

CLIENT: **Miracle Distribution Inc.**
#106, 2451 W. Grapevine Mills Cir.
Grapevine, TX 76051

| | |
|------------------------------|------------------------------------|
| Project No: MED-1245a | Report Date: March 29, 2024 |
|------------------------------|------------------------------------|

SAMPLE ID: Series: Fixed Window

SAMPLE DESCRIPTION: Width: 1200 mm; Height: 1500 mm; See page 3 for full description.

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

DATE OF RECEIPT: Documentation was received **January 8, 2024**

SIMULATION DATE: March 27, 2024

RETNETION DATE: March 27, 2029

SIMULATION LOCATION: 8148 NW 74TH Avenue Medley Florida 33166

AUTHORIZATION: Proposal Number 23MT05063R5, signed by John Hyuk Lee, dated December 6, 2023

TEST PROCEDURE: Testing to the following requirements:

- ANSI/NFRC 100-2020 Procedure for Determining Fenestration Product U-Factor
- ANSI/NFRC 200-2020 Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence
- NFRC 500-2017 Procedure for Determining Fenestration Product Condensation Resistance Values

TEST RESULTS: Based on evaluation conducted by QAI, energy performance values for **Miracle Distribution Inc. series Fixed Window** product is found in Simulated Data section of this report for glazing options evaluated

CONTENTS: Test report pages 1 through 6.

Prepared By
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Monika Sanchez
NFRC Certified Simulator

Signed for and on behalf of
QAI Laboratory
Jose Sanchez
Jose Sanchez
Simulator-in-Responsible-Charge

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Software: Therm 7.8.71.0 / Window v7.8.71.0 Simulation Manual
Spectral Data Library: IGDB v95.0

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 100-2020 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 | Gap | Emissivity Surface #2 | U Factor |
|------------------------|----------------|-----------------|-------------------|-------------------|-------|-----------------------|----------|
| 5mm SB70-ARG-5mm clear | 4 | 00 | 0.197 | 0.197 | 0.500 | 0.018 | 0.27 |

Window Test Size: 1200 mm (47 1/4") by 1500 mm (59") high

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| | |
|------------------------------|---------------------------------------|
| Model Designation: | Fixed Window |
| Operator Code: | FIXD |
| Simulated Model Size: | 1200mm (47 1/4") by 1500mm (59") high |

| Frame Construction | |
|-----------------------------------|--------------------|
| Frame Material and Finish: | (VY) vinyl members |

| Glazing Number | Laminates created in Optics |
|----------------|-----------------------------|
| None | None |

| Spacer Type | Sealant Primary | Sealant Secondary | Desiccant |
|-------------------|-----------------|-------------------|-----------------|
| Technoform Spacer | PIB | Silicone | Molecular Sieve |

| Edge of Glass Construction | |
|----------------------------|--------------------|
| Interior Condition: | Silicone |
| Exterior Condition: | Vinyl glazing bead |

| Gas Type | Filling Technique | Gas Fill Percentage |
|----------|-------------------|---------------------|
| Argon | Single Probe | 90% |

| Weather Stripping | | |
|-------------------|-------------|----------|
| Quantity | Description | Location |
| None | None | None |

| Hardware | | |
|----------|-------------|----------|
| Quantity | Description | Location |
| None | None | None |

Only continuous elements which require modeling are listed

| Reinforcement | |
|---------------|----------|
| Material | Location |
| None | None |

| Dividers/Grids | | |
|----------------|----------|--------------|
| Grid Size | Material | Grid Pattern |
| None | None | None |

Note: any deviations in grid pattern are noted here

Modeling Assumptions: Nail fin was not simulated

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Simulated Data

| Product Description | Product ID Number | Grouping ID Number | Pane Thickness #1 | Pane Thickness #2 | Gap | Gap Fill | Emissivity Surface #2 | Tint | Grid Type | Total Product U-Factor | Condensation Resistance | Total Product SHGC No Grid | Total Product VT No Grid |
|--------------------------------|-------------------|--------------------|-------------------|-------------------|-------|----------|-----------------------|------|-----------|------------------------|-------------------------|----------------------------|--------------------------|
| 5mm DS30T-ARG-5mm clear | 1 | 00 | 0.197 | 0.197 | 0.500 | ARG | 0.057 | CL | N | 0.28 | 55 | 0.18 | 0.26 |
| 5mm DS SteelGrey-ARG-5mm clear | 2 | 00 | 0.197 | 0.197 | 0.500 | ARG | 0.068 | GY | N | 0.29 | 55 | 0.18 | 0.24 |
| 5mm SNX51/23-ARG-5mm clear | 3 | 00 | 0.197 | 0.197 | 0.500 | ARG | 0.021 | CL | N | 0.27 | 56 | 0.20 | 0.46 |
| 5mm SB70-ARG-5mm clear | 4 | 00 | 0.197 | 0.197 | 0.500 | ARG | 0.018 | CL | N | 0.27 | 58 | 0.24 | 0.58 |
| 5mm SB90-ARG-5mm clear | 5 | 00 | 0.197 | 0.197 | 0.500 | ARG | 0.023 | CL | N | 0.27 | 58 | 0.21 | 0.46 |

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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 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.”

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 laboratory.

REVISION HISTORY:

3/29/2024: Initial report release

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

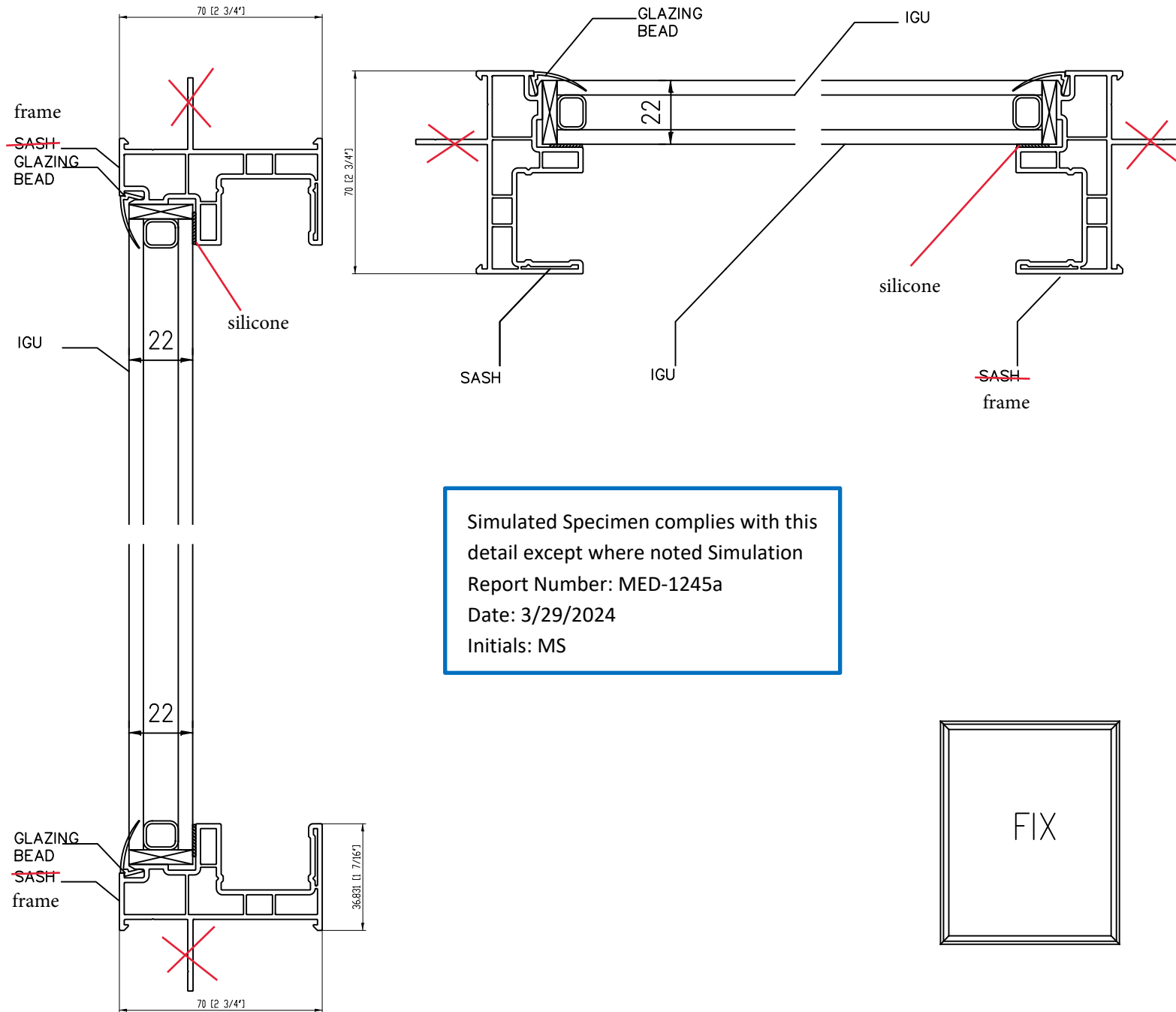
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Appendix

Fenestration Simulated Product Drawings and Bill of Material

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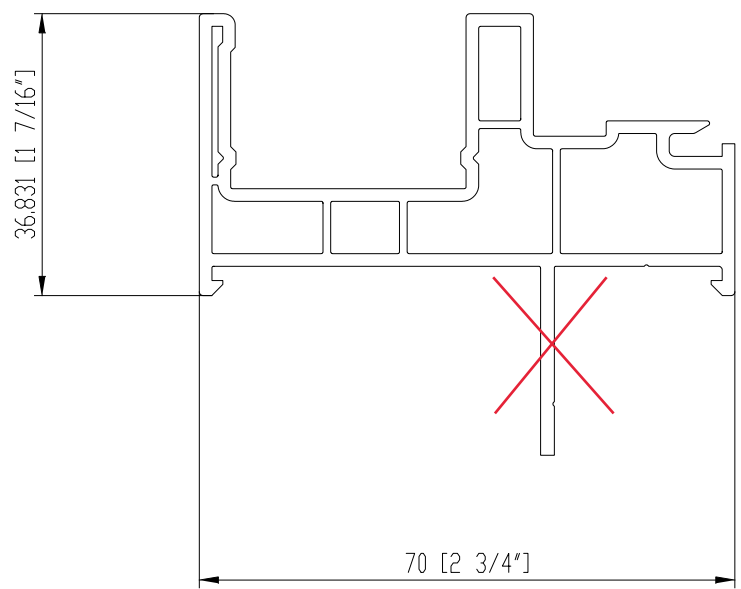


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PSH-040??

? ? ?

Simulated Specimen complies with this detail except where noted Simulation
 Report Number: MED-1245a
 Date: 3/29/2024
 Initials: MS

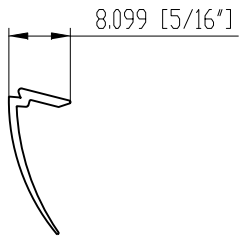


Rigid vinyl


| | | | | |
|---|---------------|-------|----|-----|
| ??? | ????? | ??? | ?? | ?? |
| ?? | ?? | ?? | ?? | ?? |
| P.J.Y | 23.03.10 | | | |
|  | S.M:PRECISION | ?? ?? | ?? | ?? |
| | | H/S | | 3/1 |

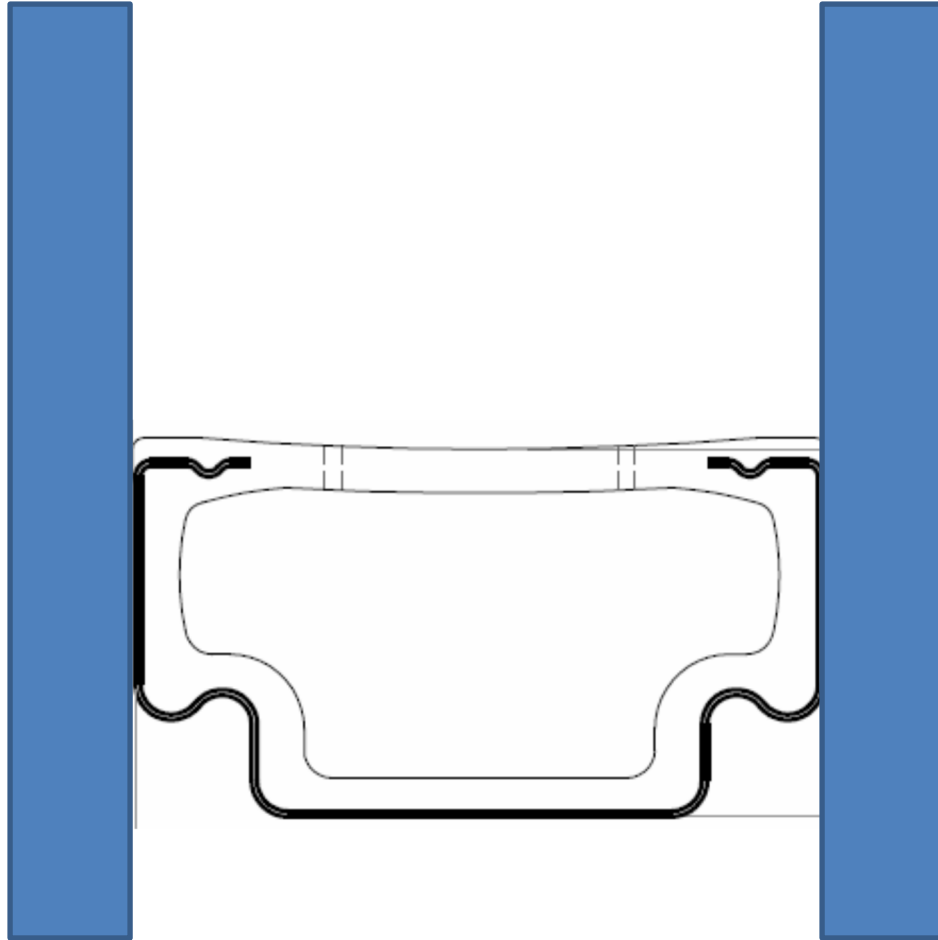
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Simulated Specimen complies with this detail except where noted Simulation
 Report Number: MED-1245a
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Rigid vinyl

| | | |
|---|--------------|------------|
| ??? | ????? | ? ? ? |
| ? ? | ? ? ? ? | |
| P.J.Y | 23.03.10 | |
|  S.M:PRECISION | ?? ?? H/S | ? ? 3/1 |



Primary Sealant: PIB 0.004" by 0.140" high

Secondary Sealant: Silicone

Spacer Material: Stainless Steel "Oxidized" and Polypropylene

Desiccant: Loose Fill Silica Gel

Simulated Specimen complies with this detail except where noted Simulation Report Number: MED-1245a
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