



Quality Accuracy Assurance

# Fenestration Testing Laboratory, Inc.

8148 N.W. 74<sup>th</sup> Avenue Medley, Florida 33166 Phone: (305) 885-3328 Fax: (305) 885-3329 Toll Free: (844) FTL-TEST (385-8378)  
E-mail: clientservices@ftl-inc.com Web: www.ftl-inc.com

Report Date: 09/12/2018  
Simulation Date: 09/04/2018  
Expiration Date: 09/04/2022  
Report Number: 10344  
Project Number: 18-8251  
Revision Number: 1

## Thermal Simulation Report

**Specifications:** ANSI/NFRC 100-2017: Procedure for Determining Fenestration Product U-Factor  
ANSI/NFRC 200-2017: 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

**Software:** Therm 7.4.3.0, Window v7.4.8, Simulation Manual, Optics 6  
**Spectral Data Library:** IGDB v60.0

## 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 100-2017 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·ft<sup>2</sup>·F or 20% of the lowest simulated U-factor, whichever is greater.

Product Description	Product Number	Pane Thickness #1	Pane Thickness #2	Gap	Gap Fill	Emissivity Surface # 2	Spacer	U Factor
4mm Clima Guard Premium 2 - Arg - 4mm Clear	1	0.157	0.157	0.625	ARG	0.040	A1-D	0.28

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



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<b>Model Designation:</b>	Series; IDEAL 4000 Tilt and turn Window
<b>Operator Code:</b>	DATT
<b>Simulated Model Size:</b>	1200 mm (47 1/4") by 1500 mm (59") high

Frame and Vent Construction	
<b>Frame Material and Finish:</b>	(VA) Vinyl with all members reinforced
<b>Vent Material and Finish:</b>	(VA) Vinyl with all members reinforced

Spacer Type	Sealant Primary	Sealant Secondary	Desiccant
All Metal	Butyl Rubber	Polysulphide	Silica Gel

Edge of Glass Construction	
<b>Interior Condition:</b>	Vinyl glazing bead with vinyl flap
<b>Exterior Condition:</b>	Vinyl wedge

Gas Type	Filling Technique	Gas Fill Percentage
Argon	Single Probe	90

Weather Stripping		
Quantity	Description	Location
Single Row	Vinyl gasket	Perimeter of frame on the exterior
Single Row	Vinyl wedge	Perimeter of vent on the interior

Hardware		
Quantity	Description	Location
None	None	None

*Only continuous elements which require modeling are listed*



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Reinforcement	
Material	Location
Steel (Oxidized)	Inside each frame and vent member

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	Gap #1	Gap Fill #1	Emissivity Surface #2	Emissivity Surface #3	Tint	Total Product U-Factor	Condensation Resistance	Total Product SHGC NG	Total Product VT NG
4mm Clima Guard Premium 2 - Arg - 4mm Clear	1	0.157	0.157	0.625	ARG	0.040		CL	0.28	52	0.41	0.55
4mm Planiclear - Arg - 4mm Planitherm One	2	0.157	0.157	0.625	ARG		0.022	CL	0.28	58	0.34	0.49
4mm Stopsol Classic Grey - Arg - 4mm Planitherm XN	3	0.157	0.157	0.625	ARG		0.050	GY	0.28	57	0.18	0.15
4mm Planiclear - Arg - 4mm Planitherm XN II	4	0.157	0.157	0.625	ARG		0.039	CL	0.28	57	0.43	0.56

Low E Coatings Used:

- Guardian Europe Clima Guard Premium 2 e= 0.040
- Saint-Gobain Glass SSG Planitherm One e=0.022
- Saint-Gobain Glass SSG Planitherm XN e=0.050
- Saint-Gobain Glass SSG Planitherm XN II e=0.039



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Remarks
<p>“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 Certification Authorization Report (CAR) by an NFRC accredited inspection agency (IA) are to be used for labeling purposes.”</p> <p>“The values included in this report are not considered in compliance with NFRC 100, NFRC 200, and/or NFRC 500 unless the associated validation test requirements have been satisfied, as applicable.”</p> <p>“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.”</p> <p>Simulations were conducted in full compliance with NFRC requirements. Simulation relates only to the simulated Fenestration product.</p> <p>Rounding is per requirements of NFRC 601, NFRC Unit and Measurement Policy.</p> <p>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.</p> <p>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.</p> <p>This test report is considered the exclusive property of the client named herein and is applicable to the specimen simulated. This report may not be reproduced without the approval of Fenestration Testing Laboratory, Inc and if so must be in full.</p>

Revision History Table			
Revision	Description	Author	Effective Date
0	Initial Release	Jorge Palomares	09/12/2018
1	Added option 2-4 requested by Mr. Roman Bober with Eko-Okna	Jorge Palomares	02/27/2019

### Simulation Conducted by

Jorge Palomares

**Simulator**

Jose Sanchez

**Simulator- in- Responsible- Charge**



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### Appendix

Fenestration Simulated Product Drawings and Bill of Material

