



NATIONAL CERTIFIED TESTING LABORATORIES

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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-210-2739-1
Test Date: 11/27/01
Report Date: 11/30/01

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

Test Specimen: Kinco, Ltd. Series "M-40/50 STD" Single Hung Aluminum Prime Window (H-LC30)*(37"x 97")(Downsized).(Reference Test Report Number 3082 from Fenestration Testing Laboratory for Gateway to H-LC Rating)

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 one-over-one single hung aluminum prime window measuring 37" wide by 97" high overall. The fixed lite was glazed to the frame members, providing a viewing area of 32-1/4" wide by 46" high. The active sash measured 32-1/4" wide by 45-3/4" high. The vent had two (2) adjustable spring loaded aluminum hook lock located at the bottom rail, 9" from each end. Two (2) spring and pulley balances were located at each frame jamb. Two (2) plastic balance guides were located at each end of the vent top rail. Vent corners were fastened with one (1) (# 8 x 5/8) pan head sheet metal screw. The frame sill had a 1.688" overall interior sill flange. Frame members have a typical wall thickness of 0.062". The unit was installed into the wood test buck using a single row of (#8 x 1/2") flat head sheet metal screws in the frame jambs and frame head. (See fastener diagram)

Glazing: The active sash and fixed lite were exterior glazed with 0.344" glazing penetration using a clear colored silicone and an aluminum rolled glazing bead. The glass was single glazed using 5/32" thick clear annealed glass.

Weatherseals: A single strip of polypile weatherstrip was located at vent jamb rails on the exterior and vent top rail. A single row of vinyl flap was located at the vent bottom rail. Two (2) 2" long adhesive back closed cell foam gasket were located at each lower frame corner.

Weeps: Two (2) weep notches measuring 1/2" were located at each end. Four (4) weeps measuring 1/2" located at 4-3/4", 15", 22" and 32-1/4" from the left.

Interior & Exterior Surface Finish: White painted aluminum.

Sealant: The frame and active sash corners were sealed with a clear colored sealant.

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 Active Sash Up Down	6 lbf 18 lbf	30 lbf 30 lbf
2.2.1.6.2	Deglazing - ASTM E987 Active Sash Meeting Rail (70 lbf) Bottom Rail (70 lbf) Left Hand Stile (50 lbf) Right Hand Stile (50 lbf)	3.2 % (0.016") 4.2 % (0.021") 3.2 % (0.016") 2.8 % (0.014")	<100% <100% <100% <100%
2.1.2	Air Infiltration - ASTM E283 1.57 psf (25 mph)	0.06 cfm/ft ²	0.3 cfm/ft ²
2.1.3	Water Resistance - ASTM E547 & ASTM E331 5.0 gph/ft ² WTP= 2.86 psf	No Leakage	No Leakage
2.1.4.2 **	Uniform Load Structural - ASTM E330 52.5 psf Exterior 52.5 psf Interior	0.010" 0.020"	0.132" 0.132"
2.1.8	Forced Entry Resistance - ASTM F588 Grade 10 (See Appendix A for test results)	Meets As Stated	

OPTIONAL PERFORMANCE

4.3	Water Resistance - ASTM E547 & ASTM E331 5.0 gph/ft ² WTP= 4.5 psf	No Leakage	No Leakage
4.4.2 **	Uniform Load Structural - ASTM E330 97.5 psf Exterior 97.5 psf Interior	0.020" 0.030"	0.132" 0.132"
**	No glass breakage or permanent damage causing the unit to be inoperable		

TEST COMPLETED 11/27/01

Barry Porling
12/28/01

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 (H-LC30)(37"x 97")(Downsized 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.

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DANIEL D. CONYERS
Laboratory Manager


12/29/01

APPENDIX A
Forced Entry Resistance Test Results

Test Method: ASTM F588-97, "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 A1	L1=200 lbf	1 Minute	No Entry	No Entry
10.2.1.2-Test A2	L1=200 lbf L2=100 lbf interior	1 Minute	No Entry	No Entry
10.2.1.3-Test A3	L1=200 lbf L2=100 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.4-Test A4	L1=200 lbf L2=100 lbf interior	1 Minute	No Entry	No Entry
10.2.1.5-Test A5	L1=200 lbf L2=100 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.7-Test A7	L1=200 lbf L2=100 lbf interior L3= 35 lbf interior	1 Minute	No Entry	No Entry
10.2.1.8 Lock Manipulation		5 Minutes	No Entry	No Entry
10.2.4.2 Fixed Lite Glazing/Panel Manipulation		5 Minutes	No Entry	No Entry

Greg Parker
12/28/01