



ANSI/NFRC 400-2023

AIR LEAKAGE PERFORMANCE TEST REPORT SUMMARY

RENDERED TO:

JANTEK INDUSTRIES, LLC.
230 Route 70
East Medford, New Jersey 08055

PRODUCT TYPE: Casement

SERIES/MODEL: "Energy Miser"

Title	Summary of Results
Total Air Leakage	3.0 L/sec (6.4 scfm)
Extraneous (Tare) Air Leakage	2.6 L/sec (5.5 scfm)
Net Specimen Air Leakage	0.4 L/sec (1.0 scfm)
Air Leakage Rate	0.5 L/(sec• m ²) (0.1 scfm/ft ²) Measured

Test Completed: 07/17/24

Reference must be made to Report Number 27481.02-111-18 dated 11/09/23 for complete test sample description and data.

MOLIMO Architectural Product Testing

Performed By:

Bryce Peters
Technician

Reviewed By:

Justin L. Bupp
Laboratory Manager

Report Number 27481.02-111-18
Report Date 07/17/24
Report To JANTEK INDUSTRIES, LLC.
 230 Route 70
 East Medford, New Jersey 08055
Date Testing Started 07/05/24
Date Testing Completed 07/05/24
Specification ANSI/ NFRC 400-2023 "Procedure for Determining Fenestration Product Air Leakage"

Description of Sample Tested

Note: All dimensions are in the order (Width x Height x Thickness) unless otherwise noted.

Model/ Series Energy Miser
Configuration Casement
Frame Size Overall
 610 mm x 1499 mm (24" x 59")
Vent Size 562 mm x 1454 mm (22.125" x 57.25")
Viewing Area 457 mm x 1499 mm (18" x 59")
Frame & Vent Type Extruded polyvinyl chloride (PVC)
Joint Construction Frame & Vent
 Mitered, welded
Glazing Components
 Overall 29 mm (1.148") nominal
 Glass Thickness (3) Lites of 2 mm (0.098") nominal annealed glass
 Coating A Climateguard 70/36 sputter-type low emissivity coating (e=0.036 per client) was applied to glazing surface nos. 2 and 4.
Spacer Type/Size 10.85 mm (0.427") Aluminum spacer (Type A8-S)
 Fill (2) Argon 95% double probe per client
Glazing System Exterior glazed with a foam tape back-bedding and a snap-in-place vinyl glazing bead
Weatherstrip
 Type (2) Strips bulb vinyl
 Location Perimeter of vent
 Type (1) Strip bulb vinyl
 Location Perimeter of frame

Operating Hardware

Locks

Type Single handle 3-Point integrated locking system
Location 229 mm (9") From bottom of the lock jamb with lock points on lock jamb

Keeper

Type Metal
Location Corresponding lock locations

Roto-Operator

Type Scissors-type
Location 305 mm (12") From end of sill at the lock jamb

Hinge Hardware

Type Metal multi-bar hinge
Location Rails, head and sill at hinge jamb

Auxiliary

Type (2) Snubbers on hinge stile/jambs
Location 457 mm (18") and 978 mm (38.5") From the bottom of the hinge stile/ jambs

Reinforcement

No reinforcement employed

Weep Description

Size 12.7 mm (0.500") Wide by 6.35 mm (0.25") high
Location 51 mm (2") From each end of the bottom rail

Interior Surface Finish

White vinyl (PVC)

Exterior Surface Finish

White vinyl (PVC)

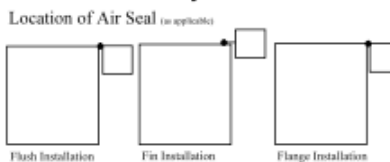
Test Results - ANSI/NFRC 400

<u>Paragraph</u>	<u>Test</u>		
4G	Operating Force NAFS		
	Initiate Motion (report only)	=	<27 N (<6 lbf)
	Maintain Motion - Opening	=	<27 N (<6 lbf)
	Maintain Motion - Closing	=	<27 N (<6 lbf)

NOTE: The results above represent the maximum force among all sash tested.

<u>Paragraph</u>	<u>Test</u>		
4	Air Leakage Resistance ASTM E283-04(12)		
	Air Infiltration at 75 Pa (1.57 psf)		
	Air Temperature	=	26 °C (79° F)
	Atmospheric Pressure	=	622 mm Hg (24.5"Hg)
	Relative Humidity	=	84 %
	Total Air Leakage	=	3.0 L/sec (6.4 scfm)
	Extraneous (Tare) Air Leakage	=	2.6 L/sec (5.5 scfm)
	Net Specimen Air Leakage	=	0.4 L/sec (1.0 scfm)
	Air Leakage Rate	=	0.5 L/(sec• m ²)
		=	(0.1 scfm/ft ²) measured

The listed results were secured by using the designated test methods and were corrected to standard atmospheric conditions as required. Any modifications necessary to achieve the listed results are listed in Appendix A to this report. The airflow measuring equipment was calibrated using precision fixed orifice air flow plates attached to a 48" x 72" calibration buck. The most recent calibration of the equipment was completed within (6) months of the test date listed on the report and is verified on a monthly basis.



This test report was prepared by Molimo, for the exclusive use of the above-named client. The results are for the particular specimen tested and do not imply the quality of similar or identical products manufactured or installed from specifications identical to the tested product. The test specimen was supplied to Molimo by the above-named client. Molimo is a testing lab and assumes that all information provided by the client is accurate and does not guarantee or warranty any product tested or installed. All tests were conducted in compliance with the ANSI/NFRC 400 and ASTM E283 requirements. This report may not be reproduced, except in full, without the written consent of Molimo.

Air Infiltration values included in this report are not meant to be used for NFRC labeling purposes. Official NFRC Rating values may be obtained by submitting this report to an NFRC Licensed Inspection Agency for certification purposes. Only those options identified on a valid Certificate of Authorization (CA) are to be used for labeling purposes. An estimate of the experimental uncertainty for these results is available upon request.

APPENDIX A

Section 1:

Modifications to the Test Specimen to Achieve the Listed Results

Any modifications (if applicable) are included in the test specimen description listed in this report.

Section 2:

Component Drawings, with Applicable Part Numbers, Manufacturing and Modeling Details, were Reviewed (as submitted) for Product Verification
(Reference: 27481.02-111-18)

See Attached Documentation; any deviations noted.

Note: The above referenced component drawings along with representative sections of the test specimen will be retained per procedure by Molimo. This testing facility assumes that all information provided by the client is accurate.

Section 3:

<u>Identification</u>	<u>Date</u>	<u>Page & Revision</u>
Original Issue	07/17/24	Not Applicable



Molimo™

Architectural Product Testing

1410 Eden Rd, York PA 17402 | 717-916-6300

JANTEK INDUSTRIES, LLC.

NFRC THERMAL TEST SUMMARY REPORT

Report No: 27481.01-111-18

Test Specimen

		<u>NFRC Code</u>
Manufacturer:	JANTEK INDUSTRIES, LLC.	
Series/Model:	Energy Miser	
Window Type:	Casement	CSSV
Frame Composition:	Vinyl	VY
Sash/Vent/Panel Composition:	Vinyl	VY
Thermal Break Mat'l:	Not Applicable	NA
Overall Size:	610 mm (24") wide by 1499 mm (59") high	

Glazing Description

	1.148" Overall w/ Low E and Argon	
No. of Glazing Layers (including films):	Three	3
Primary Glazing:	Triple Glazed	TG
Spacer Type:	Aluminum	A8-S
Gap Fill 1:	Argon/ Air (95% Double Probe)	ARG
Gap Fill 2:	Argon/ Air (95% Double Probe)	ARG
Glass/Film Thicknesses (ext to int):	0.098", 0.098", 0.098"	
Air Gap 1:	0.427"	
Air Gap 2:	0.427"	
Secondary Glazing:	Not Applicable	
Low Emissivity Coatings:		
Surface 2:	0.036	
Surface 4:	0.036	

Procedure: Standardized Thermal Transmittance (U_{st}) was determined using the NFRC 102-2023 procedure with a temperature of $69.8 \pm 0.5^\circ\text{F}$ on the room side of the specimen and $-0.4 \pm 0.5^\circ\text{F}$ on the weather side of specimen. The net air leakage across the test specimen was 0.0 cfm.

Test Results: Results of the test period 1434-1617 on 11/09/23 using the Equivalent CTS Method:

Thermal transmittance at test conditions (U_s):	0.21 BTU/hr/ft ² /°F
Standardized thermal transmittance of test specimen (U_{st}):	0.21 BTU/hr/ft²/°F

Reference should be made to Thermal Performance Test Report Number 27481.01-111-18 for complete specimen description and test data.

MOLIMO Architectural Product Testing

Performed By:

Bryce Peters
Technician

Reviewed By:

John W. Gordon
Person In Responsible Charge



Molimo™

Architectural Product Testing

1410 Eden Rd, York PA 17402 | 717-916-6300

Report Number	27481.01-111-18
Report Date	07/17/24
Report To	JANTEK INDUSTRIES, LLC. 230 Route 70 East Medford, New Jersey 08055
Test Start Date	11/09/23
Test End Date	11/09/23
Specification	NFRC 102-2023 "Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems"

Description of Sample Tested

Note: All dimensions are in the order (Width x Height x Thickness) unless otherwise noted.

Model/ Series	Energy Miser
Configuration	Casement
Frame Size	<u>Overall</u> 610 mm x 1499 mm (24" x 59")
Vent Size	562 mm x 1454 mm (22.125" x 57.25")
Viewing Area	457 mm x 1499 mm (18" x 59")
Frame & Vent Type	Extruded polyvinyl chloride (PVC)
Joint Construction	<u>Frame & Vent</u> Mitered, welded
Glazing Components	
Overall	29 mm (1.148") nominal
Glass Thickness	(3) Lites of 2 mm (0.098") nominal annealed glass
Coating	A Climateguard 70/36 sputter-type low emissivity coating (e=0.036 per client) was applied to glazing surface nos. 2 and 4.

Spacer Type/Size	10.85 mm (0.427") Aluminum spacer (Type A8-S)
Fill	(2) Argon 95% double probe per client
Glazing System	Exterior glazed with a foam tape back-bedding and a snap-in-place vinyl glazing bead
Weatherstrip	
Type	(2) Strips bulb vinyl
Location	Perimeter of vent
Type	(1) Strip bulb vinyl
Location	Perimeter of frame
Operating Hardware	
Locks	
Type	Single handle 3-Point integrated locking system
Location	229 mm (9") From bottom of the lock jamb with lock points on lock jamb
Keeper	
Type	Metal
Location	Corresponding lock locations
Roto-Operator	
Type	Scissors-type
Location	305 mm (12") From end of sill at the lock jamb
Hinge Hardware	
Type	Metal multi-bar hinge
Location	Rails, head and sill at hinge jamb
Auxiliary	
Type	(2) Snubbers on hinge stile/jambs
Location	457 mm (18") and 978 mm (38.5") From the bottom of the hinge stile/ jambs
Reinforcement	No reinforcement employed
Weep Description	
Size	12.7 mm (0.500") Wide by 6.35 mm (0.25") high
Location	51 mm (2") From each end of the bottom rail
Interior Surface Finish	White vinyl (PVC)
Exterior Surface Finish	White vinyl (PVC)

Sealant No apparent sealant applied

Insect Screen No screen employed

Nail Fin Nail fin removed

GLASS THICKNESS AND GLAZING DEFLECTION:

	<u>Glass Thickness</u>	<u>Glazing Deflection Before Test</u>	<u>Glazing Deflection After Test</u>
Vent:	0.098", 0.098", 0.098"	0.01"	0.02"

PROJECTED FRAME DIMENSIONS OF MEMBERS:

Member:	Head	Jamb	Sill
Dimension:	3.00"	2.25"	5.25"

MEASURED TEST DATA:

Heat Flows

Total Measured Metering Box Input (Q_{total})	222.09	BTU/hr
Surround Panel Heat Flow (Q_{SP})	78.57	BTU/hr
Surround Panel Thickness	4	Inches
Surround Panel Conductance	0.0479	BTU/hr•ft ² •°F
Metering Box Wall Heat Flow (Q_{mb})	-2.01	BTU/hr
EMF vs. Heat Flow equation (equivalent information)	9593.9 x EMF + -5.51	BTU/hr
Flanking Loss Heat Flow (Q_{fl})	N/A	BTU/hr
Net Specimen Heat Loss (Q_s)	145.53	BTU/hr

Areas

Specimen, Projected (A_s)	9.83	ft ²
Specimen, Projected Frame Area (A_f)	-3.63	ft ²
Specimen, Projected Glazing Area (A_g)	13.47	ft ²
Metering Box Opening (A_{mb})	34.38	ft ²
Metering Box Baffle (A_{b1})	31.79	ft ²
Surround Panel Interior Exposed (A_{sp})	24.55	ft ²

Test Conditions

Average Metering Room Air Temperature	69.80 °F
Average Cold Side Air Temperature	-0.40 °F
Average Guard Air Temperature	69.95 °F
Metering Room Average Relative Humidity	10.56 %
Measure Cold Side Wind Velocity (Parallel Flow)	8.37 mph
Measured Static Pressure Difference Across Test Specimen	0.00 psf
Surround Panel Warm Side Surface Temperature	67.11 °F
Surround Panel Cold Side Surface Temperature	0.34 °F

Thermal Transmittance

Specimen Thermal Transmittance (U_s)	0.21 BTU/hr•ft ² •°F
Standardized Thermal Transmittance (U_{st})	0.21 BTU/hr•ft ² •°F

CALCULATED TEST DATA:
CTS Method

Warm Side Emittance of CTS (e_1)	0.84
Warm Side Emittance of Frame (e_{f1})	0.90
Warm Side Emittance of Glazing (e_{g1})	0.84
Warm Side Emittance of Surround Panel (e_{sp1})	0.90
Warm Side Area-weighted surface Emittance (e_{s1})	0.88
Warm Side Baffle Emittance (e_{b1})	0.89
Cold Side Baffle Emittance (e_{b2})	0.89
Equivalent Warm Side Surface Temperature (t_1)	59.02 °F
Equivalent Cold Side Surface Temperature (t_2)	2.32 °F
Warm Side Baffle Surface Temperature	69.22 °F
Cold Side Baffle Surface Temperature	-0.03 °F
Measured Warm Side Surface Conductance (h_h)	1.37 BTU/(hr•ft ² •°F)
Measured Cold Side Surface Conductance (h_c)	5.44 BTU/(hr•ft ² •°F)
Test Specimen Thermal Conductance (C_s)	0.26 BTU/(hr•ft ² •°F)
Convection Coefficient (K_c)	0.35 BTU/hr•ft ² •°F ^{1.25}
Radiative Test Specimen Heat Flow (Q_{r1})	78.34 BTU/hr
Conductive Test Specimen Heat Flow (Q_{c1})	67.19 BTU/hr
Radiative Heat Flux of Test Specimen (q_{r1})	7.97 BTU/(hr•ft ²)
Convective Heat Flux of Test Specimen (q_{c1})	6.83 BTU/(hr•ft ²)
Standardized Warm Side Surface Conductance (h_{hsth})	1.23 BTU/(hr•ft ² •°F)
Standardized Cold Side Surface Conductance (h_{stc})	5.28 BTU/(hr•ft ² •°F)
U_{st} , Standardized Thermal Transmittance	0.21 BTU/(hr•ft ² •°F)

TEST DURATION:

The environmental systems were started at 02:50 PM on 11/08/23.

The test parameters were considered stable for five consecutive time constants from 02:38 PM on 11/09/23 to 05:12 PM on 11/09/23. The thermal performance test results were derived from this period.

TEST STATEMENTS

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

The test sample was installed in the vertical orientation. The exterior of the specimen was exposed to the cold side. The direction of heat flow was from the interior side to the exterior side.

The experimental uncertainty for this test was 1.1%.

“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.”

“Ratings included in this report are for submittal to an NFRC-licensed IA for certification purposes and are not meant to be used for labeling purposes. Only those options identified on valid Certificate of Authorization (CA) are to be used for labeling purposes.”

The Standardized Thermal Transmittance (U_{st}) was determined using the CTS method per NFRC 102.

Molimo is an NFRC accredited testing laboratory and testing is conducted in compliance with NFRC procedures.

Rounding of numerical values shall be per NFRC 601, NFRC Unit and Measurement Policy

CALIBRATION

Required calibrations for Molimo thermal test chamber: Asset 00449 were performed in June 2024. A CTS calibration check was performed in June 2024.

REPORT AND RESULTS HANDLING

This report and accompanying files and drawings will be retained by Molimo for a minimum of five years from the original report date.

Representative samples of the test specimen will be retained by Molimo for a Minimum of two and a half years from the date the report is submitted to the IA.

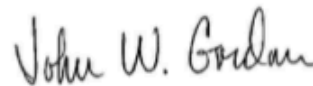
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MOLIMO Architectural Product Testing:



Bryce Peters
Technician



John W. Gordon
Person In Responsible Charge

BP:dro

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Drawings (15)