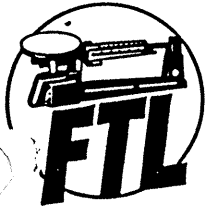


Rec 9-12-97



Quality Accuracy Assurance

Fenestration Testing Laboratory, Inc.

1677 West 31st Place Hialeah, FL 33012 Phone: 305/819-7877 Fax 305/819-7998

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Auth. No. FTL97025
Lab. Number 1648
June 11, 1997
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File Number 97-102
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OFFICIAL TEST REPORT

MANUFACTURER:	Kinco Limited	SPECIFICATIONS:	Metro Dade County
ADDRESS:	P.O. Box 6398 Jacksonville, Florida 32236		Protocol PA 202

DESCRIPTION OF UNIT

Model Designation: Mark 40/50 HP; Aluminum Single Hung Window
Overall Size: 4' 5" (53") by 6' 4 3/4" (76 3/4") high by 2.000" deep.
Configuration: O/X
No. & Size of Vents: One extruded aluminum vent, (A-1) 4' 3" (51") by 2' 7 1/4" (31 1/4") high; (A-2 & A-3) 4' 2" (50") by 2' 8 1/4" (32 1/4") high.

MATERIAL CHARACTERISTICS

Frame Construction: Unit A-1 tested with a nail fin type frame, 55 1/4" by 79 1/4" high overall, including nail fin. Unit A-2 and A-3 tested with a flange type frame. All units tested have butt joints with a white coated finish, aluminum *alloy 6063-T6. Frame corners fastened with two No. 8 by 1/2" pan head sheet metal screws. Fixed meeting rail fastened with one No. 8 by 1" pan head sheet metal screw. Overall interior frame sill height (A-1) 1.938", (A-2 & A-3) 2.188". *Size of frame members as follows: (Unit A-1) frame head 0.250" by 2.050" by 0.750"; frame sill 0.188" by 2.062" by 1.938"; frame jamb 1.188" by 2.000" by 1.500"; (A-2 & A-3) frame head 1.000" by 2.050" by 1.000"; frame sill 0.938" by 2.000" by 2.188"; frame jamb 1.188" by 2.000" by 2.000"; (A-1, A-2, A-3) fixed meeting rail (hollow extrusion) 1.064" by 1.550" by 2.100". Each frame member is a solid extrusion, except where noted, with a typical wall thickness of 0.062".

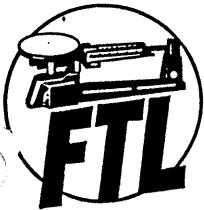
Vent Construction: Vent has butt joints with a white coated finish, aluminum *alloy 6063-T6. Vent corners fastened with one No. 8 by 1" pan head sheet metal screw. *Size of rails as follows: vent meeting rail (hollow extrusion) 0.812" by 1.500" by 0.984" by 2.000"; vent bottom rail 1.624" by 1.562" by 0.812" by 2.062"; vent jamb rails 0.812" by 0.382" by 0.937". Each are solid extrusions, except where noted, with a typical wall thickness of 0.062".

Glazing:
Material: Fixed light, 3/16" annealed glass; vent, double strength annealed (1/8") glass.
Method: Exterior glazed with 3/8" glazing penetration using a clear colored adhesive bedding compound, (A-1) *Schnee Morehead 5731 and (A-2 & A-3) *Tremco, and a rolled aluminum glazing bead.
Daylight Opening: A-1, clear opening of vent, 49" by 27 1/4" high; fixed light, 49 1/4" by 34 1/2" high. A-2 and A-3, clear opening of vent, 48 1/8" by 28 1/4" high; fixed light 48 1/8" by 41 7/8" high.

Weatherstripping:

Quantity	Description	Location
Single row	Pile with integral plastic fin, (A -1) *Amesbury Part #21018758GYWF++; (A-2, A-3) *Ultrafab 2021G	at each jamb rail of vent and vent meeting rail
Single row	Vinyl flap, (A-1) *Kawneer, (A-2) *Wiborg Part No. WV-2292, (A-3) *Vytron FP-415	at vent bottom rail

*as per manufacturers drawings



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MATERIAL CHARACTERISTICS

Hardware:

Quantity	Description	Location
Two	spring and pulley balance, * Caldwell Mfg. Series 86	one in each frame jamb at each vent jamb rail
Two	Adjustable spring loaded plastic hook lock, *Hughes Supply Part No. L049	at vent bottom rail, 7 1/2" from each end
Four	plastic vent guide, (A-1) *Progress Plastics Part No. L046; (A-2 & A-3) Hughes Part NO. L046	one at each jamb rail of vent, 3 1/2" from each end

Weepholes:

Quantity	Description	Location
Four	1 1/2" by 1/4" weep notch	at sill screen retainer leg, 3 1/4" and 24 3/4" from each end

Muntins: None

Mullions: None

Reinforcement: None

Sealants: Lower left frame corner and frame sill installation screws were sealed with clear colored sealant, *Schnee Morehead 5504.

Pads: One closed cell foam gasket at lower right frame corner, *Frank Lowe Rubber Company Part #M40SCP-1.

Screen: Water resistance test performed with and without fiberglass mesh screen installed. Size of screen, 49 1/8" by 30 1/2" high.

Unit Installation: *Unit A-1* tested in 2 X 12 test buck with a 2 X 2 pressure treated buck strip, installed with a single row of No. 8 by 1 1/4" flat head wood screws through nail fin frame at frame head and frame jambs. *Unit A-2 & A-3* tested in 2 X 12 test buck with a 1 X 3 beveled pressure treated buck strip, installed with a single row of No. 8 by 1 1/4" flat head wood screws in frame head and frame jambs. Approximate installation of screw spacing as follows: (*A-1*) frame head, 4 1/2" from each end; frame jambs, 4" from each end and on 22" centers; (*A-2 & A-3*) frame head, 4" from each end; frame jambs, from the bottom, 3", 16", 27 1/2", 34 1/4", 54 1/2", 74". No screws in frame sill.

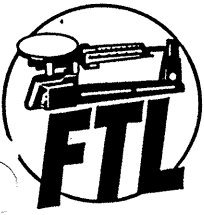
Product Markings: Kinco "AAMA" label in frame head.

*as per manufacturers drawings

OFFICIAL TEST RESULTS

Title of Test	Measured	Allowed
Unit A-1:		
Air Infiltration Test: (ASTM E283-96) at 1.57	0.13 cfm/ft.	Passed
1/2 Structural Load Test: (ASTM E330-96)		
Exterior Load	41.3 psf	Passed
Interior Load	41.3 psf	Passed
Uniform Design Load Test: (ASTM E330-96)		
Exterior Load	55.0 psf	Passed
Interior Load	55.0 psf	Passed
Permanent Deformation	0.028 inches	

John D. ...
9/18/97

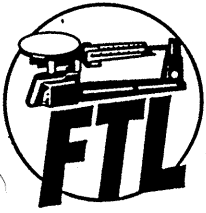


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OFFICIAL TEST RESULTS

Title of Test	Measured	Allowed
Unit A-1: (continued)		
Water Resistance Test: (ASTM E547-96/E331-96) with and without screen, no leakage at	8.25 psf	Passed
Uniform Structural Load Test: (ASTM E330-96)		
Exterior Load	82.5 psf	Passed
Interior Load	82.5 psf	Passed
Permanent Deformation	0.090 inches	0.204 maximum
Forced Entry Resistance Test AAMA 1303.2-1976, Paragraph 3.1.1 Test A through 3.1.5 Test G	No entry	Passed None Allowed
Starting Force:	19 pounds	Passed
Operating Force:	26 pounds	Passed
Deglazing Test: (ASTM E987-88)		Passed
No deglazement at		
Horizontal Rails	70 pounds	70 minimum
Vertical Rails	50 pounds	50 minimum
Percent Deglazement	2 percent	99 maximum
Unit A-2:		
Air Infiltration Test: (ASTM E283-96) at 1.57	0.150.11 cfm/ft.	Passed
½ Structural Load Test: (ASTM E330-96)		
Exterior Load	41.3 psf	Passed
Interior Load	41.3 psf	Passed
Uniform Design Load Test: (ASTM E330-96)		
Exterior Load	55.0 psf	Passed
Interior Load	55.0 psf	Passed
Permanent Deformation	0.021 inches	
Water Resistance Test: (ASTM E547-96/E331-96) with and without screen, no leakage at	8.25 psf	Passed
Uniform Structural Load Test: (ASTM E330-96)		
Exterior Load	82.5 psf	Passed
Interior Load	82.5 psf	Passed
Permanent Deformation	0.091 inches	0.200 maximum
Forced Entry Resistance Test AAMA 1303.2-1976, Paragraph 3.1.1 Test A through 3.1.5 Test G	No entry	Passed None Allowed

Allen Hancock
9/9/97

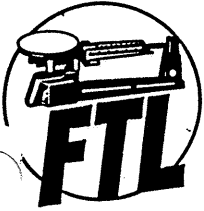


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OFFICIAL TEST RESULTS

Title of Test	Measured	Allowed
Unit A-2: (continued)		
Starting Force:	21 pounds	Passed
Operating Force:	25 pounds	Passed
Deglazing Test: (ASTM E987-88)		Passed
No deglazement at		
Horizontal Rails	70 pounds	70 minimum
Vertical Rails	50 pounds	50 minimum
Percent Deglazement	1 percent	99 maximum
Unit A-3:		
Air Infiltration Test: (ASTM E283-96) at 1.57	0.13 cfm/ft.	Passed
½ Structural Load Test: (ASTM E330-96)		
Exterior Load	41.3 psf	Passed
Interior Load	41.3 psf	Passed
Uniform Design Load Test: (ASTM E330-96)		
Exterior Load	55.0 psf	Passed
Interior Load	55.0 psf	Passed
Permanent Deformation	0.014 inches	
Water Resistance Test: (ASTM E547-96/E331-96) with and without screen, no leakage at	8.25 psf	Passed
Uniform Structural Load Test: (ASTM E330-96)		
Exterior Load	82.5 psf	Passed
Interior Load	82.5 psf	Passed
Permanent Deformation	0.081 inches	0.200 maximum
Forced Entry Resistance Test AAMA 1303.2-1976, Paragraph 3.1.1 Test A through 3.1.5 Test G	No entry	Passed None Allowed
Starting Force:	20 pounds	Passed
Operating Force:	23 pounds	Passed
Deglazing Test: (ASTM E987-88)		Passed
No deglazement at		
Horizontal Rails	70 pounds	70 minimum
Vertical Rails	50 pounds	50 minimum
Percent Deglazement	2 percent	99 maximum

John J. [Signature]
9/1/97



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continued:

Note: At conclusion of above tests, there was no apparent damage to unit, glass or fasteners.

Test Began - April 28, 1997
Test Completed - May 2, 1997

Remarks: This test report does not constitute certification of this product, but only that the above test results were obtained using the designated test methods and they indicate compliance with the performance requirements of the above referenced specifications and Metro Dade County Protocol PA 202.

Detailed assembly drawings showing wall thickness of all members, corner construction and hardware application are on file and have been compared to the sample submitted. A sample will be retained at the laboratory.

Note: Test specimens were covered with a 1.5 mil plastic sheeting to seal from air leakage when load tests were performed, however this had no effect on the above tests results.

Witnessed by:
Mr. Gilbert Diamond, P.E.
Mr. Jay Wyrick
Mr. Dan Duet

Laboratory Technicians:
Roque Zavala
Menahem Hadjez

✓ 4 - Kinco, Ltd.
2 - Kinco, Ltd. (Metro Dade County)

FENESTRATION TESTING LABORATORY, INC.

Manny Sanchez
President