

FOSHAN WANSLEY INDUSTRIAL CO., LTD.

COMPUTER SIMULATION REPORT

SCOPE OF WORK

90 SERIES CASEMENT - NFRC 100/200/500

REPORT NUMBER

T9228.01-116-45 R0

TEST DATE

07/17/26

ISSUE DATE

07/17/26

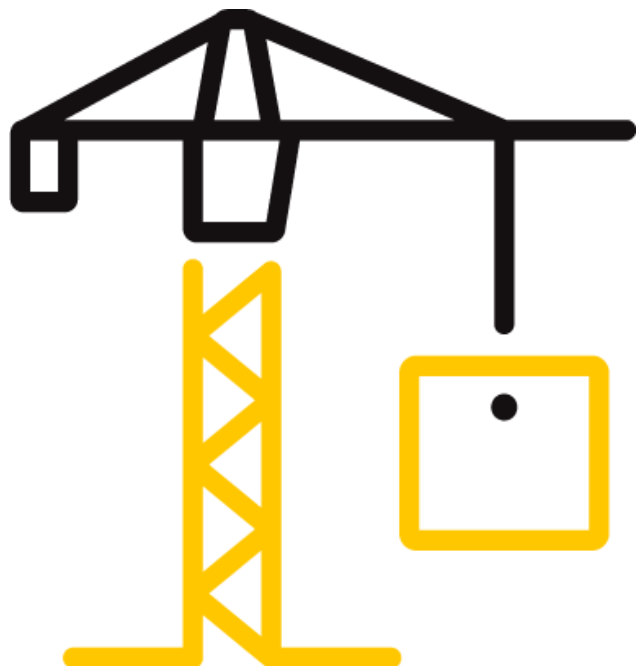
PAGES

14

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TEST REPORT FOR FOSHAN WANSLEY INDUSTRIAL CO., LTD.

Report No: T9228.01-116-45 R0

Date: 07/17/26

REPORT ISSUED TO

FOSHAN WANSLEY INDUSTRIAL CO., LTD.

No. 11, Luocun Avenue North, Lutang Community, Shishan

Town, Nanhai District, Foshan, Guangdong, China, 528226

SECTION 1

SUMMARY

SERIES/MODEL: 90 Series Casement

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted to perform U-Factor, Solar Heat Gain Coefficient, Visible Transmittance and Condensation Resistance simulations in accordance with the National Fenestration Rating Council (NFRC).

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends five years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

FOR INTERTEK B&C:

COMPLETED BY: Cody French
TITLE: Simulation Technician
SIGNATURE:
DATE: 07/17/26

REVIEWED BY: Eric S. Leitner
TITLE: Manager - Simulations
and Thermal Testing, SIRC
SIGNATURE:
DATE: 07/17/26

CLF:clf

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SECTION 2

TEST METHODS

The products were evaluated in accordance with the following:

ANSI/NFRC 100-2026, Procedure for Determining Fenestration Product U-Factors

ANSI/NFRC 200-2026, Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

NFRC 500-2017, Procedure for Determining Fenestration Product Condensation Resistance Values

**Condensation Resistance results obtained from this procedure are for controlled laboratory conditions and do not include the effects of air movement through the specimen, solar radiation, and the thermal bridging that may occur due to the specific design and construction of the fenestration system opening.*

Ratings values included in this report are for submittals to an NFRC-licensed IA and are not meant to be used directly for labeling purposes. Only those values identified on a valid Certificate of Authorization (CA) by an NFRC accredited Inspection Agency (IA) are to be used for labeling purposes. The ratings values were rounded in accordance with NFRC 601, NFRC Unit and Measurement Policy.

Intertek B&C is an NFRC accredited simulation laboratory and all simulations were conducted in full compliance with NFRC approved procedures and specifications. The values included in this report are not considered in compliance with ANSI/NFRC 100, ANSI/NFRC 200, and/or NFRC 500 unless the associated validation test requirements have been satisfied, as applicable.

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SECTION 3

TEST PROCEDURE

The total product, including specific frame, spacer, and glass details, was modeled using NFRC approved software.

FRAME AND EDGE MODELING	THERM 7.8.71
CENTER-OF-GLASS MODELING	WINDOW 7.8.71
TOTAL PRODUCT CALCULATIONS	WINDOW 7.8.71
SPECTRAL DATA LIBRARY	IGDB 112

Modeling Assumptions / Technical Interpretations

Any modeling assumptions and technical interpretations required to model this product are listed below.

- 1) To prevent air infiltration, tape was applied to all interior sash crack locations.

SECTION 4

SIMULATION SPECIMEN DESCRIPTION

SERIES/MODEL	90 Series Casement
PRODUCT TYPE	Casement (Single Vent)
FRAME MATERIAL	AT - Aluminum w/ Thermal Breaks
SASH MATERIAL	AT - Aluminum w/ Thermal Breaks
STANDARD SIZE	600mm x 1500mm

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SECTION 4 (Continued)
SIMULATION SPECIMEN DESCRIPTION

SPACER OPTIONS			
TYPE	PRIMARY SEAL	SECONDARY SEAL	CODE
Technoform SP14 Spacer	Polyisobutylene	Silicone	TS-D

GRID OPTIONS		
GRID SIZE	GRID TYPE	GRID PATTERN
None	-	-

REINFORCEMENT OPTIONS	
LOCATION	MATERIAL
None	-

GAS FILLING TECHNIQUE	
FILL TYPE	METHOD
90% Argon	Single Probe

EDGE-OF-GLASS CONSTRUCTION	
INTERIOR CONDITION	Silicone between glazing bead and glass
EXTERIOR CONDITION	Silicone between sash leg and glass

WEATHERSTRIPPING		
TYPE	QUANTITY	LOCATION
EPDM gasket	1 Row	Perimeter of frame/sash

FRAME/SASH MATERIALS FINISH	
INTERIOR	Aluminum (Painted)
EXTERIOR	Aluminum (Painted)

VALIDATION MATRIX*	
PRODUCT LINE	REPORT NUMBER
None	-

**These products are part of a validation matrix. Only one is required for validation testing.*

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SECTION 5

SPECIALTY PRODUCTS TABLE

The specialty products method allows the manufacturer to determine the overall product SHGC and VT for any glazing option. The center of glass SHGC and/or VT must be determined using WINDOW 7.8.71. The method calculates overall product SHGC and VT indexed on center of glass properties. All values used in the calculations are truncated to six decimal place precision.

	No Dividers	Dividers < 1	Dividers > 1
SHGC0	0.017324	0.019138	0.020847
SHGC1	0.520554	0.466877	0.416320
VT0	0.000000	0.000000	0.000000
VT1	0.503230	0.447738	0.395472

$$SHGC = SHGC0 + SHGCc (SHGC1 - SHGC0)$$

$$VT = VT0 + VTc (VT1 - VT0)$$

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SECTION 6

SIMULATION RESULTS

TOTAL PRODUCT CALCULATIONS (90 Series Casement)												
Option Number	Pane Thickness 1 (in)	Gap Width 1 (in)	Pane Thickness 2 (in)	Gap Width 2 (in)	Pane Thickness 3 (in)	Gap Width 3 (in)	Pane Thickness 4 (in)	Gap Fill	Low-e (Surface #)	Tint	Spacer	Grid Type
	U-Factor (Btu/Hr-Ft2-F)			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance (CR)		
	1 yne0168 / arg / yne0168 / arg / clr (6mm/6mm/6mm) 42mm IG											
	0.236	0.472	0.236	0.472	0.236			ARG90	0.035(#2) / 0.035(#4)	CL	TS-D	N
	U-Factor 0.30			SHGC(N) 0.14				VT(N) 0.20		CR 60		



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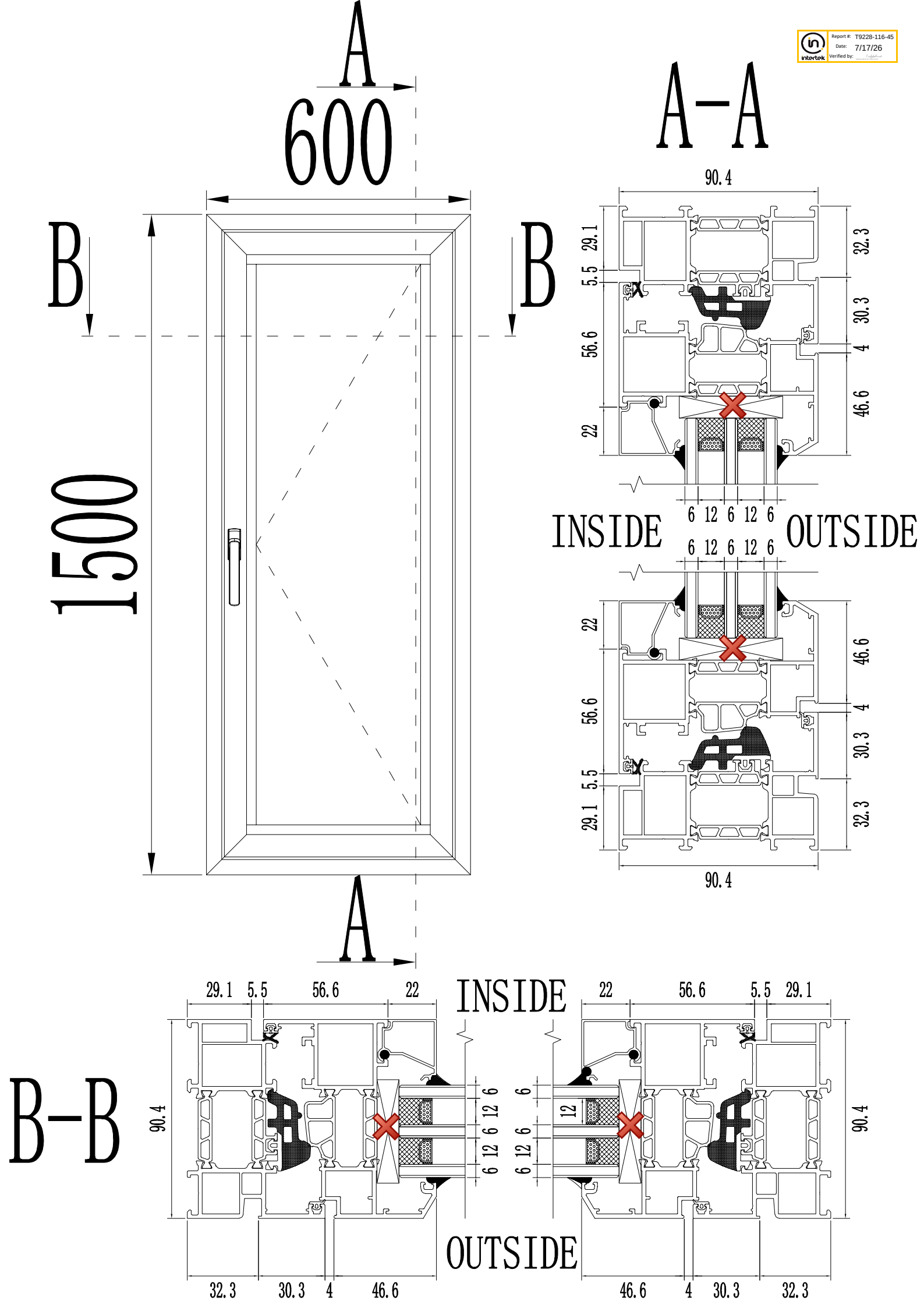
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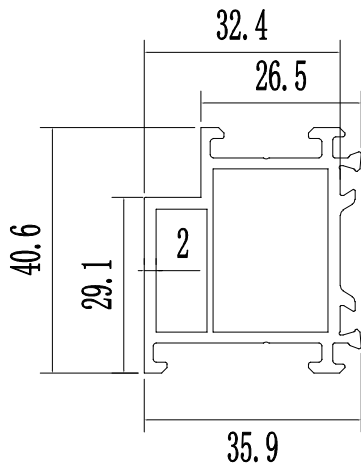
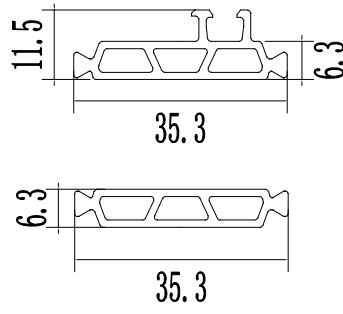
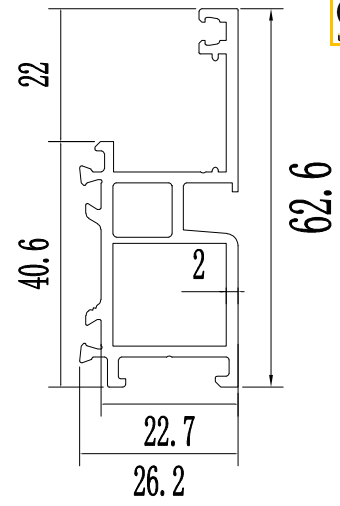
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SECTION 7

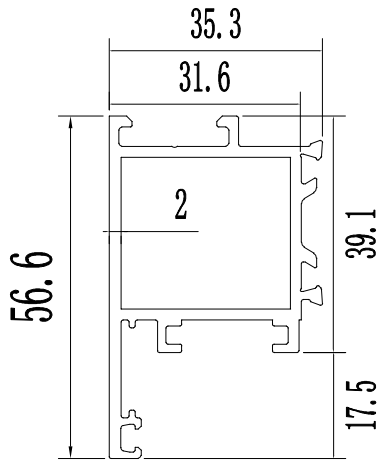
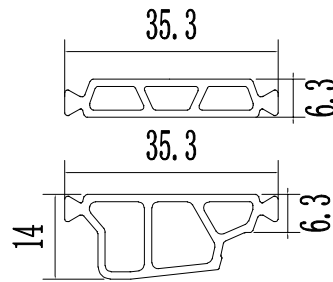
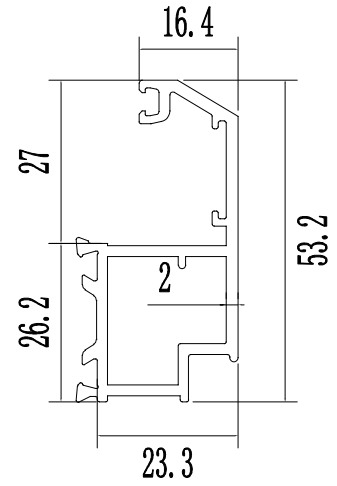
DRAWINGS / BILL OF MATERIALS

The drawings which follow have been reviewed by Intertek B&C and are representative of the simulation results reported herein. Any deviations are documented herein or on the drawings.

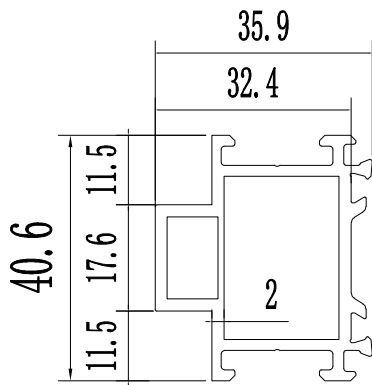
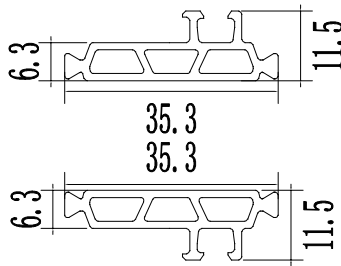
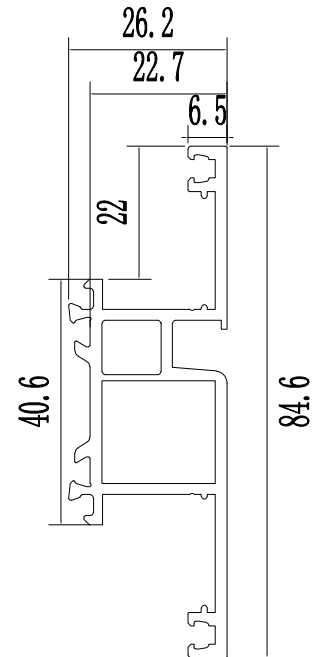




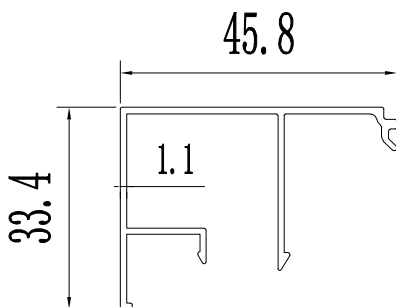
Window Frame



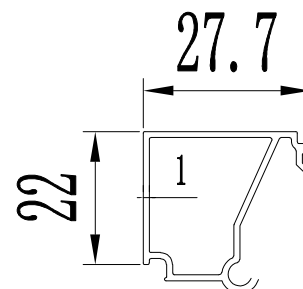
Window Sash



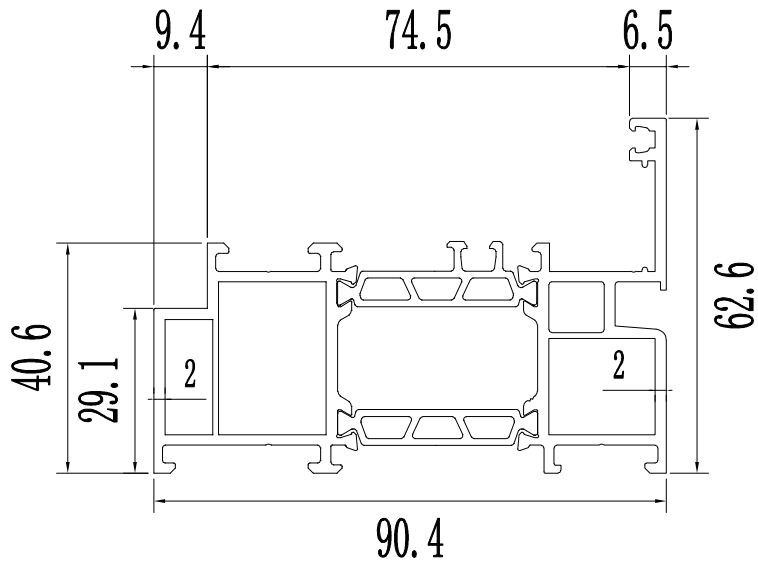
Window Mullion



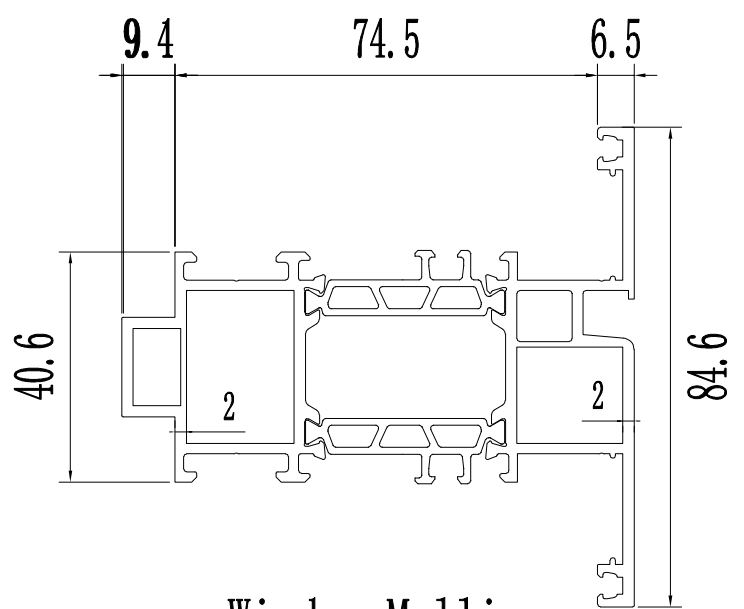
Fixed Pressure Line



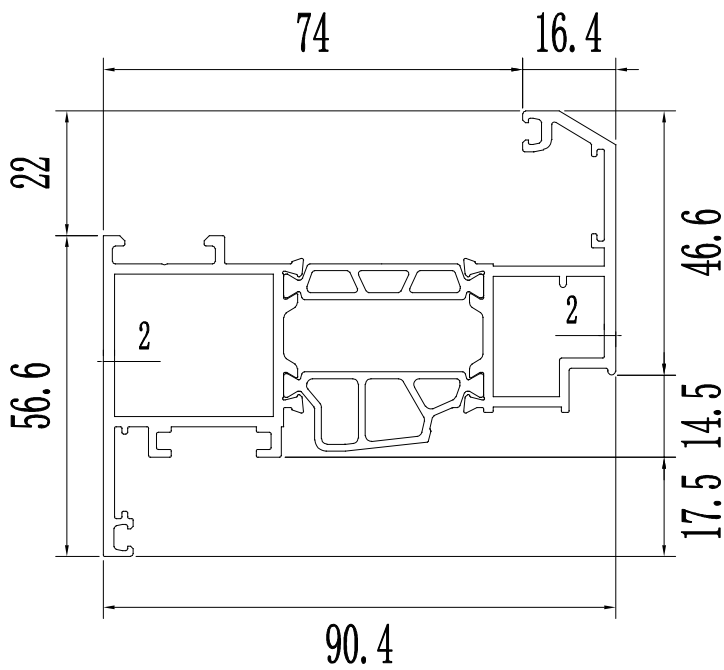
Sash Pressure Line



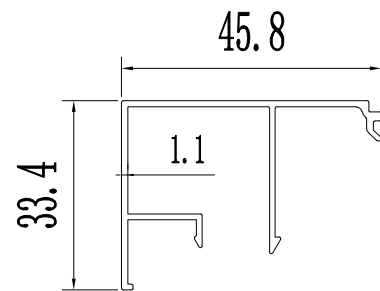
Window Frame



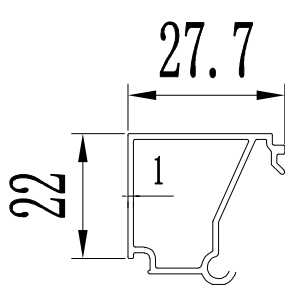
Window Mullion



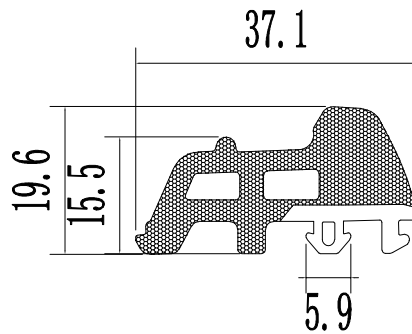
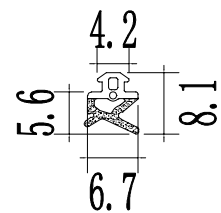
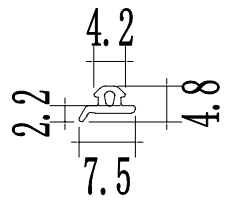
Window Sash



Fixed Pressure Line



Sash Pressure Line



Bill of materials

Product Name	90 series casement window
Model	90 series
Dimension of Window/Door Frame 框的尺寸	600mm(Width)x1500mm(height) x 90mm(thickness)
Dimension of Window/Door Sash 窗扇/门扇尺寸	531mm(Width)x1431mm(height) x 90mm(thickness)
Profile	Model: 90 series Supplier: FOSHAN WANSLEY INDUSTRIAL CO., LTD.
Finish & Material of the aluminum profile	Finish: spray coating Material: powder coatings painted
Glazing	408mm(Width)X1308mm(height) Structure:42mm (6mm+12air+6mm+12air+6mm) tempered insulating glass Supplier: Foshan Weisidun Glass Co., Ltd
Hardware	1. Transmission rod Model: UP-CDQ21A Quantity: 1 2. Locking plate Model: UP-SK40 Quantity: 1 3. Handle Model: UP-FZS140 Quantity: 1 4. Friction hinge Model: UP-YHPS040 Quantity: 2 Supplier: Guangdong Kinlong Hardware Products Co., Ltd
Weather Bar	Model: Supplier:
Thermal Break	Model:35.3mm PA66 I Supplier: Foshan Ligao New Materials Technology Co., Ltd
Drainage	Inside sizes: 25mm x5mm(Width x Height) quantity: 2pcs Outside size: 25mm x5mm(Width x Height) quantity: 2pcs
Gasket (between leaf and frame)	Type1, size: 37.1mm x 19.6mm(Width x Height) Type2, size: 6.7mm x 8.1mm(Width x Height) Type3, size: 7.5mm x 4.8mm(Width x Height) Material: EPDM Supplier: Oudingrui Rubber Technology (Guangdong) Co., Ltd.
Sealant of Glass	Model: SS611 Neutral silicone sealantMaterial: Supplier: Guangzhou Baiyun Technology Co., Ltd

DETAIL FOR THERMAL MODELING OF TECHNOFORM SP14 SPACER - M (TS-D)



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SECTION 8

REVISION LOG

REVISION #	DATE	PAGES	REVISION
.01 R0	07/17/26		Original report issue.
