#-6#, Changzhou Road, Changzhou Industry Park, Dafeng District, Yancheng City, Jiangsu Province, China
Attn: Wu Yifeng
Manufacturer: Fengdu New Material (Yancheng) Co., Ltd.
Address: Block 4#-6#, Changzhou Road, Changzhou Industry Park, Dafeng District, Yancheng City, Jiangsu Province, China
Test Type: Performance test, samples provided by the applicant.

Product Information

Product Name	Model	Specification
Turn and Tilt Window	80 Series	1200mm(Width) x 1800mm(Height)
Sample ID	Sample Amount	Sample Received Date
S240821010SHF.001	1 Set	2024-10-08
Sample ID	Sample Description	
FengDu	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

 Name: John Zhang Title: Project Engineer



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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	Turn and Tilt Window
2	Model	80 Series
3	Dimension of Window Frame	1200mm(Width) x 1800mm(Height) x 80mm(Thickness)
4	Dimension of Window Sash	1134mm(Width) x 1734mm(Height) x 91mm(Thickness)
5	Profile	Model: 80 Series; Material: Glass Fiber Reinforced Polyurethane Composite Profile Supplier: Chongqing Fengdu New Materials Co., Ltd.
6	Corner Construction Details: Joinery Type	45° cut, assembly with corners keys and glued
7	Reinforcement	None
8	Glazing	Dimension: 1008mm(Width) x 1608mm(Height) Structure: 44.76mm thick, 5mm Low-E + 12mm Ar + 5mm Low-E + 12mm Ar + 5mm + 0.76 PVB + 5mm Tempered Glass; Supplier: CSG Holding
9	Hardware	Specify type: 9-Point Lock (See Fig.5) Supplier: German Roto
10	Weather Strip	None
11	Thermal Break	None
12	Drainage	Sizes: 32mm(Width) x 5mm(Height); Quantity: 3
13	Sealing Strip	Model: MDYZ0801, MPSY3041,MPKY2031; Material: EPDM Supplier: Haida
14	Sealant	Model: 166 Neutral Silicone Sealant; Material: Silicone Sealant Supplier: German Weiss
15	Installation	The rough opening allowed for a 6mm shim space. The perimeter of the tested specimen was fixed by screws every 300mm and sealed with silicone sealant.

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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	±	1200 Pa	Pass
Deflection / Span Ratio Framing Member 1	Stile at handle side	1/8000	
Deflection / Span Ratio Framing Member 2	Bottom Rail	1/5200	
Operating Force for Turn Inward AS/NZS 4420.1-2016 Section 4	Initial Movement	Required ≤ 160 N	Pass
		Open 43 N	
		Close 41 N	
	Maintain Movement	Required ≤ 80 N	
		Open 27 N	
		Close 25 N	
Operating Force for Tilt Inward AS/NZS 4420.1-2016 Section 4	Initial Movement	Required ≤ 160 N	
		Open 48 N	
		Close 45 N	
	Maintain Movement	Required ≤ 80 N	
		Open 30 N	
		Close 28 N	
Air Infiltration at ±75 Pa AS/NZS 4420.1-2016 Section 5 Overall area: 2.16 m ²	at +75Pa	0.17 L/s·m ²	Pass
	at -75Pa	0.13 L/s·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:

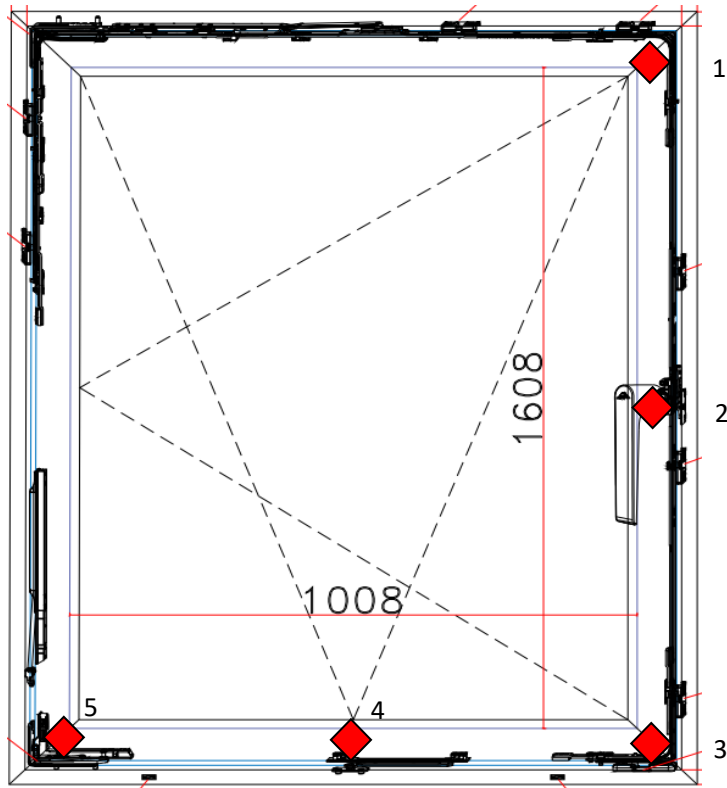


Fig.1 Locations of Displacement Measuring Devices

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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 = 1200 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 at handle side	1600	+P/4 = 300	0.1	0.2	0.1	0.1	1:16000
		+2P/4 = 600	0.2	0.2	0.1	0.1	1:16000
		+3P/4 = 900	0.3	0.4	0.2	0.2	1:8000
		+4P/4 = 1200	0.4	0.5	0.2	0.2	1:8000
		0	<0.1	<0.1	<0.1	<0.1	<1:16000
Stile at handle side	1600	-P/4 = -300	0.1	0.1	0.1	<0.1	<1:16000
		-2P/4 = -600	0.2	0.2	0.2	<0.1	<1:16000
		-3P/4 = -900	0.4	0.3	0.2	0.1	1:16000
		-4P/4 = -1200	0.5	0.5	0.2	0.2	1:8000
		0	0.1	<0.1	<0.1	0.1	1:16000

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	1040	+P/4 = 300	0.1	0.1	<0.1	0.1	1:10400
		+2P/4 = 600	0.1	0.1	<0.1	0.1	1:10400
		+3P/4 = 900	0.2	0.2	0.1	0.1	1:10400
		+4P/4 = 1200	0.2	0.3	0.1	0.2	1:5200
		0	<0.1	<0.1	<0.1	<0.1	<1:10400
Bottom Rail	1040	-P/4 = -300	0.1	0.1	<0.1	0.1	1:10400
		-2P/4 = -600	0.2	0.1	<0.1	0.1	1:10400
		-3P/4 = -900	0.2	0.3	0.1	0.2	1:5200
		-4P/4 = -1200	0.2	0.4	0.2	0.2	1:5200
		0	<0.1	0.1	0.1	0.1	1:10400

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Appendix A: Test Data and Sample Drawings:
A.2 Sample Drawings

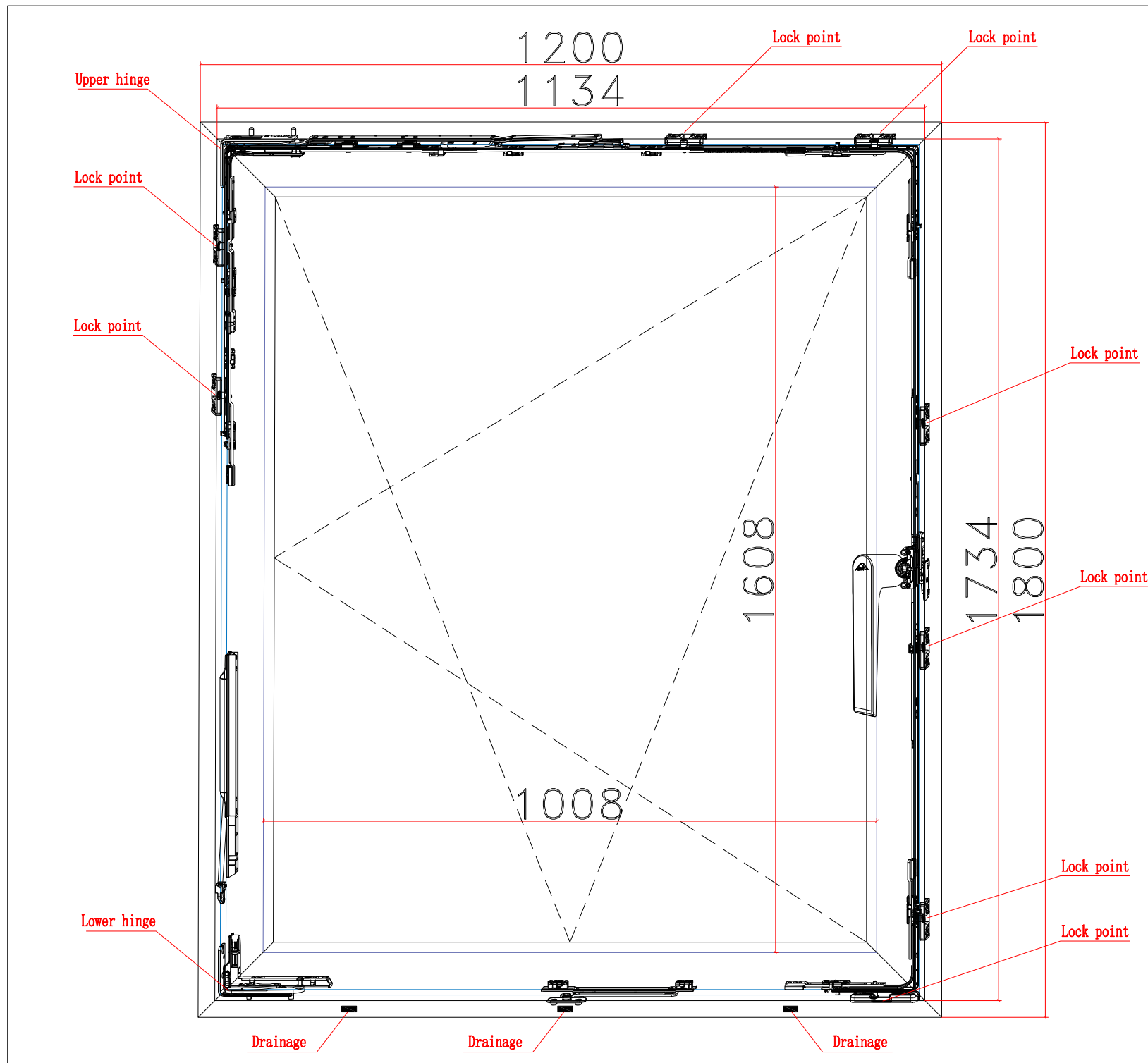


Fig.2 Drawing of Representative Sample

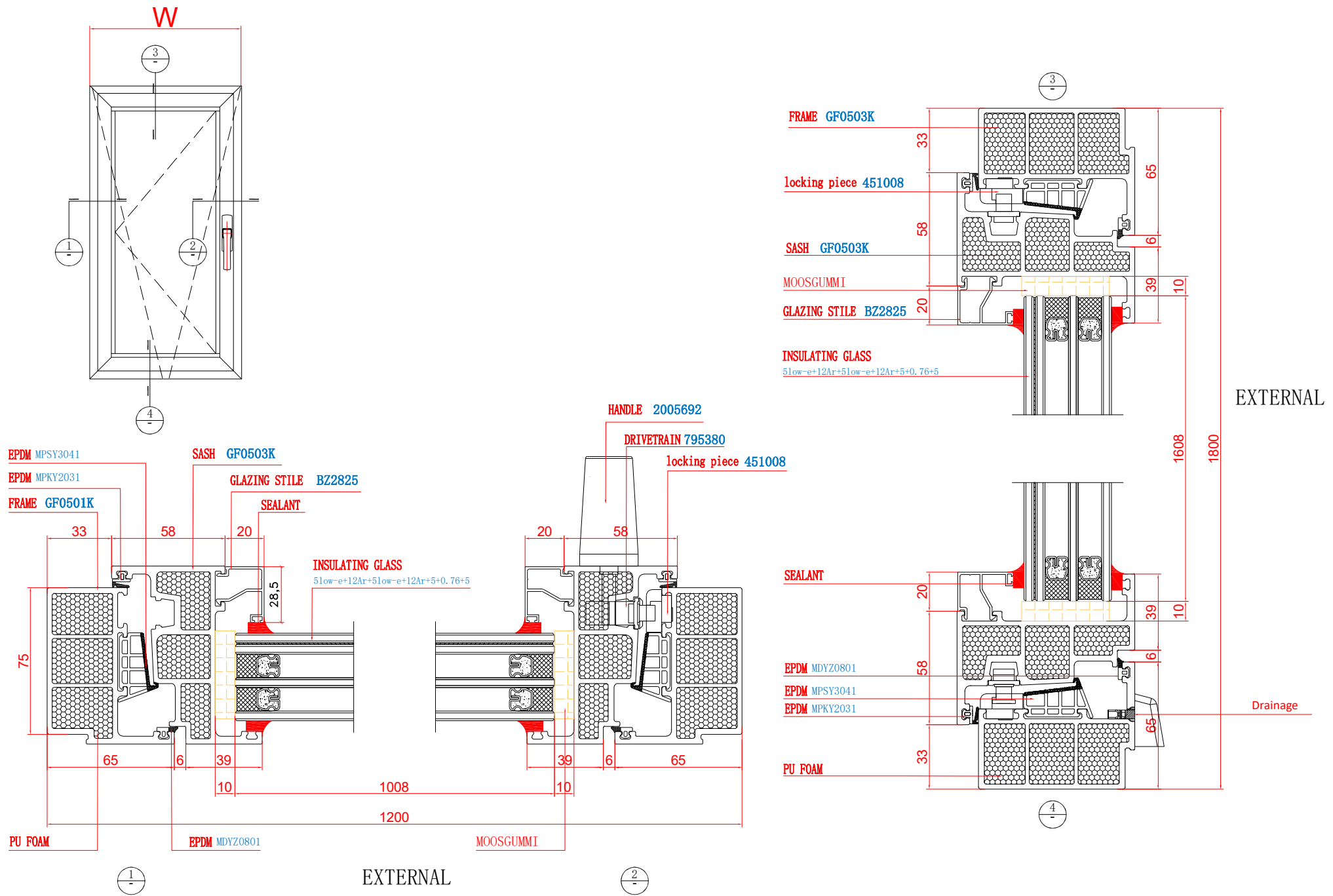


Fig.3 Drawing of Representative Sample

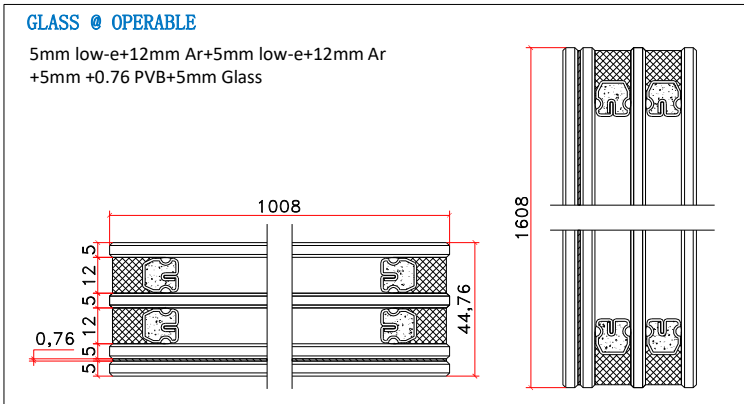
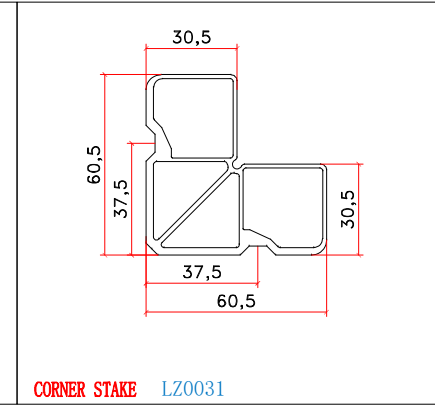
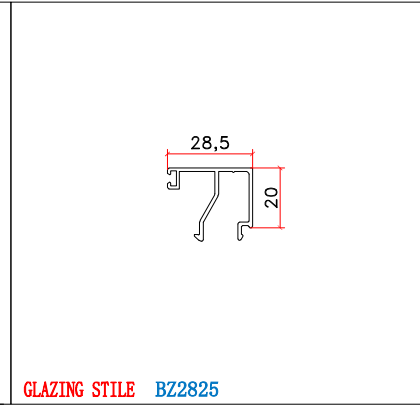
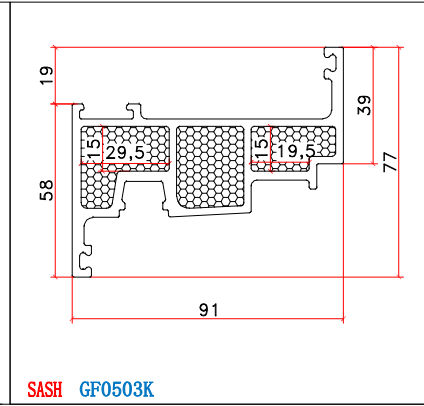
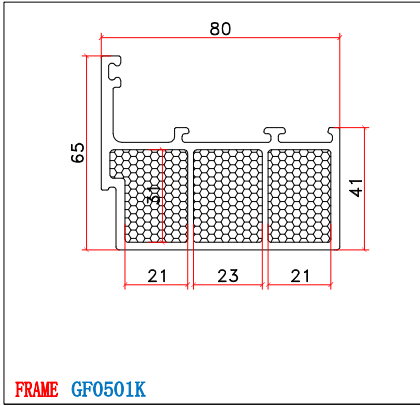
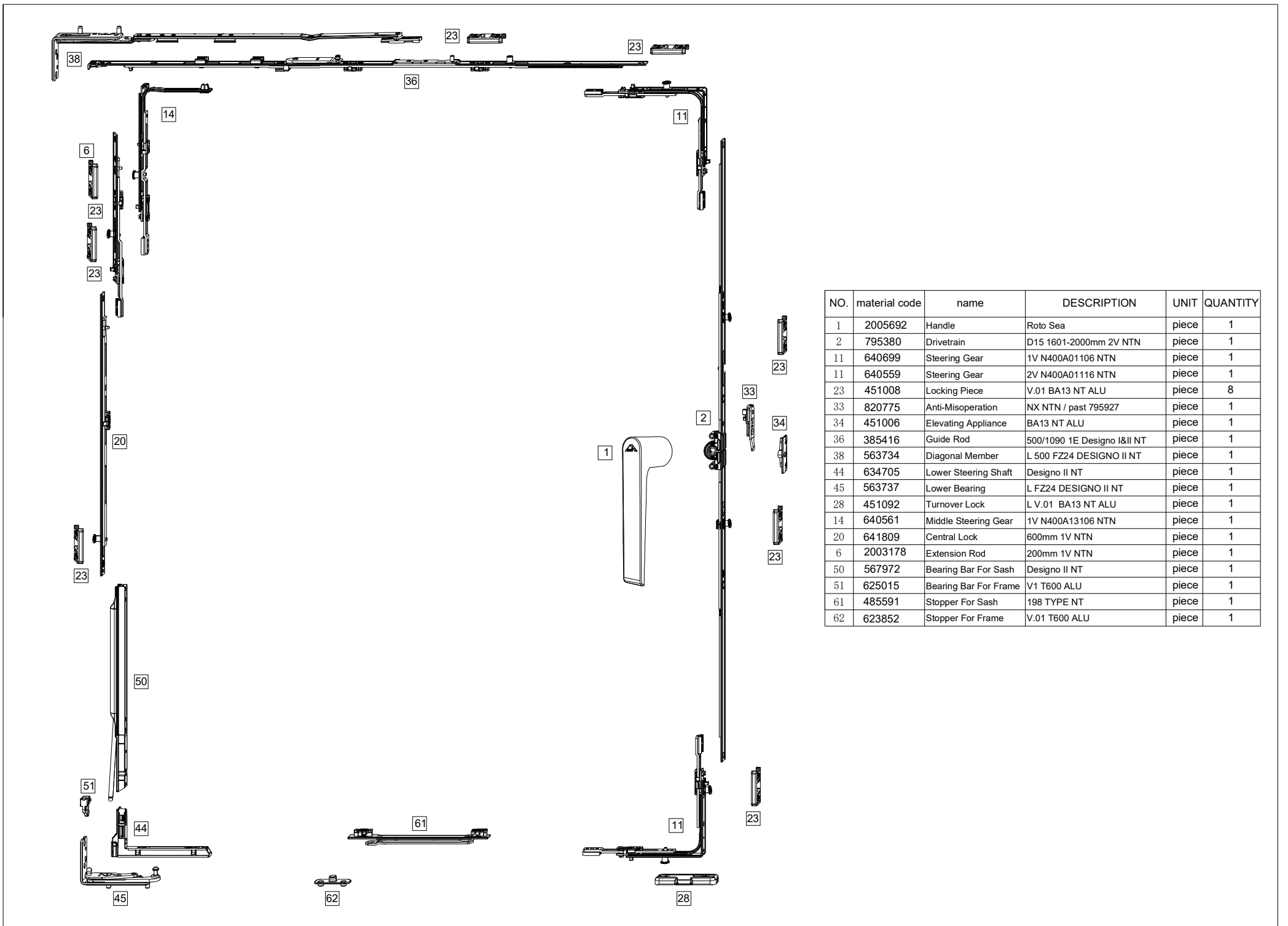


Fig.4 Drawing of Representative Sample



NO.	material code	name	DESCRIPTION	UNIT	QUANTITY
1	2005692	Handle	Roto Sea	piece	1
2	795380	Drivetrain	D15 1601-2000mm 2V NTN	piece	1
11	640699	Steering Gear	1V N400A01106 NTN	piece	1
11	640559	Steering Gear	2V N400A01116 NTN	piece	1
23	451008	Locking Piece	V.01 BA13 NT ALU	piece	8
33	820775	Anti-Misoperation	NX NTN / past 795927	piece	1
34	451006	Elevating Appliance	BA13 NT ALU	piece	1
36	385416	Guide Rod	500/1090 1E Designo I&II NT	piece	1
38	563734	Diagonal Member	L 500 FZ24 DESIGNO II NT	piece	1
44	634705	Lower Steering Shaft	Designo II NT	piece	1
45	563737	Lower Bearing	L FZ24 DESIGNO II NT	piece	1
28	451092	Turnover Lock	L V.01 BA13 NT ALU	piece	1
14	640561	Middle Steering Gear	1V N400A13106 NTN	piece	1
20	641809	Central Lock	600mm 1V NTN	piece	1
6	2003178	Extension Rod	200mm 1V NTN	piece	1
50	567972	Bearing Bar For Sash	Designo II NT	piece	1
51	625015	Bearing Bar For Frame	V1 T600 ALU	piece	1
61	485591	Stopper For Sash	198 TYPE NT	piece	1
62	623852	Stopper For Frame	V.01 T600 ALU	piece	1

Fig.5 Drawing of Representative Sample

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Appendix B: Sample Received Photo



Revision:

NO.	Date	Changes
240821010SHF-001	2024-12-11	First issue