



Quality Accuracy Assurance

Fenestration Testing Laboratory, Inc.

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Lab. Number 3029
 March 8, 2001
 Report Number 3
 File Number 01-102
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OFFICIAL TEST REPORT

MANUFACTURER:	Kinco Limited	DESIGNATION:	SGD-C45 193 x 96
ADDRESS:	P.O. Box 6398 Jacksonville, Florida 32236	SPECIFICATIONS:	ANSI/AAMA/NWWDA 101/I.S.2.-97

DESCRIPTION OF UNIT

Model Designation: Series: Mark-II HP; Aluminum Sliding Glass Door
Overall Size: 16' 11/16" (192 11/16") by 8' 0" (96") high by 4.344" deep
Configuration: OXXX

No. & Size of Panels: Four extruded aluminum panels with the left fixed panel and the right moving panel on the exterior track and the two center moving panels are on the interior track. Size of panels from the left: 4' 3/4" (48 3/4") by 7' 10 15/16" (94 15/16") high; 4' 3/4" (48 3/4") by 7' 10 15/16" (94 15/16") high; 4' 1 3/8" (49 3/8") by 7' 10 15/16" (94 15/16") high; 4" 2" (50") by 7' 10 15/16" (94 15/16") high

MATERIAL CHARACTERISTICS

Frame Construction: Test unit has an equal leg type frame, butt joints and a white coated finish. Aluminum alloy is 6063-T6, except where indicated. Frame corners were not fastened with screws. Frame sill has a mill finish and a 2 1/2" high overall interior sill flange. Size of frame members are as follows: frame head (alloy 6066-T6) 0.812" by 1.375" by 4.510"; frame sill 0.687" by 4.746" by 2.500"; frame jambs 1.000" by 4.344". Frame members are solid extrusions with typical wall thicknesses of 0.062".

Panel Construction: Panels have butt joints and a white coated finish. Aluminum alloy is 6063-T6. Upper panel corners were fastened with one No. 8 by 5/8" pan head stainless steel sheet metal screw. Lower panel corners were fastened with one 1/4-20 by 3/8" truss head machine screw. Size of stiles and rails are as follows: jamb stile and lock stile 1.000" by 1.750"; top rails 1.500" by 1.250" by 0.875"; bottom rails (solid extrusions) 0.875" by 2.500" by 0.078" wall thickness; right moving panel interlock stile 1.485" by 2.718" by 1.000"; interlock stiles 1.405" by 1.750" by 1.000"; female astragal stile 1.485" by 2.468" by 1.000". Panel members are hollow extrusions, except where indicated. Extrusions have typical wall thicknesses of 0.062", except where noted.

Glazing:

Material: 3/16" tempered glass.

Method: Panels are channel glazed with 0.450" glazing penetration using a flexible vinyl glazing channel.

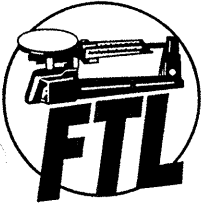
Daylight Opening: Clear opening of each panel is 45 1/8" by 91" high.

Weatherstripping:

Quantity	Description	Location
Single row	pile with integral plastic fin	on the interior and exterior of each panel bottom rail, each frame jamb, female astragal stile, panel top rails
Single row	pile with integral plastic fin	at each interlock stile
Four	1 7/16" long strip of pile	at top of each interlock stile at each weatherstrip groove

Hardware:

Quantity	Description	Location
Two	flush mount metallic hook lock, with no I.D. marks	one at each panel lock stile, 41" from bottom



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MATERIAL CHARACTERISTICS

Hardware: (continued)

<i>Quantity</i>	<i>Description</i>	<i>Location</i>
Two	surface mount aluminum keeper, with no I.D. marks	one at the female astragal stile and right frame jamb, 41" from bottom
Six	adjustable steel wheels in steel housing, with I.D. MBC 1102	one at each end of each moving panel bottom rail
Eight	1 3/8" long plastic guides, with no ID marks	one at each panel top rail, 1 3/4" from each end, fastened with one No. 8 by 1" pan head sheet metal screw
Two	rubber bumpers	one at the female astragal stile and right frame jamb, 37 3/4" from bottom
One	3/16" stainless steel security lock pin (FER only)	at right panel interlock stile, 61" from bottom

Weepholes:

<i>Quantity</i>	<i>Description</i>	<i>Location</i>
Six	1 1/2" long weep notch	one at each end of each panel and screen track

Reinforcement: One 1 1/4" by 3/8" by 90 3/4" long steel bar inside each interlock and two of same inside the astragal stile, (total of six).

Sealants: Frame corners seams and installation screws were sealed with a clear colored sealant.

Pads: One 1" by 2" long adhesive back pile pad in frame sill and frame head below and above the interlock stiles, total of four.

Screen: Water resistance tests were conducted with and without fiberglass mesh screens installed. Size of screens, 49" by 95 1/4" high and 49 3/4" by 95 1/4" high.

Additional Description: The fixed panel jamb stile was fastened to left frame jamb on the interior with one 1" by 1 3/8" by 0.045" by 1 1/4" long aluminum angle, 5 1/2" from each end, (total of two), fastened to frame with one No. 10 by 1" pan head sheet metal screw and to panel with one No. 8 by 5/8" pan head sheet metal screw.

Unit Installation: Test unit installed in a 2 x 12 wood test buck using a 2 x 4 pressure treated buck strip. Frame installed with a double row of No. 10 by 1" pan head sheet metal screws in frame head, frame sill and frame jambs. Location of installation screws are as follows: frame sill and frame head from the left, 5", 29 1/4", 52 1/2", 76 1/2", 95 1/2", 114 3/4", 138 3/4", 162 3/4" and 187"; frame jambs from the bottom, 5 1/2", 22", 38", 55 1/4", 72 1/2" and 90".

Product markings: None

OFFICIAL TEST RESULTS

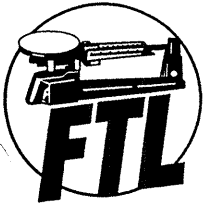
Paragraph Number	Title of Test	Measured	Allowed
2.1.2	Air Infiltration Test: (ASTM E283-96) at 1.57 psf	0.30 cfm/sq.ft. (1.67 cmh)	Passed 0.3 (1.67) maximum
<i>Note:</i> The tested specimen meets or exceeds the performance levels specified in specification referenced.			
2.1.3	Water Resistance Test: (ASTM E547-96/E331-96) with and without screen, no leakage at	8.80 psf (421 pa)	Passed 4.50 (215) minimum
2.1.4.2	Uniform Structural Load Test: (ASTM E330-96) Positive Load	67.5 psf (3232 pa)	Passed 45.0 (2155) minimum
		Deflection	Permanent Set
	Reading at lock stile	1.290" (32.80 mm)	0.056" (1.42 mm)
	Reading at interlocks	2.615" (66.50 mm)	0.079" (2.01 mm)
	Reading at frame sill	0.008" (0.20 mm)	0.002" (0.05 mm)
	Reading at frame jamb	0.004" (0.10 mm)	None
			0.379 (9.64) maximum 0.379 (9.64) maximum



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Paragraph Number	Title of Test	Measured	Allowed
2.1.4.2	Uniform Structural Load Test: (ASTM E330-96)		Passed
	Negative Load	67.5 psf (3232 pa)	45.0 (2155) minimum
		Deflection	Permanent Set
	Reading at lock stile	3.157" (80.28 mm)	0.088" (2.24 mm)
	Reading at interlocks	3.595" (91.42 mm)	0.075" (1.91 mm)
	Reading at frame sill	0.105" (2.67 mm)	0.010" (0.25 mm)
	Reading at frame jamb	0.032" (0.81 mm)	0.003" (0.08 mm)
2.1.8	Forced Entry Resistance Test AAMA 1303.5-1976, Paragraph 3.1.1 Test A through 3.1.5 Test G	No entry	Passed None Allowed
2.2.19.5.1	<i>Left panel</i>		Passed
	Break Away Force:	20 pounds (89 n)	30 (133) maximum
	Opening Motion Force:	15 pounds (67 n)	20 (89) maximum
	Closing Motion Force:	16 pounds (71 n)	20 (89) maximum
2.2.19.5.1	<i>Center panel</i>		Passed
	Break Away Force:	19 pounds (84 n)	30 (133) maximum
	Opening Motion Force:	14 pounds (62 n)	20 (89) maximum
	Closing Motion Force:	16 pounds (71 n)	20 (89) maximum
2.2.19.5.1	<i>Right panel</i>		Passed
	Break Away Force:	21 pounds (93 n)	30 (133) maximum
	Opening Motion Force:	16 pounds (71 n)	20 (89) maximum
	Closing Motion Force:	18 pounds (80 n)	20 (89) maximum
2.2.19.5.2	<i>Left panel</i>		Passed
	Deglazing Test: (ASTM E987-88)		
	No disengagement at:		
	Vertical Stiles	70 pounds (311)	70 (311) minimum
	Horizontal Rails	50 pounds (222)	50 (222) minimum
	Percent Deglazement	13 percent	99 maximum
2.2.19.5.2	<i>Right panel</i>		Passed
	Deglazing Test: (ASTM E987-88)		
	No disengagement at:		
	Vertical Stiles	70 pounds (311)	70 (311) minimum
	Horizontal Rails	50 pounds (222)	50 (222) minimum
	Percent Deglazement	14 percent	99 maximum
2.2.19.5.2	<i>Center panel</i>		Passed
	Deglazing Test: (ASTM E987-88)		
	No disengagement at:		
	Vertical Stiles	70 pounds (311)	70 (311) minimum
	Horizontal Rails	50 pounds (222)	50 (222) minimum
	Percent Deglazement	13 percent	99 maximum



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Paragraph Number	Title of Test	Measured	Allowed	
SECTION 4, OPTIONAL PERFORMANCE CLASS:				
4.3	Water Resistance Test: (ASTM E547-96/E331-96) with and without screen, no leakage at	8.80 psf (421 pa)	Passed 5.25 (251) minimum	
4.4.2.	Uniform Structural Load Test: (ASTM E330-96) Positive Load	67.5 psf (3232 pa)	Passed 52.5 (2514) minimum	
		Deflection	Permanent Set	
	Reading at lock stile	1.290" (32.80 mm)	0.056" (1.42 mm)	0.379 (9.64) maximum
	Reading at interlocks	2.615" (66.50 mm)	0.079" (2.01 mm)	0.379 (9.64) maximum
	Reading at frame sill	0.008" (0.20 mm)	0.002" (0.05 mm)	
	Reading at frame jamb	0.004" (0.10 mm)	None	
4.4.2	Uniform Structural Load Test: (ASTM E330-96) Negative Load	67.5 psf (3232 pa)	Passed 52.5 (2514) minimum	
	Reading at lock stile	3.157" (80.28 mm)	0.088" (2.24 mm)	0.379 (9.64) maximum
	Reading at interlocks	3.595" (91.42 mm)	0.075" (1.91 mm)	0.379 (9.64) maximum
	Reading at frame sill	0.105" (2.67 mm)	0.010" (0.25 mm)	
	Reading at frame jamb	0.032" (0.81 mm)	0.003" (0.08 mm)	

Note: At conclusion of above tests, there was no apparent damage to unit, glass or fasteners and the panels were operable.

Temperature: 71.0 F

Barometric Reading: 30.24

Test Began - February 12, 2001

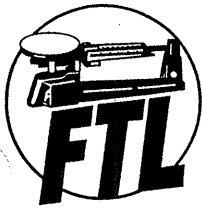
Test Completed - March 5, 2001

Test Expires - February 12, 2005

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 (paragraph as listed) of the above referenced specifications. As per manufacturer, unit complies with section 3, material and component requirements.

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 test sample will be retained at the test laboratory. A copy of this report has been forwarded to the validator.

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.



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continued:

Witnessed by:

Mr. Antonio Acevedo, P. E.

Mr. Jay Wyrick

Mr. Allen Drozenko

Author of Report:

Maricruz Ayala

Laboratory Technicians:

Roberto Robleto

Osdany Hernandez

Roque Zavala

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FENESTRATION TESTING LABORATORY, INC.

Roque Zavala
Roque Zavala
Testing Manager

ASSOCIATED LABORATORIES, INC.

Consultants and Technologists / Quality Control Engineers / Consumer Certification Programs
1323 Wall Street, P.O. Box 152837, Dallas, Texas 75315 • (214) 565-0593

May 9, 2001

Kinco, Ltd.
P.O. Box 6429
Jacksonville, FL 32236-6429

Attn: Jay Wyrick

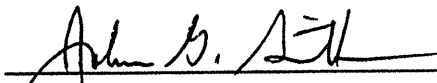
Dear Jay:

Per your written request dated 4-10-01, you are hereby granted a waiver of retest for your Series Mark IV single glazed sliding glass door and your Series Mark III and Mark V dual glazed sliding glass doors.

This waiver of retest approval is based on the certification performance testing of your Series Mark II single glazed sliding glass door (Fenestration Testing Laboratory, Inc. report numbers 2995 and 3029) and the calculations to support the request submitted by Dr. Humayoun Farooq, P.E.

Sincerely,

ASSOCIATED LABORATORIES, INC.



John G. Smith, President

JGS:td

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A HALF OF A CENTURY EXPERIENCE AVAILABLE FOR INDUSTRY