

November 21, 2003
Page 1 of 6**1. PROJECT DATA**

Project: AAMA 450-00 Performance Test
Series 3180 Fixed / 3960 Twin Single Hung

Dates of Testing: October 23, 2003

Tested For: Action Window Technologies
1312 Crosby Rd
Carrollton, TX 75006

Witnessed By: (All or Partial Viewing)

Tony Rodriguez Action Window Technologies
Jay Halsey Action Window Technologies

Wesley A. Wilson Construction Consulting Laboratory, International

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2. INTRODUCTION

This report presents the performance results of Action Window Technologies Series 3180 PVC Fixed over Series 3950 PVC Twin Single Hung. Tests were conducted at Construction Consulting Laboratory, International, (CCLI) testing facility in Carrollton, TX.

3. SCOPE

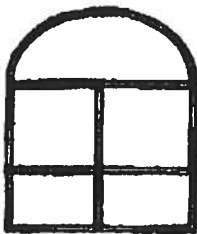
CCLI was requested to report the testing results for an Action Window Technologies Series 3180 / 3950. Tests were conducted in accordance with AAMA 450-00 and ASTM E 330-02.

4. SUMMARY

Action Window Technologies Series 3180 / 3950 was tested in accordance AAMA 450-00 and ASTM E 330-02 and achieved a Design 50 rating.

5. TEST SPECIMEN

PRODUCT TYPE:	PVC Fixed over PVC Twin Single Hung, Photograph, Appendix B, and Product Drawings, Appendix A
SERIES/MODEL:	Action Series 3180 fixed and Series 3950 Hung
SPECIFICATION:	AAMA 405-00
OVERALL SIZE:	5'-11 3/4" X 8'-11 1/16"
FIXED SIZE:	5'-11 3/4" X 3'-0"
HUNG SIZE:	2'-11 5/8" X 5'-11 1/2"
SASH SIZE:	2'-9 1/4" X 2'-5 9/16"
FRAME DIMENSION:	2.795"
CONFIGURATION:	





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Refer to Mock-Up drawing in Appendix A. This report is not complete unless this drawing is stamped and initialed by CCI as illustrated below.



CONSTRUCTION CONSULTING
LABORATORY INTERNATIONAL

1601 Luna Road
Carrollton Texas 75006
Phone (972) 242-0556

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Weather-strip: One row pile weather-strip with integral plastic fin (0.300" thickness) at the exterior face sash top rail. One row pile weather-strip with integral plastic fin (0.260" thickness) at the exterior and lateral face sash stiles. One row bulb vinyl with foam walls (0.500") diameter at the exterior leg beneath sash bottom rail.

Hardware: Cam action locks, one (1), 7" on center from each end of sash top rail, attached with two (2), #8 x 1" self tapping screws with keeper groove at fixed interlock rail. One tilt latch and one steel pivot bar at top and bottom of sash stiles. One spiral type balance per jamb for sash operation.

Glass Fixed Lite: 1/8" overall thickness sealed insulating glass, two pieces DSB with 1/8" swiggle strip air spacer.

Sash Glass: 1/8" overall thickness sealed insulating glass, two pieces SSB with 1/16" swiggle strip metal air spacer.

Glazing: Exterior glazed with silicone sealant at interior of glass and rigid vinyl snap-in glazing bead at exterior of glass.

Fixed Window Weep Arrangement: 1/2" x 1/4" weep slot spaced 5 3/4" from each end in the glazing pocket at frame sill with a 1" x 1/8" weep slot at the exterior of frame sill spaced 3 1/4" from each end.

Hung Weep Arrangement: 3/16" x 1/8" weep slot spaced 2 1/4" from each end in the glazing pocket punched through fixed interlock. 3/16" x 1/8" weep slot punched through sash bottom rail spaced 2 1/4" from each end. Screen retaining legs and frame sill center leg notched 1/4" at each end

Reinforcement: T-shaped extruded aluminum reinforcement at sash members and L-shaped at fixed interlock. T-shaped extruded aluminum at vertical and horizontal mullion.

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Installation: Test buck was constructed from nominal 2" x 6" and 2" x 4" at the perimeter with 1/2" OSB or strand board at the infil. Window opening is cut into the OSB and then framed with nominal 2" x 4" SPF. Window nail fin is attached through OSB into 2" x 4" with # 8 x 1 1/2" wood screws spaced 2-3" from each end and on approximately 12" centers.

Other Features: Frame and sash corners are mitered and welded. Fixed interlock reinforcement attached to frame jambs with one (1) #8 x 2" wafer head screw and one (1) 7/8" dia flat washer per end.

Mullion Features: Mullion brackets (steel plate 2 1/4" x 3 1/4" x 0.050"t) are attached to each end of horizontal mullion and bottom of vertical mullion with two (2) # 8 x 1" wafer or pan head screws into mullion screw spline, Photograph 2, Appendix B. Mullion brackets are then attached into test buck with two (2) #8 x 1 1/4" wood screws. Frame members are attached to extruded aluminum mullion with #8 x 1" screws spaced approximately 2-3" from each end and on 12" centers. Rigid vinyl mull cover is applied to the extruded aluminum mulls at interior and exterior face of mullion.

Date Tests Started: October 23, 2003

Date Tests Completed: October 23, 2003

Testing Performed at: Construction Consulting Laboratory, International in Carrollton, Texas

6. PERFORMANCE RESULTS

<u>Title Of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
Uniform Deflection @ Horizontal Mullion	ASTM E 330-02 (10 Second Duration)		
-Positive @ 60 PSF		.550"	.408"
-Permanent Set		.040"	.286"
-Negative @ 50 PSF		.595"	.408"
-Permanent Set		.080"	.286"
Uniform Deflection @ Vertical Mullion	ASTM E 330-02 (10 Second Duration)		
-Positive @ 50 PSF		.830"	.408"
-Permanent Set		.000"	.286"
-Negative @ 50 PSF		.890"	.408"
-Permanent Set		.050"	.286"

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Uniform Structural	ASTM E 330-02 (10 Second Duration)	
-Positive	75.00 PSF	75.00 PSF
-Negative	75.00 PSF	75.00 PSF
-Permanent Set (Horizontal)	.110	0.286"
-Permanent Set (Vertical)	.085	0.336"

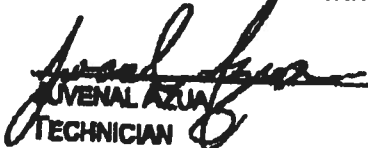
Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and were compared to the test sample submitted. These records will be retained at CCLI for a period of four years.

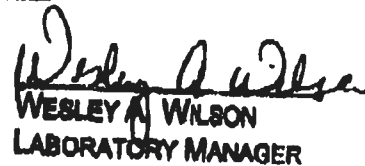
7. CONCLUSION

The tests noted in Section 6 of this report were conducted in accordance with the structural requirements of AAMA 450-00 using ASTM E 330-02.

Respectfully submitted,

CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL


JUVENAL AZUA
TECHNICIAN


WESLEY A. WILSON
LABORATORY MANAGER

CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL

