



NATIONAL CERTIFIED TESTING LABORATORIES

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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-210-2768-3
Test Date: 02/18/02
Report Date: 02/22/02

Client: Kinco, Ltd.
P. O. Box 6398
Jacksonville, FL 32236

Test Specimen: Kinco, Ltd.'s, Series "M 2/3 C" Type OXX Aluminum Sliding Glass Door
(SGD-LC35)

Test Specification: AAMA/NWWDA 101/I.S.2-97, "Voluntary Specifications for Aluminum,
Vinyl (PVC), and Wood Windows and Glass Doors."

TEST SPECIMEN DESCRIPTION

General: The test specimen was a three (3) panel OXX aluminum sliding glass door measuring 145-5/8" wide by 80" high overall. The fixed panel measured 48-1/2" wide by 79" high. The two moving panels measured 48-3/4" wide by 79" high. The frame and panel members were not thermally broken. The two active panels were fitted with die cast latches located 42" from floor line to centerline of latch. The frame was butt type corners not screwed together. The panels were screwed together with one (1) (#10 x 5/8") pan head SMS at each top corner and one 1/4" x 3/8" truss head MS at each bottom corner. Each panel had a plastic guide fastened to the top rail 1 3/4" from each end, with one (1) (#8 x 1 1/2") pan head SMS. Each operating panel had 1-1/2" diameter steel wheel in a stamped steel housing located at each end of the bottom rails.

Glazing: All panels were marine glazed with a wrap around vinyl channel. Glass has 7/16" glazing bite, using 3/16" x 46" x 76" tempered glass. All panels had a daylight opening of 45-1/8" x 75-3/16".

Installation: Unit was tested in a 2 x 10 test buck with a 1 x 6 pt. Buck strip. Head was installed with a double row of #10 x 1" SMS. Location from left, 6"- 28 1/4"-50 1/2"-72 13/16"- 95 1/8" - 117 3/8" & 139 5/8". Sill was installed with a single row of #10 x 1" pan hd. SMS. Location from left same as head. Jambs were installed with a double row of #10 x 1" SMS. Location from sill end 5 7/8"-38 1/4" & 74 1/8".

Weatherseals: The top and bottom rail of all panels used two (2) strips of center fin polypile weatherstrip measuring (0.550") high. Two (2) strips of center fin polypile weatherstrip measuring (0.170") high were used at the astragal stile. One (1) strip of center fin polypile weatherstrip measuring (0.210") high was used in each interlock stile. One (1) 0.450" high x 1-1/2" long strip of polypile weatherstrip was located at the top of each interlock stile.

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Banyo Padua
3/7/02

Weeps: The sill track was notched with a 1-7/8" x leg height weep through the screen and panel retainer legs at both ends of the sill track and from left to right at the following measurements 46-1/8" and 49-3/8".

Interior & Exterior Surface Finish: White painted aluminum.

Sealant: The lower master frame corners were sealed with a narrow joint seam sealer.

Insect Screen: An fiberglass mesh insect screen measuring 49" wide by 79-1/4" high was used.

TEST RESULTS

<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>
2.2.1.6.1	Operating Force		
	Right Panel		
	Open	12 lbf	30 lbf
	In Motion	8 lbf	20 lbf
	Center Panel		
	Open	14 lbf	30 lbf
	In Motion	10 lbf	20 lbf
2.2.1.6.2	Deglazing - ASTM E987		
	Active Sash		
	Top Rail (50 lbf)	6.0 % (0.030")	<100%
	Bottom Rail (50 lbf)	4.0 % (0.020")	<100%
	Jamb Stile (70 lbf)	3.0 % (0.015")	<100%
	Meeting Stile (70 lbf)	4.0 % (0.019")	<100%
2.1.2	Air Infiltration - ASTM E283		
	1.57 psf (25 mph)	0.26 cfm/ft ²	0.30 cfm/ft ²
2.1.3	* Water Resistance - ASTM E547/E331		
	5.0 gph/ft ²		
	WTP= 6.0 psf	No Leakage	No Leakage
2.1.4.2	** Uniform Load Structural - ASTM E330		
	45.0 psf Exterior	<u>Astragal Permanent Set</u> 0.180"	0.316"
	45.0 psf Interior	0.175"	0.316"
		<u>Interlock Permanent Set</u>	
	45.0 psf Exterior	0.194"	0.316"
	45.0 psf Interior	0.130"	0.316"
2.1.8	Forced Entry Resistance - ASTM F842-97		
	Grade 10 (See Appendix A for test results)		Meets As Stated

Darryl Portner
2/27/02

OPTIONAL PERFORMANCE

4.4.2	**	<i>Uniform Load Structural - ASTM E330</i>	<u><i>Astragal Permanent Set</i></u>	
			<i>52.5 psf Exterior</i>	<i>0.183" 0.316"</i>
		<i>52.5 psf Interior</i>	<i>0.217"</i>	<i>0.316"</i>
			<u><i>Interlock Permanent Set</i></u>	
		<i>52.5 psf Exterior</i>	<i>0.261"</i>	<i>0.316"</i>
		<i>52.5 psf Interior</i>	<i>0.268"</i>	<i>0.316"</i>

* *Tested with and without screen*

** *No glass breakage or permanent damage causing the unit to be inoperable*

TEST COMPLETED 02/18/02

The tested specimen meets (or exceeds) the performance levels specified in Table 2.1 of AAMA/NWWDA 101/I.S.2-97 for air infiltration. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the (SGD- LC35) (144 x 80) product designation.

Detailed drawings were available for laboratory records and comparison to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen tested. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen may be drawn from this test. This report does not constitute certification of the product which may only be granted by a certification program validator.

NATIONAL CERTIFIED TESTING LABORATORIES

DANIEL CONYERS
Laboratory Manager

Daniel Conyers
2/27/02

**FOR TYPE XO OR OX SLIDING GLASS DOORS EMPLOYING A FIXED PANEL OR LITE
(ASSUMES THE OPERABLE PANEL IS AN INSIDE SLIDING PANEL)**

APPENDIX A

Forced Entry Resistance Test Results

Test Method: ASTM F842-97, "Standard Test Method for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact".

TEST RESULTS

<u>Paragraph No.</u>	<u>Loads</u>	<u>Duration</u>	<u>Measured</u>	<u>Allowed</u>
10.1-Lock Manipulation		5 Minutes	No Entry	No Entry
10.2.1.1-Test C1	L1=300 lbf	1 Minute	No Entry	No Entry
10.2.1.2-Test C2	L1=300 lbf L2=175 lbf interior	1 Minute	No Entry	No Entry
10.2.1.3-Test C3	L1=300 lbf L2=175 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.4-Test C4	L1=300 lbf L2=175 lbf interior L4= 50 lbf + panel wt.	1 Minute	No Entry	No Entry
10.2.1.5-Test C5	L1=200 lbf L2=100 lbf exterior L4=50 lbf + panel wt.	1 Minute	No Entry	No Entry
10.2.1.6-Test C6	L1=30 lbf L3=30 lbf interior L4= 50 lbf + panel wt.	1 Minute	No Entry	No Entry
10.2.1.7-Test C7	L1=30 lbf L3=30 lbf interior L4= 50 lbf + panel wt.	1 Minute	No Entry	No Entry

Ray Palma
2/2/02