

# JANTEK INDUSTRIES THERMAL PERFORMANCE TEST REPORT

**SCOPE OF WORK**

ENERGY MISER FIXED WINDOW

**REPORT NUMBER**

N8372.01-116-46 R0

**TEST DATE**

07/20/22

**ISSUE DATE**

10/20/22

**PAGES**

21

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**TEST REPORT FOR JANTEK INDUSTRIES, LLC WINDOWS & DOORS**

Report No.: N8372.01-116-46 R0

Date: 10/20/22

**REPORT ISSUED TO**

**JANTEK INDUSTRIES, LLC WINDOWS & DOORS**

230 Route 70 East

Medford, New Jersey 08055

**SECTION 1**

**SCOPE**


**SERIES/MODEL: Energy Miser Fixed Window**

**TYPE: Fixed**

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Jantek Industries, LLC Windows & Doors to evaluate the thermal performance per NFRC 102-2020. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek B&C test facility in York, Pennsylvania.

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, or other pertinent project documentation, will be retained for the entire test record retention period. Representative samples of the test specimen will be retained by Intertek B&C for a minimum of two and a half years from the submittal date to the Inspection Agency and no more than five years from the test date.

For INTERTEK B&C:

<b>COMPLETED BY</b>	Ryan P. Moser Technician Team Leader,
<b>TITLE</b>	IIRC
<b>SIGNATURE</b>	
<b>DATE</b>	10/20/22

<b>REVIEWED BY</b>	Shon W. Einsig
<b>TITLE</b>	Project Lead, IIRC
<b>SIGNATURE</b>	
<b>DATE</b>	10/20/22

RPM:pan

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**TEST REPORT FOR JANTEK INDUSTRIES, LLC WINDOWS & DOORS**

Report No.: N8372.01-116-46 R0

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**SECTION 2**

**SUMMARY OF TEST RESULTS**

Standardized U-factor (Ust): 0.23 Btu/hr·ft<sup>2</sup>·F (CTS Method)

**SECTION 3**

**TEST SPECIMEN SUMMARY**

<b>SERIES/MODEL</b>	Energy Miser Fixed Window
<b>TYPE</b>	Fixed
<b>OVERALL SIZE</b>	47-1/4" x 59" (1200 mm x 1499 mm) (Model Size)
<b>NFRC STANDARD SIZE</b>	47.2" x 59.1" (1200 mm wide x 1500 mm high)
<b>TEST SAMPLE SUBMITTED BY</b>	Client
<b>TEST SAMPLE SUBMITTED FOR</b>	Validation for Initial Certification (Production Line Unit) & Plant Qualification

**SECTION 4**

**TEST METHOD**

The specimens were evaluated in accordance with the following:

**NFRC 102-2020**, Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems

**SECTION 5**

**MATERIAL SOURCE/INSTALLATION**

The test specimen was provided by the client.

The test sample was installed in a vertical orientation, the exterior of the specimen was exposed to the cold side.

**SECTION 6**

**LIST OF OFFICIAL OBSERVERS**

<b>NAME</b>	<b>COMPANY</b>
Shon W. Einsig	Intertek B&C
Ryan P. Moser	Intertek B&C

**TEST REPORT FOR JANTEK INDUSTRIES, LLC WINDOWS & DOORS**

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Date: 10/20/22

**SECTION 7**

**TEST SAMPLE DESCRIPTION**

**Frame**

<b>MATERIAL</b>	VY: Vinyl		
<b>SIZE</b>	47-1/4" x 59" (Model Size)		
<b>DAYLIGHT OPENING</b>	43-3/4" x 55-3/8"	<b>GLAZING METHOD</b>	Exterior
<b>EXTERIOR COLOR</b>	White	<b>EXTERIOR FINISH</b>	Vinyl
<b>INTERIOR COLOR</b>	White	<b>INTERIOR FINISH</b>	Vinyl
<b>CORNER JOINERY</b>	Mitered / Welds / Unsealed		

**Glazing Information**

<b>LAYER 1</b>	DS	Guardian ClimaGuard 70/36 (e=0.036*, #2)	
<b>GAP 1</b>	0.34"	A8-S: Aluminum-Butyl Composite Spacer	100% Air*
<b>LAYER 2</b>	DS	Guardian ClimaGuard 70/36 (e=0.036*, #4)	
<b>GAP 2</b>	0.34"	A8-S: Aluminum-Butyl Composite Spacer	100% Air*
<b>LAYER 3</b>	DS	Clear	
<b>GAS FILL METHOD</b>	N/A*		

*\*Stated per the client/manufacture and can affect the validity of results*

*N/A Non-Applicable*

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**SECTION 7 (CONTINUED)**

**TEST SAMPLE DESCRIPTION (CONTINUED)**

**Weatherstripping**

DESCRIPTION	QUANTITY	LOCATION
No weatherstrip		

**Hardware**

DESCRIPTION	QUANTITY	LOCATION
Vinyl insert	4	Interior head, sill and jambs

**Drainage**

DRAINAGE METHOD	SIZE	QUANTITY	LOCATION
Weepslot with cover	1.00" x 0.25"	2	Sill face

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**SECTION 8**

**THERMAL TRANSMITTANCE (U-FACTOR): MEASURED TEST DATA**

**Heat Flows**

1. Total Measured Input into Metering Box (Qtotal)	388.56 Btu/hr
2. Surround Panel Heat Flow (Qsp)	52.75 Btu/hr
3. Surround Panel Thickness	4.00 inches
4. Surround Panel Conductance	0.0475 Btu/hr·ft <sup>2</sup> ·F
5. Metering Box Wall Heat Flow (Qmb)	3.80 Btu/hr
6. EMF vs Heat Flow Equation (equivalent information)	0.0118*EMF + 0.002
7. Flanking Loss Heat Flow (Qfl)	9.96 Btu/hr
8. Net Specimen Heat Loss (Qs)	322.05 Btu/hr

**Areas**

1. Test Specimen Projected Area (As)	19.36 ft <sup>2</sup>
2. Test Specimen Projected Frame Area (Af)	2.54 ft <sup>2</sup>
3. Test Specimen Projected Glazing Area (Ag)	16.82 ft <sup>2</sup>
4. Metering Box Opening Area (Amb)	36.11 ft <sup>2</sup>
5. Metering Box Baffle Area (Ab1)	33.94 ft <sup>2</sup>
6. Surround Panel Interior Exposed Area (Asp)	16.75 ft <sup>2</sup>

**Test Conditions**

1. Average Metering Room Air Temperature (th)	69.78 F
2. Average Cold Side Air Temperature (tc)	-0.38 F
3. Average Guard/Environmental Air Temperature	71.23 F
4. Metering Room Average Relative Humidity	9.01 %
5. Metering Room Maximum Relative Humidity	9.18 %
6. Metering Room Minimum Relative Humidity	8.78 %
7. Measured Cold Side Wind Velocity (Perpendicular Flow)	12.66 mph
8. Measured Warm Side Wind Velocity (Parallel Flow)	NA mph
9. Measured Static Pressure Difference Across Test Specimen	0.00" ± 0.04" H <sub>2</sub> O

**Average Surface Temperatures**

1. Metering Room Surround Panel	66.91 F
2. Cold Side Surround Panel	0.59 F

**Results**

1. Thermal Transmittance of Test Specimen (Us)	0.24 Btu/hr·ft <sup>2</sup> ·F
2. Standardized Thermal Transmittance of Test Specimen (Ust)	0.23 Btu/hr·ft <sup>2</sup> ·F

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**SECTION 9**

**THERMAL TRANSMITTANCE (U-FACTOR): CALCULATED TEST DATA**

**CTS Method Results**

1. Warm Side Surface Emittance of CTS (e1)	0.84
2. Warm Side Area-Weighted Surface Emittance of Specimen Frame (ef1)	0.90
3. Warm Side Area-Weighted Surface Emittance of Specimen Glazing (eg1)	0.84
4. Warm Side Surface Emittance of Surround Panel (esp1)	0.90
5. Warm Side Area-Weighted Surface Emittance in View of the Baffle (es1)	0.87
6. Warm Side Baffle Emittance (eb1)	0.92
7. Cold Side Baffle Emittance (eb2)	N/A
8. Equivalent Warm Side Surface Temperature (t1)	57.52 F
9. Equivalent Cold Side Surface Temperature (t2)	2.59 F
10. Warm Side Baffle Surface Temperature	68.73 F
11. Cold Side Baffle Surface Temperature	N/A F
12. Measured Warm Side Surface Conductance (hh)	1.36 Btu/hr·ft <sup>2</sup> ·F
13. Measured Cold Side Surface Conductance (hc)	5.59 Btu/hr·ft <sup>2</sup> ·F
14. Test Specimen Thermal Conductance (Cs)	0.30 Btu/hr·ft <sup>2</sup> ·F
15. Convection Coefficient (Kc)	0.34 Btu/(hr·ft <sup>2</sup> ·F <sup>1.25</sup> )
16. Radiative Test Specimen Heat Flow (Qr1)	172.15 Btu/hr
17. Conductive Test Specimen Heat Flow (Qc1)	149.90 Btu/hr
18. Radiative Heat Flux of Test Specimen (qr1)	8.89 Btu/hr·ft <sup>2</sup> ·F
19. Convective Heat Flux of Test Specimen (qc1)	7.74 Btu/hr·ft <sup>2</sup> ·F
20. Standardized Warm Side Surface Conductance (hsth)	1.23 Btu/hr·ft <sup>2</sup> ·F
21. Standardized Cold Side Surface Conductance (hstc)	5.28 Btu/hr·ft <sup>2</sup> ·F
22. Standardized Thermal Transmittance (Ust)	0.23 Btu/hr·ft <sup>2</sup> ·F

**SECTION 10**

**TEST DURATION**

1. The environmental systems were started at 16:03 hours, 07/19/22.
2. The test parameters were considered stable for two consecutive four hour test periods from 21:59 hours, 07/19/22 to 05:59 hours, 07/20/22.
3. The thermal performance test results were derived from 01:59 hours, 07/20/22 to 05:59 hours, 07/20/22.

**TEST REPORT FOR JANTEK INDUSTRIES, LLC WINDOWS & DOORS**

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**SECTION 11**  
**GLAZING DEFLECTION**

	<b>FRAME EXT. / INT.</b>
<b>EDGE GAP WIDTH</b>	0.34" / 0.34"
<b>ESTIMATED CENTER GAP WIDTH</b> upon receipt of specimen in laboratory (after stabilization)	0.38" / 0.38"
<b>CENTER GAP WIDTH</b> at laboratory ambient conditions on day of testing	0.38" / 0.38"
<b>CENTER GAP WIDTH</b> at test conditions	0.25" / 0.28"

*Glass collapse determined using a digital glass and air space meter*

The sample was inspected for the formation of frost or condensation, which may influence the surface temperature measurements. The sample showed no evidence of condensation/frost at the conclusion of the test.

“This test method does not include procedures to determine the heat flow due to either air movement through the specimen or solar radiation effects. As a consequence, the thermal transmittance results obtained do not reflect performances which are expected from field installations due to not accounting for solar radiation, air leakage effects, and the thermal bridge effects that have the potential to occur due to the specific design and construction of the fenestration system opening. The latter can only be determined by in-situ measurements. Therefore, it is important to recognize that the thermal transmittance results obtained from this test method are for ideal laboratory conditions and should only be used for fenestration product comparisons and as input to thermal performance analyses which also include solar, air leakage and thermal bridge effects.”

Required annual calibrations for the Intertek B&C, 'thermal test chamber' (ICN 000001) in York, Pennsylvania were last conducted in May 2022 in accordance with Intertek B&C calibration procedure. A CTS Calibration verification was performed October 2021. A Metering Box Wall Transducer and Surround Panel Flanking Loss Characterization was performed April 2022.

The reported Standardized Thermal Transmittance (Ust) was determined using CTS Method, per Section 9.2(A) of NFRC 102.





**Molimo**<sup>™</sup>  
Architectural Product Testing

## **NFRC 100/200/500 THERMAL SIMULATION TEST REPORT**

Report No.: 11237.01-111-24

Rendered to: Jantek Industries LLC  
Medford, New Jersey

Series/Model: Energy Miser Picture Window

**Report Date:** 2/10/2022

**CLIENT**

**INFORMATION:** Jantek Industries LLC  
230 NJ-70  
Medford, New Jersey 08055

**TEST LABORATORY:** Molimo, LLC  
1410 Eden Road  
York, Pennsylvania 17402  
717-916-6300

**SERIES/MODEL:** Energy Miser Picture Window

**SIMULATION DATE:** 2/7/2022

**REPORT DATE:** 2/10/2022

**RETENTION DATE:** 2/7/2027

**PROJECT SUMMARY:**

Molimo, LLC was contracted to perform testing on the above referenced product. Testing was performed to evaluate U-factor, Solar Heat Gain Coefficient, Visible Transmittance, and Condensation Resistance performance of the product. The product description, test procedures, and test results are reported herein. The results are simulated values and were secured by using the following test methods. All results were calculated using the latest approved versions of THERM 7, WINDOW 7, OPTICS 6, and also the International Glazing Database.

ANSI/NFRC 100-2020: Procedure for Determining Fenestration Product U-Factors

ANSI/NFRC 200-2020: 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

Program Versions Utilized: THERM/WINDOW 7.4;NFRC 101-2020[E1A9];NFRC Sim Manual 2020

**SPECIMEN DESCRIPTION:**

**Type:** FIXD - Fixed, 4-Sided

**Frame Material:** VY - Vinyl

**Sash Material:** NA - Not applicable

**Standard Size:** 1500 mm x 1200 mm (59 in x 47 in)

**MODELING ASSUMPTIONS OR TECHNICAL INTERPRETATIONS:**

None

**SPECIALTY PRODUCTS TABLE:**

The specialty products method allows manufacturers to determine overall product SHGC / Vt for any glazing option. The center of glass (COG) SHGC / Vt must be determined using the current approved version of WINDOW 7. The method gives overall product SHGC / Vt indexed on COG properties. All values used are truncated to 6 decimal places.

	No Dividers	Dividers < 1	Dividers > 1
<b>SHGC0</b>	0.002512	0.005455	0.008238
<b>SHGC1</b>	0.872978	0.786532	0.704764
<b>VT0</b>	0.000000	0.000000	0.000000
<b>VT1</b>	0.870466	0.781077	0.696526

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

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

**VALIDATION MATRIX:**

The following products are part of a validation matrix. Only one is required for validation testing.

Product	Report
None	-

**SPACER DESCRIPTION:**

Spacer Type	Primary Sealant	Secondary Sealant	Code
Quanex Duraseal Spacer	Butyl Rubber	-	A8-S

**GRID DESCRIPTION:**

Grid Size	Grid Type	Grid Pattern
3/16" x 5/8"	Rectangular - Painted Aluminum	NFRC Standard

**REINFORCEMENT DESCRIPTION:**

Location	Material
None	-

**GAS FILL DESCRIPTION:**

Fill Type	Method
95% Argon	Single Probe Timed

**EDGE OF GLASS CONSTRUCTION:**

Interior	Foam weatherstrip against glass
Exterior	PVC glazing bead against glass

**WEATHERSTRIPPING:**

Type	Quantity	Location
None	-	-

**FRAME/SASH MATERIALS FINISH:**

Interior	White PVC
Exterior	White PVC

Molimo, LLC is an NFRC accredited simulation laboratory and all simulations were conducted in full compliance with NFRC approved procedures and specifications. The NFRC procedure requires that the computational results be verified through physical test results.

A copy of this report, detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Molimo, LLC for a period of five years from the original test date. At the end of this retention period, the service life of this report will expire.

Results obtained are simulated values and were secured by using the designated test methods. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) simulated. This report may not be reproduced, except in full, without the written permission of Molimo, LLC.

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, thermal bridging that may occur due to the specific design and construction of the fenestration system opening. This value is NOT equivalent to a Condensation Resistance Factor (CRF) determined in accordance with AAMA 1503.

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 options identified on a valid Certificate of Authorization (CA) by an NFRC accredited Inspection Agency (IA) are to be used for labeling purposes. The rating values were rounded in accordance to NFRC 601, *NFRC Unit and Measurement Policy*.

For MOLIMO, LLC:

Simulated By:



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Joseph Descheemaeker  
Project Manager - Simulations  
Simulator-in-Responsible-Charge

Reviewed By:



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Lance Cunningham  
Manager - Operations / Sales

JRD:dro

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix A: NFRC 100/200/500 Summary Sheet (1)

Appendix B: Drawings (17)

This report was produced from controlled document template MMO-00087, Rev. 1, 1/29/2021.

**Revision Log**

<b>Rev.#</b>	<b>Date</b>	<b>Pages</b>	<b>Revisions</b>
.01	2/10/2022	All	Original report issued

**Appendix A**

**NFRC 100/200/500 Summary Sheet**

**11237.01-111-24**

**NFRC 100/200/500 Summary Sheet  
11237.01-111-24**

**Energy Miser Picture Window**

Option #	Description	Glass Thicknesses	Gap Widths	Gas	Emissivity(SFC)	Spacer	Divider	U-Factor	CR	Tint	No Grids			Grids < 1"			Grids > 1"		
											SHGC	VT		SHGC	VT		SHGC	VT	
1	CG7036/95arg/Clr - ss	0.090,0.090	0.563	ARG	0.036(2)	A8-S	N,G	0.26	62	CL	0.34	0.61	0.31	0.55	0.28	0.49			
2	CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1	0.090,0.090,0.090	0.359,0.359	ARG	0.036(2),0.036(4)	A8-S	N	0.17	73	CL	0.27	0.48	0.24	0.43	0.22	0.38			
3	CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1	0.090,0.090,0.090	0.359,0.359	ARG	0.036(2),0.036(4)	A8-S	G	0.18	73	CL	0.27	0.48	0.24	0.43	0.22	0.38			
4	CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1.125	0.090,0.090,0.090	0.422,0.422	ARG	0.036(2),0.036(4)	A8-S	N	0.16	74	CL	0.27	0.48	0.24	0.43	0.22	0.38			
5	CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1.125	0.090,0.090,0.090	0.422,0.422	ARG	0.036(2),0.036(4)	A8-S	G	0.16	74	CL	0.27	0.48	0.24	0.43	0.22	0.38			
6	FOAM: CG7036/95arg/Clr - ss	0.090,0.090	0.563	ARG	0.036(2)	A8-S	N,G	0.26	61	CL	0.34	0.61	0.31	0.55	0.28	0.49			
7	FOAM: CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1	0.090,0.090,0.090	0.359,0.359	ARG	0.036(2),0.036(4)	A8-S	N	0.17	73	CL	0.27	0.48	0.24	0.43	0.22	0.38			
8	FOAM: CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1	0.090,0.090,0.090	0.359,0.359	ARG	0.036(2),0.036(4)	A8-S	G	0.17	73	CL	0.27	0.48	0.24	0.43	0.22	0.38			
9	FOAM: CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1.125	0.090,0.090,0.090	0.422,0.422	ARG	0.036(2),0.036(4)	A8-S	N	0.15	73	CL	0.27	0.48	0.24	0.43	0.22	0.38			
10	FOAM: CG7036/95arg/CG7036(4)/95arg/Clr - ss - 1.125	0.090,0.090,0.090	0.422,0.422	ARG	0.036(2),0.036(4)	A8-S	G	0.16	73	CL	0.27	0.48	0.24	0.43	0.22	0.38			