



Quality Accuracy Assurance

Fenestration Testing Laboratory, Inc.

8148 N.W. 74th Avenue Medley, FL 33166 Phone: (305) 885-3328 Fax: (305) 885-3329 (888) 819-7877
e-mail: clientservices@ftl-inc.com www.ftl-inc.com

Report Date: 9/24/2015
Test Date: 8/25/2015
Expiration Date: 8/25/2019
Lab Number: 8661
Project Number: 15-5995
Revision Number: 0

THERMAL PERFORMANCE TEST REPORT

Manufacture: Coral Architectural Products

Address: 7704B Industrial Lane
Tampa, Florida 33637

Specifications: ANSI/NFRC 102-2014: Test Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems.

PRODUCT DESCRIPTION

Model Designation:	Series: PW257 Impact Curtain Wall
Operating Type:	GWWW
Overall Size:	2000mm (79") by 2000mm (79") high
NFRC Standard Size:	2000mm (79") by 2000mm (79") high

Frame Construction

Frame Material, Color and Finish:	(AL) Painted gray aluminum alloy non thermally broken
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Glazing Description

Layer 1:	1/4" clear glass **(Sungate 500 on surface #2)
Gap:	1/2" gap using a Super Spacer
Layer 2:	1/4" clear-0.090 SGP-1/4" clear

**as per manufacture

Glazing Method

Interior Condition:	Silicone and vinyl gasket
Exterior Condition:	EPDM

Gas Type	Filling Technique	Gas Fill Percentage
None	None	None

**as per manufacture

Daylight Opening

Left and Right Sections	35 3/4" by 74" high
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Weather Stripping

Quantity	Description	Location
Single row	**EPDM thermal isolator gasket	Behind each pressure plate
Single row	**EPDM gasket	Between the frame head and pressure plate

**as per manufacture



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Hardware		
Quantity	Description	Location
None	None	None

Weep Holes		
Quantity	Description	Location
None	None	None

Reinforcement	
Material	Location
None	None

Dividers/Grids		
Grid Size	Material	Grid Pattern
None	None	None



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Measured Test Data

Heat Flows

- | | |
|---|--------------------------------|
| 1. Total Measured Input into Metering Box (Qtotal) | 1533.04 Btu/hr |
| 2. Surround Panel Heat Flow (Qsp) | 126.61 Btu/hr |
| 3. Surround Panel Thickness | 7.0 inches |
| 4. Surround Panel Conductance | 0.03 Btu/hr·ft ² ·F |
| 5. Metering Box Wall Heat Flow (Qmb) and Flanking Heat Flow (Qfl) | -4.34 Btu/hr |
| 6. EMF vs Heat Flow Equation (equivalent information) | -7.81x35.61 |
| 7. Net Specimen Heat Loss (Qs) | 1413.78 Btu/hr |

Areas

- | | |
|---|------------------------|
| 1. Test Specimen Projected Area (As) | 43.34 ft ² |
| 2. Test Specimen Interior Total (3-D) Surface Area (Aint) | 67.01 ft ² |
| 3. Test Specimen Exterior Total (3-D) Surface Area (Aext) | 50.12 ft ² |
| 4. Metering Box Opening Area (Amb) | 103.78 ft ² |
| 5. Metering Box Baffle Area (Ab1) | 92.91 ft ² |
| 6. Surround Panel Interior Exposed Area (Asp) | 60.44 ft ² |

Test Conditions

- | | |
|---|----------|
| 1. Average Metering Room Air Temperature | 69.80 F |
| 2. Average Cold Side Air Temperature | -0.31 F |
| 3. Average Guard/Environmental Air Temperature | 72.98 F |
| 4. Metering Room Average Relative Humidity | 9.8 % |
| 5. Measured Cold Side Wind Velocity (Perpendicular Flow) | 11.9 mph |
| 6. Measured Static Pressure Difference Across Test Specimen | 0.0 psf |

Surface Temperature Data

- | | |
|-----------------------------|---------|
| 1. Warm side surround panel | 65.98 F |
| 2. Cold side surround panel | 1.21 F |

Results

- | | |
|--|--------------------------------|
| 1. Thermal Transmittance of Test Specimen (Us) | 0.47 Btu/hr·ft ² ·F |
| 2. Standardized Thermal Transmittance of Test Specimen (Ust) | 0.44 Btu/hr·ft ² ·F |



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Calculated Test Data

CTS Method

1. Emittance of Glass (e_1)	0.84
2. Warm Side Baffle Emittance (eb_1)	0.92
3. Equivalent Warm Side Surface Temperature	47.15 F
4. Equivalent Cold Side Surface Temperature	6.10 F
5. Warm Side Baffle Surface Temperature	68.21 F
6. Measured Warm Side Surface Conductance (hh)	1.44 Btu/hr·ft ² ·F
7. Measured Cold Side Surface Conductance (hc)	5.09 Btu/hr·ft ² ·F
8. Test Specimen Thermal Conductance (C_s)	0.79 Btu/hr·ft ² ·F
9. Convection Coefficient (K_c)	0.34 Btu/(hr·ft ² ·F ^{1.25})
10. Radiative Test Specimen (Q_{r1})	677.94 Btu/hr
11. Conductive Test Specimen Heat Flow (Q_{c1})	735.82 Btu/hr
12. Radiative Heat Flux of Test Specimen (q_{r1})	15.64 Btu/hr·ft ² ·F
13. Convective Heat Flux of Test Specimen (q_{c1})	16.98 Btu/hr·ft ² ·F
14. Standardized Warm Side Surface Conductance (h_{sth})	1.21 Btu/hr·ft ² ·F
15. Standardized Cold Side Surface Conductance (h_{stc})	5.28 Btu/hr·ft ² ·F
16. Standardized Thermal Transmittance (U_{st})	0.44 Btu/hr·ft ² ·F

Test Duration

1. The environmental systems were started at 15:34 hours, on 8/24/2015.
2. The test parameters were considered stable for two consecutive four hour test periods from 02:34 hours, on 8/25/2015 to 10:34 hours, on 8/25/2015.
3. The thermal performance test results were derived from 06:34 hours, on 8/25/2015 to 10:34 hours, on 8/25/2015.

The reported Standardized Thermal Transmittance (U_{st}) was determined using CTS method per Section 8.2 (A) of NFRC 102.

Glazing Deflection (in.)	Left Section	Right Section
Gap width upon receipt of sample in laboratory	1/2"	1/2"
Gap width at laboratory ambient condition on day of testing	1/2"	1/2"
Center of gap at conclusion of test	3/8"	7/16"



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Remarks

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.

The calibration of Fenestration Testing Laboratory's "thermal test chamber" was conducted in June 2015.

"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 values identified on a valid Certification Authorization Report (CAR) are to be used for labeling purposes."

The test sample was installed in a vertical orientation; the exterior of the specimen was exposed to the cold side. The direction of heat was from the interior (warm side) to the exterior (cold side) of the specimen.

Drawings referenced in this document are an integral part of this report, therefore, are required when distributing this test report. Test results obtained represent the actual value of the tested specimens and do not constitute opinion, endorsement or certification by this laboratory.

This test report is considered the exclusive property of the client named herein and is applicable to the sample tested. This report may not be reproduced without the approval of Fenestration Testing Laboratory, Inc and if so must be in full.

Rounding of numerical values are per NFRC 601, NFRC Unit and Measurement Policy.

Testing was conducted in full compliance with NFRC requirements.

As per the client, the sample described in this test report was a production line for initial certification.

An estimate of the measurement of uncertainty for these results is available upon request.



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Revision History Table			
Revision	Description	Author	Effective Date
0	Initial Release	Jose Sanchez	9/24/2015

FENESTRATION TESTING LABORATORY, INC.

Jose Sanchez

Jose Sanchez
Test Performed by

Jose Sanchez
Person - in- Responsible- Charge



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APPENDIX

Fenestration Product Drawings and Bill of Material



PW257 AAMA 507
NFERC CMAST SUBMITTAL
DRAWINGS

INDEX TO DRAWINGS	
1	INDEX TO DRAWINGS AND NOTES
2	STANDARD FRAMING ELEVATION
3	STANDARD FRAMING DETAILS
4	BILL OF MATERIALS
5	DIE DRAWINGS

Tested Sample complies with this
detail except where noted
Laboratory Report Number: 8661
Date: 11/24/2015
Initials: JS

[illegible]

BILL OF MATERIALS

ITEM NO.	P/N	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1	NG10	GLAZING GASKET	.561 x .350	EPDM	VARIES	USED ON EXT. AND INT.
2	SB18	SETTING BLOCK	0.188 X 1.561 X 0.084	EPDM	VARIES	
3	995	STRUCTURAL SEALANT	VARIABLE SPACE	SILICONE	DOW	
7	PW650	VERTICAL MULLION/JAMB	2.50 X 5 X .078	6063-T6 ALUMINUM	CORAL	
8	PW655	HORIZONTAL MULLION	6.480 X 2.390	6063-T6 ALUMINUM	CORAL	
9	PW202	VERTICAL FILLER	4.484 X .681	6063-T6 ALUMINUM	CORAL	
11	PW204	PRESSURE BAR	2.427 X .433	6063-T6 ALUMINUM	CORAL	
12	PW652	HEAD/SILL JAMB	2.390 X 6.387 X .078	6063-T6 ALUMINUM	CORAL	
13	PW203	SILL/HEAD/HORIZONTAL COVER	2.50 X 4.460	6063-T6 ALUMINUM	CORAL	
14	PW205	PRESSURE PLATE COVER	2.50 X .500	6063-T6 ALUMINUM	CORAL	
22	AS16	TYPICAL SPLINE SCREW	#14 X 1" HHSTS	STEEL	VARIES	TYPICAL SPLINE SCREW
25	NG11	GASKET	.340 x .403	EPDM	VARIES	
26	NG12	ISOLATER GASKET	.625 x .35	EPDM	VARIES	
27	AS32	SCREW	#12 x 1-1/4"	ZINC PLATED STEEL	VARIES	USED AT HEAD, SILL, AND HORIZONTAL
NA	AS53	HEX CAP BOLT SCREW	1/4-20 X 3"	STAINLESS STEEL	VARIES	
NA	AS54	FLAT WASHER	1/4"	STAINLESS STEEL	VARIES	
NA	AS55	LOCK NUT WITH NYLON INSERT	1/4"-20	STAINLESS STEEL	VARIES	

Tested Sample complies with this detail except where noted

Laboratory Report Number: 8661

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PW257 AAMA 507
NFRC CMAST
SUBMITTAL DRAWINGS
BILL OF MATERIALS

PROJECT NO.	
AAMA PW257	
DRAWN MJ	DATE 06-OCT-15
CHECKED	APPROVED

