

Quality Accuracy Assurance

# Fenestration Testing Laboratory, Inc.

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Lab. Number 2995  
February 13, 2001  
Report Number 2  
File Number 01-102  
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## OFFICIAL TEST REPORT

<b>MANUFACTURER:</b>	Kinco Limited	<b>DESIGNATION:</b>	SGD-C35 193 x 96
<b>ADDRESS:</b>	P.O. Box 6398 Jacksonville, Florida 32236	<b>SPECIFICATIONS:</b>	ANSI/AAMA/NWWDA 101/L.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" 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 2.000"; 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"; all other 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.

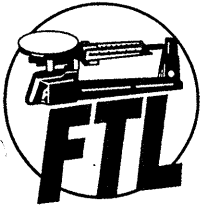
**Daylight Opening:** Clear opening of each panel is 45 1/8" by 91" high.

### 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 1/2" 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.

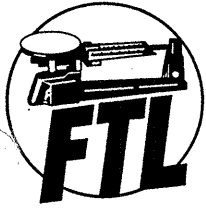
**Additional Description:** The fixed panel jamb stile was fastened to left frame jamb on the interior with one 1" by 1 3/8" by 0.045" by 1 1/4" long aluminum angle, 5 1/2" from each end, (total of two), fastened to frame with one No. 10 by 1" pan head sheet metal screw and to panel with one No. 8 by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

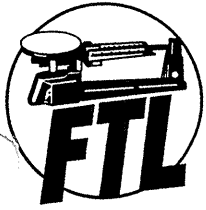
<b>Paragraph Number</b>	<b>Title of Test</b>	<b>Measured</b>	<b>Allowed</b>
2.1.2	Air Infiltration Test: (ASTM E283-96) at 1.57 psf	0.30 cfm/sq.ft. (1.67 cmh)	Passed 0.3 (1.67) maximum
<i>Note:</i> The tested specimen meets or exceeds the performance levels specified in specification referenced.			
2.1.3	Water Resistance Test: (ASTM E547-96/E331-96) with and without screen, no leakage at	5.40 psf (259 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
		<b>Deflection</b>	<b>Permanent Set</b>
	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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**OFFICIAL TEST RESULTS**

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
		<b>Deflection</b>	<b>Permanent Set</b>
	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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### OFFICIAL TEST RESULTS

Paragraph Number	Title of Test	Measured	Allowed
<b>SECTION 4, OPTIONAL PERFORMANCE CLASS:</b>			
4.3	Water Resistance Test: (ASTM E547-96/E331-96) with and without screen, no leakage at	5.40 psf (259 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
		<b>Deflection</b>	<b>Permanent Set</b>
	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
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)
	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)

*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**

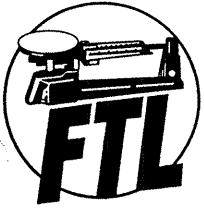
**Test Completed - March 5, 2001**

**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:*

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**FENESTRATION TESTING LABORATORY, INC.**

*Roque Zavala*  
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Testing Manager