

CLIENT: **Foshan DTOP Window and Doors Co., Ltd.**
No. 3 PnAo Factory, Shi Bei Minxi Village
Foshan, Guangdong, 528225

Project No: QA-1225b W&D

Report Date: July 18, 2025

SAMPLE ID: Series: Folding Door

SAMPLE DESCRIPTION: Width: 960 mm; Height: 2090 mm; See page 2 for full description.

SAMPLING DETAIL: Test sample information was submitted directly to QAI for evaluation

DATE OF RECEIPT: Documentation was received **March 27, 2025**

SIMULATION DATE: July 17, 2025

RETENTION DATE: July 17, 2030

SIMULATION LOCATION: 8148 NW 74TH Avenue Medley Florida 33166

AUTHORIZATION: Proposal Number QAI-775 dated March 19, 2025, signed by Manger Doris Dong, dated March 26, 2025

TEST PROCEDURE: Testing to the following requirements:

- ANSI/NFRC 100-2023 Procedure for Determining Fenestration Product U-Factor
- ANSI/NFRC 200-2023 Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence
- NFRC 500-2023 Procedure for Determining Fenestration Product Condensation Resistance Values

TEST RESULTS: Based on evaluation conducted by QAI, energy performance values for **Foshan DTOP Window and Doors Co., Ltd. series folding door** product is found in Simulated Data section of this report for glazing options evaluated

CONTENTS: Test report pages 1 through 6.

Prepared By

Monika Sanchez

Monika Sanchez
NFRC Certified Simulator

**Signed for and on behalf of
QAI Laboratories**

Jose Sanchez

Jose Sanchez
Simulator-in-Responsible-Charge

Digitally signed by
Jose Sanchez
Date: 2026.01.17
10:43:04 -05'00'

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Software: Therm 7.8.71.0 / Window v7.8.71.0 Simulation Manual
Spectral Data Library: IGDB v106.0

Baseline Product Validation

The baseline product must be tested in accordance with NFRC 102 "Test Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems" to validate the U Values indicated. NFRC 100-2023 states "The baseline product is the individual product selected for validation testing". The individual product selected as the baseline product shall have a simulated U-factor within 0.10 Btu/h·ft²·F or 20% of the lowest simulated U-factor, whichever is greater.

Product Description	Product Number	Grouping Number	Pane Thickness #1	Pane Thickness #2	Pane Thickness #3	Gap	Emissivity Surface #2/4	U Factor
6_Double Low-E Clear- ARG - 6_Double Low-E Clear - ARG - 6 Clear	10	00	0.236	0.236	0.236	0.354	0.042	0.40

Door Test Size: 960 mm (37 3/4") by 2090 mm (82 3/8") high

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Model Designation:	Folding Door
Operator Code:	EDSL
Simulated Model Size:	960 mm (37 3/4") by 2090 mm (82 3/8") high

Frame and Panel Construction	
Frame Material and Finish:	(AT) Painted aluminum alloy with thermal breaks
Panel Material and Finish:	(AT) Painted aluminum alloy with thermal breaks

Glazing Number	Laminates created in Optics
None	None

Spacer Type	Sealant Primary	Sealant Secondary	Desiccant
Super Spacer	Premium Enhanced	Butyl	None

Edge of Glass Construction	
Interior Condition:	Silicone
Exterior Condition:	Silicone

Gas Type	Filling Technique	Gas Fill Percentage
Argon	Dual Probe	95%

Weather Stripping		
Quantity	Description	Location
Single Row	EPDM	Perimeter of frame and panel

Hardware		
Quantity	Description	Location
None	None	None

Reinforcement	
Material	Location
None	None

Dividers/Grids		
Grid Size	Material	Grid Pattern
None	None	None
<i>Note: any deviations in grid pattern are noted here</i>		

Modeling Assumptions: None

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Simulated Data

Product Description	Product ID Number	Pane Thickness #1	Pane Thickness #2	Pane Thickness #3	Gap #1	Gap #2	Gap Fill	Emissivity Surface #2	Emissivity Surface #3	Emissivity Surface #4	Tint	Grid Type	Total Product U-Factor	Condensation Resistance	Total Product SHGC No Grid	Total Product VT No Grid
5_Double Low-E Clear-ARG -5_Clear	1	0.197	0.197	-	0.709	-	ARG	0.034	-	-	CL	N	0.47	27	0.25	0.46
6_Double Low-E Clear-ARG - 6_Double Low-E Clear	2	0.236	0.236	-	0.472	-	ARG	0.042	0.042	-	CL	N	0.46	27	0.25	0.40
6_Double Low-E Clear-ARG - 6_Double Low-E Clear	3	0.236	0.236	-	0.591	-	ARG	0.042	0.042	-	CL	N	0.47	27	0.25	0.40
6_Double Low-E Clear-ARG - 6_Double Low-E Clear	4	0.236	0.236	-	0.709	-	ARG	0.042	0.042	-	CL	N	0.47	27	0.25	0.40
6_Double Low-E Clear-ARG - 6_Double Low-E Clear	5	0.236	0.236	-	0.787	-	ARG	0.042	0.042	-	CL	N	0.47	27	0.25	0.40
6_Double Low-E Clear-ARG - 6_Double Low-E Clear	6	0.236	0.236	-	0.866	-	ARG	0.042	0.042	-	CL	N	0.47	27	0.25	0.40
6_Double Low-E Clear-ARG - 6_Double Low-E Clear	7	0.236	0.236	-	0.945	-	ARG	0.042	0.042	-	CL	N	0.47	27	0.25	0.40
5_Double Low-E Clear-ARG - 5_Double Low-E Clear - ARG - 5_Clear	8	0.197	0.197	0.197	0.472	0.472	ARG	0.034	0.034	-	CL	N	0.42	28	0.22	0.36
6_Double Low-E Clear-ARG - 6_Double Low-E Clear - ARG - 6_Clear	9	0.236	0.197	0.236	0.236	0.236	ARG	0.042	-	0.042	CL	N	0.44	27	0.22	0.36
6_Double Low-E Clear-ARG - 6_Double Low-E Clear - ARG - 6_Clear	10	0.236	0.236	0.236	0.354	0.354	ARG	0.042	-	0.042	CL	N	0.40	28	0.21	0.36

Low E Coatings Used: XDTN0180-T = 0.042, XDNE0175 = 0.034

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Remarks

"Rating 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 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."

"The Condensation Resistance results obtained from this procedure are for controlled Laboratories 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."

Simulations were conducted in full compliance with NFRC requirements. Simulation relates only to the simulated Fenestration product.

Rounding is per requirements of NFRC 601, NFRC Unit and Measurement Policy.

U factors, Solar Heat Gain Coefficients, Visible Transmittance and Condensation Resistance values are calculated with a default frame absorption of 0.30 for all products other than glazed walls and slope glazing which have a frame absorption of 0.50.

Drawings referenced in this document are an integral part of this report, therefore, are required when distributing this test report. Simulation results obtained represent the actual value of the simulated specimen and does not constitute opinion, endorsement or certification by this Laboratories.

REVISION HISTORY:

7/18/2025: Initial report release

*****END REPORT*****

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Appendix

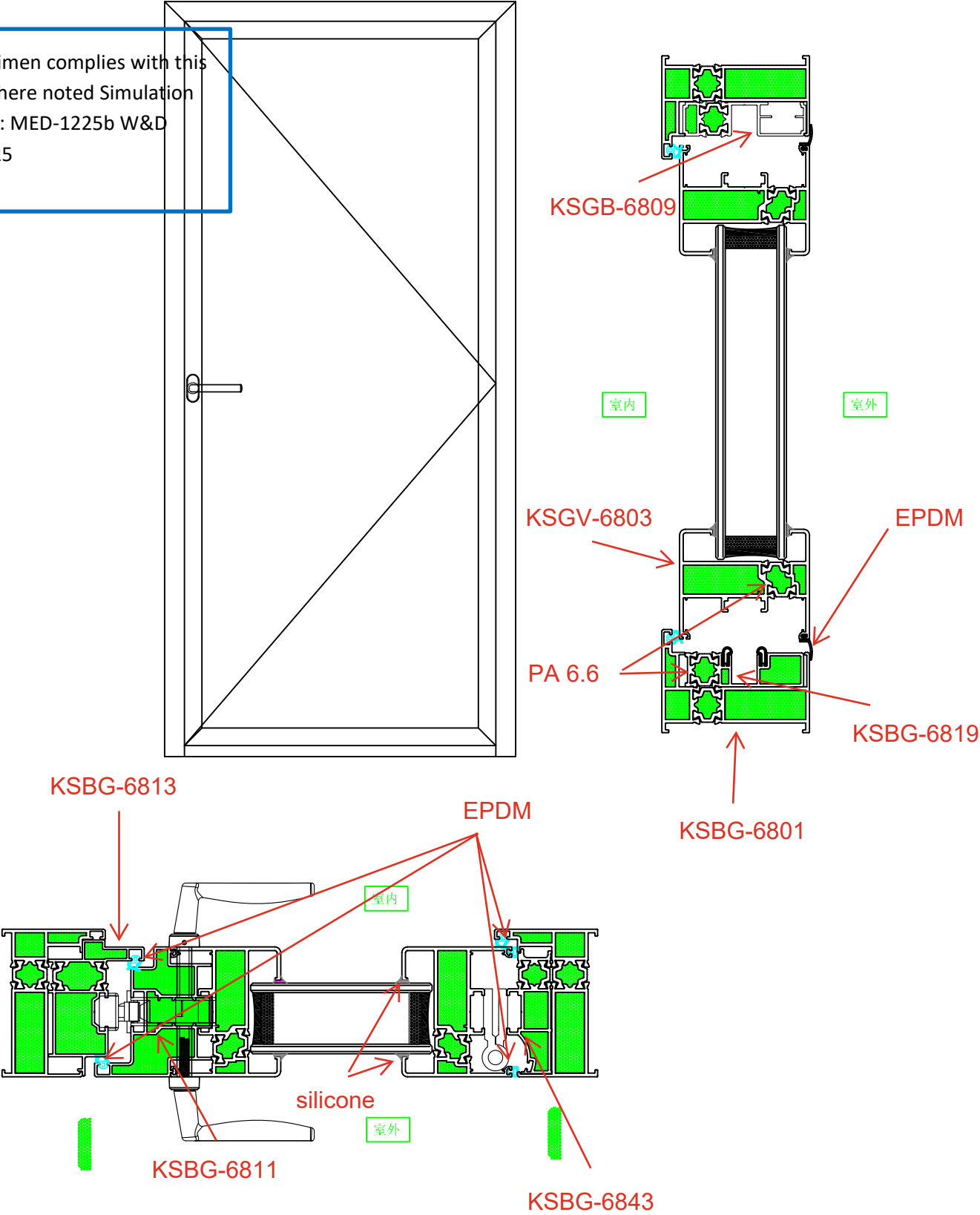
Fenestration Simulated Product Drawings and Bill of Material

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Assembly Drawing

All extrusions are painted aluminum alloy

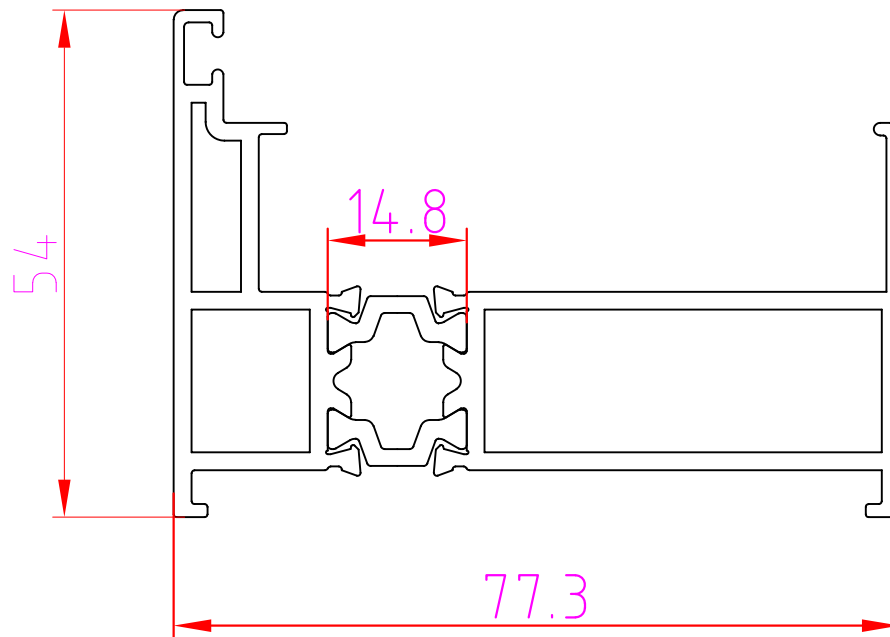
Simulated Specimen complies with this detail except where noted Simulation
Report Number: MED-1225b W&D
Date: 7/18/2025
Initials: MS



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All extrusions are 1.9 thick unless otherwise noted

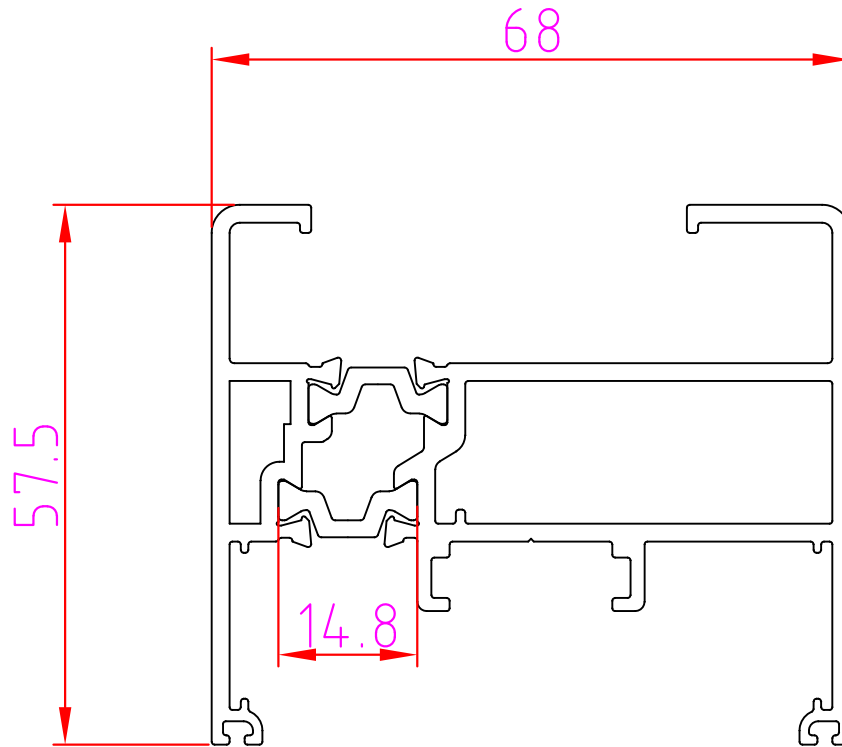


BOM Code	KSBG-6801
BOM Name	Outer frame
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

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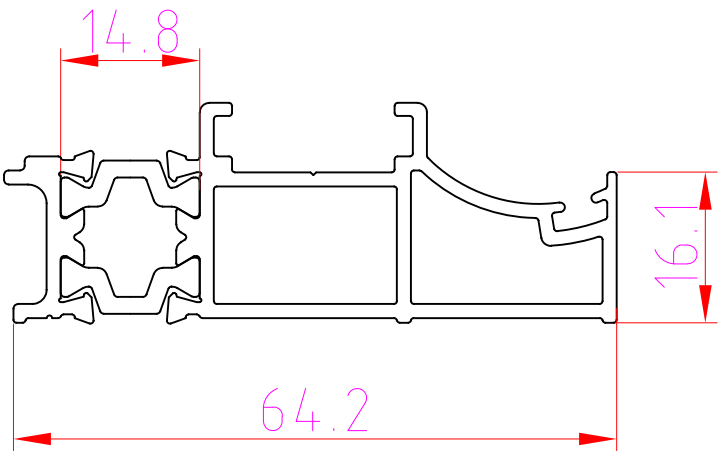


BOM Code	KSBG-6803
BOM Name	Glass panels
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

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All extrusions are 1.9 thick unless otherwise noted

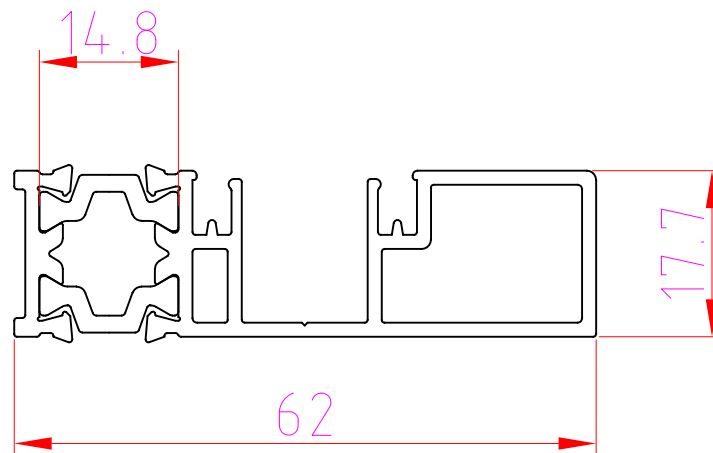


BOM Code	KSBG-6843
BOM Name	transfer framework-1
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

INSIDE

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All extrusions are 1.9 thick unless otherwise noted

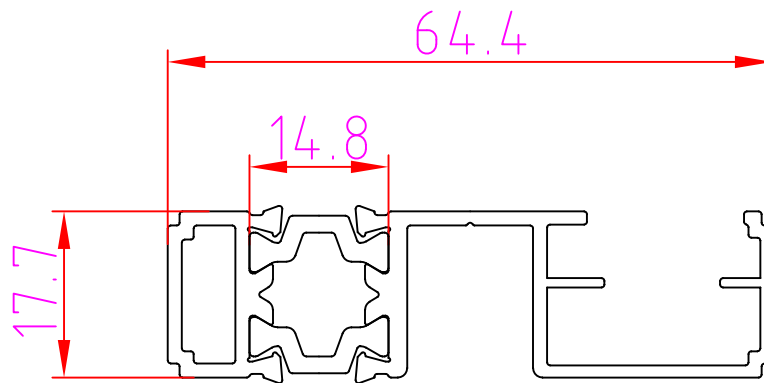


BOM Code	KSBG-6819
BOM Name	transfer framework-2
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

INSIDE

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All extrusions are 1.9 thick unless otherwise noted

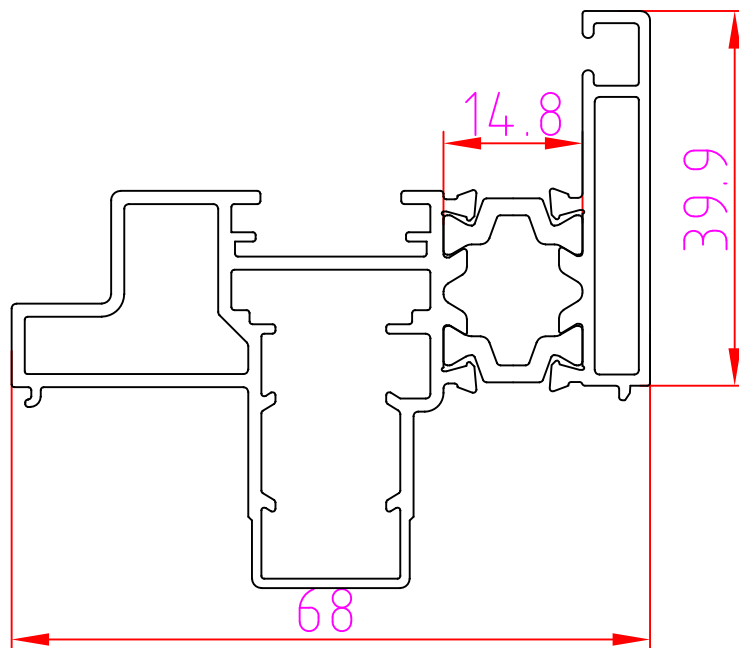


BOM Code	KSBG-6809
BOM Name	transfer framework-3
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

INSIDE

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detail except where noted Simulation
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All extrusions are 1.9 thick unless otherwise noted

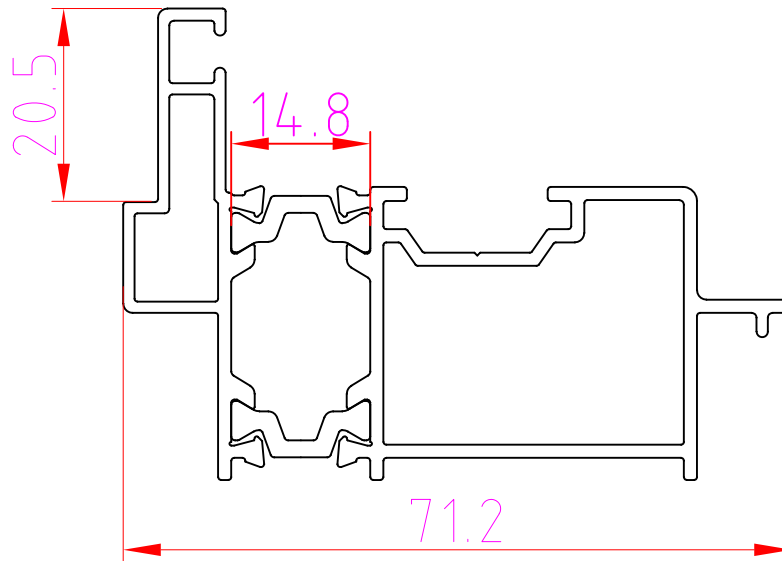


BOM Code	KSBG-6811
BOM Name	Sash Stop
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

INSIDE

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detail except where noted Simulation
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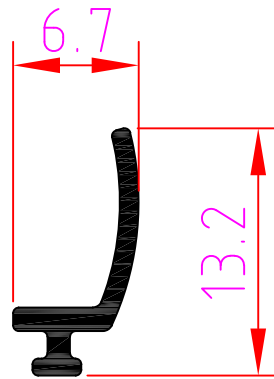
All extrusions are 1.9 thick unless otherwise noted



BOM Code	KSBG-6813
BOM Name	Door stop
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

INSIDE

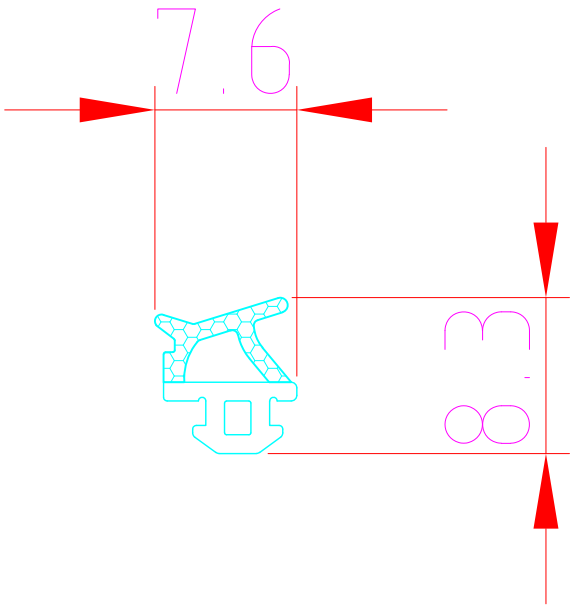
Simulated Specimen complies with this
detail except where noted Simulation
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BOM Code	EPDM-01
BOM Name	Slab frame rubber seal-2
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

INSIDE

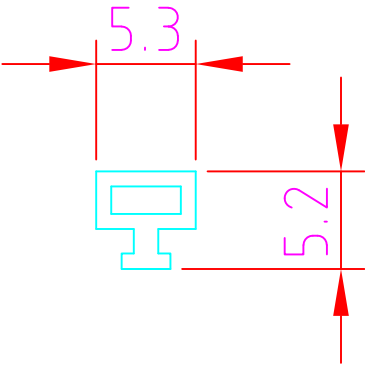
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detail except where noted Simulation
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Date: 7/18/2025
Initials: MS



BOM Code	EPDM-02
BOM Name	Outer frame rubber seal-1
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

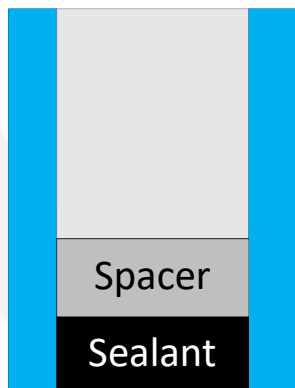
INSIDE

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BOM Code	EPDM-03
BOM Name	Outer frame rubber seal-3
比 例	----- 2025 ----- DOORS & WINDOWS SYSTEM SOLUTION SUPPLIER
1 : 1	

Please use the information below when modeling Quanex Super Spacer® for thermal performance.



Modeling Steps (THERM):

1. Sum the sealant depth and the appropriate spacer height;
2. Import a glazing system with the **Spacer Height** set to the sum from step 1;
3. Use the **Rectangle** tool to draw the sealant box:
 - a. Box bottom should be flush with the lower glass edge;
 - b. Box height is according to the actual sealant depth;
4. Use the **Fill Void** tool to create the spacer box; make sure to select the proper material.

Spacer Type	Spacer Height	Material Name in NFRC 101	Listed K _{EFF}
Standard	3/16" [4.8 mm]	Super Spacer Standard (EPDM)	0.179 W/m·K
Premium	3/16" [4.8 mm]	Super Spacer S2 Premium	0.125 W/m·K
Premium Plus	1/4" [6.4 mm]	Super Spacer S2 Premium Plus	0.127 W/m·K
Triseal	0.287" [7.3 mm]	Super Spacer Triseal / T-Spacer	0.141 W/m·K
T-Spacer	0.287" [7.3 mm]	Super Spacer Triseal / T-Spacer	0.141 W/m·K

Notes:

1. All Super Spacers are modeled using the 2-box method, using effective conductivity (K_{EFF}) values for the spacers, and the appropriate conductivity for the sealant. This includes the various T-spacers: the PIB is not drawn separately.
2. Listed K_{EFF} values are taken from NFRC 101, but may not be current. If there is a disparity between the values above and those in NFRC 101, use the NFRC values.
3. By default, Super Spacer is sized in 1/16" increments, but some non-standard sizes are available. Always verify actual size with the IG manufacturer before modeling.
4. Default sealant depths¹ for the rectangular (i.e. not T-spacer/Triseal) spacers are:
 - a. 3/16" for hot melt butyl, a.k.a. "Butyl rubber (isobutene, solid/hot melt)";
 - b. 1/4" for other organic sealants (silicone is not used with rectangular spacers);
 - c. Always verify actual sealant depth with the IG manufacturer before modeling;
5. Default sealant for the T-spacer and Triseal products is 1/4" silicone.¹ However, both the material and depth can vary according to the requirements of individual projects, so always verify both with the IG manufacturer before modeling.

¹ Note that default sealant specifications are for thermal modeling only; they are not recommendations for IG manufacture. For more information, see Quanex technical bulletin RDQ0024: *Secondary Sealant use with Super Spacer Systems*.

For questions regarding this document, please contact:

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douglas.hauck@quanex.com

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