HURRICANE TEST LABORATORY, LLC
TESTING AND EVALUATION SOLUTIONS
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MANUFACTURER'S IDENTIFICATION

1.0 NAME OF APPLICANT: CPFilms, Inc.
P.O. Box 5068
Martinsville, Virginia 24112
(276) 627-3366

2.0 CONTACT PERSON: Andres A. Vasquez

3.0 HTL TEST NOTIFICATION #: N/A

4.0 HTL LAB CERTIFICATION: Miami-Dade County (04-0806.02) and Florida Building Code # TST3892

PRODUCT IDENTIFICATION

5.0 Product Type: Window Film

6.0 Model Number: SCL SR PS8

7.0 Performance Class: +/- 50 psf

8.0 Overall Sample Size: 47" (w) x 78-1/2" (h)

9.0 Configuration: Fixed

10.0 Sample Source: Samples provided by CPFilms, Inc.

PRODUCT DESCRIPTION

11.0 Frame Assembly: The frame used in this sample was fabricated using the following aluminum extrusions:

Description	Size	Material
Framing	2.625" x 1.625" x 0.062"	6063-T6

The following procedures (typical) were utilized when assembling this individual frame:
Frame Corner Construction: At each frame corner, the frame members were square cut and butted together.
Frame Corner Sealant:

12.0 Glazing:

13.1 Glazing Material: The glazing material used in these units was ¼" annealed glass with SCL SR PS8 window film.

13.2 Glazing Method: Each glass lite used in these units were glazed using the following (typical) procedures:
Interior Side: ½" x ½" bead of Tremco Proglaze SSG silicone on top of a 5/8" x ½" glazing stop that was attached to the opening using # 8 x 1-1/4" hex head S.M.S. located 3" from the corners and 9" o.c. thereafter.
Exterior Side: Tremco Proglaze SSG silicone.

13.3 Daylight Opening:

Qty.	Daylight Opening	Glass Bite
1	42" (w) x 73-1/2" (h)	5/8"

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1/31/07
Vinu J. Abraham, P.E.
FL Reg. # 53820

13.0 Sealant's Used:

Location	Sealant
Glazing Sealant	Tremco Proglaze SSG
Perimeter Sealant	Dow Corning 795 Silicone Sealant

INSTALLATION

14.0 Following is a description of how this sample was installed in the wood test buck (using 2 x 6 wood studs) when viewed from the exterior side:

Location	Anchor Description & Schedule
Frame to Wood	#10 x 2-1/4" wod screws located 3" from the ends and 12" o.c. thereafter.

TEST RESULTS

15.0 SUMMARY OF RESULTS:

Test Method	Test Conditions	Test Conclusion
Test Unit # 56		
Air Infiltration Test (ASTM E283)	1.57 psf & 6.24 psf	PASS
Water Infiltration Test (ASTM E331)	7.5 psf	PASS
Uniform Static Load Test (ASTM E330)	+/- 50 psf Design Pressure	PASS
Specimen # 1, 38, and 39		
Test Method	**Test Conditions**	**Results**
Large Missile Impact Test (ASTM E1886 and E1996)	Missile Level C	PASS
Cyclic Load Test (ASTM E1886 and E1996)	+/- 80 psf Design Pressure	

16.0 AIR INFILTRATION TEST RESULTS (ASTM E283):

Test Pressure	Measured	Allowed
1.57 psf	0.02 cfm/ft^2	0.30 cfm/ft^2
6.24 psf	0.06 cfm/ft^2	N/A

17.0 WATER LEAKAGE TEST RESULTS:

Test Pressure	Spray Rate	Test Duration	Measured	Allowed
7.50 psf	5.0 GPH/ft^2	15.00 min.	No Entry	No Entry

18.0 UNIFORM STATIC LOAD TEST RESULTS:

18.1 LOAD DATA

Positive Load		Negative Load	
Load (psf)	**Result**	**Load (psf)**	**Result**
37.5	PASS	**37.5**	PASS
50	PASS	**50**	PASS
75	PASS	**75**	PASS

18.2 REMARKS:

No signs of failure were observed in any area of this test specimen during the uniform static load test. As such, this specimen was found to satisfy the uniform static load test requirements of ASTM E330.

19.0 MISSILE IMPACT TESTS

19.1 IMPACT DATA:

Impact #	Missile Weight (lb.)	Missile Length (in.)	Velocity (ft/s)	Glass Temp. (°F)	X Coordinate (in.)	Y Coordinate (in.)
SPECIMEN # 1 (shot @ geometric center)						
1	4.4	46.5	42.02	80.5	24.00	39.00
SPECIMEN # 38 (shot @ top right corner)						
1	4.4	46.5	40.76	81.5	39.50	68.00
SPECIMEN # 39 (shot @ bottom left corner)						
1	4.4	46.5	41.12	79	10.00	19.00

19.2 IMPACT LOCATIONS AND REMARKS:

Each impact test conducted on these specimens was performed in accordance with the requirements of ASTM E1996. All of the impacts hit their intended targets resulting in the recorded measurements. Upon completion of the missile impact tests, these samples subsequently underwent the cyclic load test as specified by ASTM E1886/E1996.

20.0 CYCLIC LOAD TEST

20.1 CYCLIC TEST PRESSURE:

CYCLIC TEST PRESSURE	
$(P_d)_{in} = P_{max}$	$(P_d)_{out} = P_{max}$
80 psf	80 psf

20.2 CYCLIC LOAD SPECTRUM:

20.2.1 POSITIVE CYCLIC LOAD SPECTRUM:

# OF INWARD ACTING CYCLES/ STAGE			
3500	**300**	**600**	**100**
16 – 40 (psf)	0 – 48 (psf)	40 – 64 (psf)	24 – 80 (psf)

20.2.2 NEGATIVE CYCLIC LOAD SPECTRUM:

# OF INWARD ACTING CYCLES/ STAGE			
50	**1050**	**50**	**3350**
24 – 80 (psf)	40 – 64 (psf)	0 – 48 (psf)	16 – 40 (psf)

20.3 REMARKS:

These samples were inspected carefully upon completion of the cyclic test for failures. None were found. As such, these specimens were found to satisfy the cyclic test requirements of ASTM E1886/E1996.

MISCELLANEOUS INFORMATION

19.0 CERTIFICATION & DISCLAIMER STATEMENT:

All tests performed on this test specimen were conducted in accordance with the specifications of the applicable codes, standards & test methods listed below by the Hurricane Test Laboratory, LLC located at 1701 Westfork Drive, Suite 106, Lithia Springs, Georgia 30122. HTL does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested at HTL. HTL is not owned, operated or controlled by any company manufacturing or distributing products it tests. This report is only intended for the use of the entity named in section 1.0 of this report. Detailed assembly drawings showing wall thickness of all members, corner construction and hardware applications are on file and have been compared to the test specimen submitted. A copy of this test report along with representative sections of the test specimen will be retained at HTL for a period of four (4) years. All results obtained apply only to the specimen tested and they do indicate compliance with the performance requirements of the test methods and specifications listed in the following section. Please note that a copy of this report will be forwarded to the AAMA Validator if requested and that this report does not constitute AAMA certification of this product, which may only be granted by the AAMA Validator.

20.0 APPLICABLE CODES, STANDARDS & TEST METHODS:

ASTM E283 - Standard Test Method For Determining The Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences.
ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
ASTM E331 – Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
ASTM E1886 – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.
ASTM E1996 – Standard Specification for Performance of Exterior Walls, Glazed Curtain Walls, Doors, and Storm Shutters Impacted by Windborne Debris in Hurricanes.

21.0 LIST OF OFFICIAL OBSERVERS:

Vinu J. Abraham, P.E. – HTL, CEO
José E. Colón, E.I. – HTL, Operations Manager
Kevin Rouse – HTL
Andrew Bush - HTL
Ian McKenzie – HTL
Al Fite – HTL
Andres Vasquez - CPFilms

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