

NATIONAL CERTIFIED TESTING LABORATORIES

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STRUCTURAL PERFORMANCE TEST REPORT

REPORT NO.: NCTL-210-2065-1

TEST DATE: 07-15-98

REPORT DATE: 07-31-98

EXPIRATION DATE: 07-31-02

CLIENT: Better Bilt Aluminum Products
704 12th Avenue
Smyrna, TN 37167

TEST SPECIMEN: Better Bilt Aluminum Product's Series "420" (Type "OXX") Aluminum Sliding Glass Door. (SGD-C35)(Single Glazed) (Steel Reinforced) (with and without sill riser)

TEST SPECIFICATION: AAMA/NWDA/101/I.S. 2-97, "Voluntary Specifications for Aluminum Vinyl (PVC) and Wood Windows and Sliding Glass Doors."

TEST SPECIMEN DESCRIPTION

GENERAL: The sample tested was a three panel type "OXX" aluminum sliding glass door measuring 15'1-3/4" wide by 8'0-1/8" high overall. The active panel measured 5'0-1/2" wide by 7'11-1/8" high; the fixed panel measured 5'0-7/8" wide by 7'11-1/8" high. Frame and panel members were not thermally broken. A plastic spacer/guide was used at each panel head/stile corner. The fixed panel was secured to the jamb with two (2) 3" long aluminum angle retainers each fastened to the jamb stile with two (2) (# 8 x 3/4") pan head screws. One claw-type door lock assembly was located at 40" from the bottom of each active panel lock stile each with the keeper fastened and secured to the fixed meeting stile and the right jamb stile at lock position with two (2) screws. One adjustable metal double roller assembly was used at each end of the active bottom rails. The frame was of double screw coped corner construction. Panel corners were of single screw at the bottom rail and double screw at the top rail coped corner construction. The interior vertical sill leg employed an extruded aluminum 1-1/8" high extension; an overall height of 2.031. One (1) aluminum panel retainer was fastened at 2" from the end of each active panel bottom rail. One (1) extruded aluminum female panel adapter was fastened to the fixed panel butt stile with five (5) (# 8 x 1/2") screws. One (1) extruded aluminum screen adapter was fastened to the butt stile using five (5) (# 8 x 1/2") screws.

INSTALLATION: The main frame was fastened to the wood test buck using forty-eight (48) (# 8 x 1-1/2") FHS. (See fastener diagram)

REINFORCEMENT: One (1) "U" shaped galvanized steel reinforcing channel measuring 1-3/4" x 3/4" x 1/16" thick filled the length of the panel adapter stile. One (1) "U" shaped galvanized steel reinforcing channel measuring 3/4" x 7/8" x 1/16" thick filled the length of each interlock stile.

GLAZING: All panels were channel glazed using 3/16" thick clear tempered glass with a flexible vinyl glazing bead.

WSTP: Double strips of centerfin weatherstrip (0.270" high) were located at each jamb, stile, lock stile. A double strip of centerfin weatherstrip (0.180" high) was located at each interlock stile. A double strip of centerfin weatherstrip (0.250" high) was located at each panel top rail. A double strip of side fin weatherstrip (.430" high) was located at each panel bottom rail. An adhesive back polypile dust plug measuring 1-3/16" x 13/16" x 0.420" was located on the head and sill at each end of vertical stile exterior track

WEEPS: One weep notch measuring 1-1/2" x leg height was located at each end of each of the interior sill roller leg, exterior sill roller leg and the screen sill roller leg.

INTERIOR & EXTERIOR SURFACE FINISH: Non painted aluminum.

SEALANT: Frame and panel bottom rail corners were sealed with a small-joint sealant.

SCREEN: Two (2) insect screens, one center insect screen measuring 5'0-1/4" wide by 7'11" high; Both were of coped type corner construction. The screen employed fiberglass mesh cloth with a hollow vinyl spline. One roller assembly was located at each end of the bottom rails. One (1) claw-type lock assembly.

TEST RESULTS

<u>PARAGRAPH NO.</u>	<u>TITLE OF TEST</u>	<u>MEASURED</u>	<u>ALLOWED</u>
2.2.19.5.1	Operating Force		
	Center Active Panel		
	To Open	20# max.	30#
	In Motion	5 # max.	20#
	Right Active Panel		
	To Open	18 # max.	30 #
	In Motion	3 # max.	20#
2.1.2	Air Infiltration 1.57 psf (15 mph)	Pass	0.30 CFM/FT ²
2.1.3	* Water Resistance - 5.0 GPH/FT ² WTP = 4.50 psf	No Entry	No Entry
2.1.4.2	Uniform Load Structural		
	45.0 psf exterior	0.245"	0.381"
	45.0 psf interior	0.258"	0.381"
2.2.19.5.2	Deglazing		
	Center Active Panel		
	Top Rail (50#)	10.2% (0.051")	< 100%
	Bottom Rail (50#)	7.8% (0.039")	< 100%
	Left Stile (70#)	6.0% (0.030")	< 100%
	Right Stile (70#)	5.4% (0.027")	< 100%
	Right Active Panel		
	Top Rail (50#)	8.4% (0.042")	< 100%
	Bottom Rail (50#)	8.4% (0.042")	< 100%
	Left Stile (70#)	8.0% (0.040")	< 100%
	Right Stile (70#)	6.2% (0.031")	< 100%

OPTIONAL PERFORMANCE

4.3	* Water Resistance - (5.0 GPH/FT ²) WTP = 5.25 psf	No Entry	No Entry
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Note: At this point in testing an additional sill riser was attached to the existing main sill's interior vertical leg.

The following results were obtained:

4.3	* Water Resistance - (5.0 GPH/FT ²) WTP - 6.00 psf	No Entry	No Entry
4.4.2	Uniform Structural Load 52.5 psf exterior 52.5 psf interior	0.379" 0.380"	0.381" 0.381"

TEST COMPLETED: 07-15-98

*Test performed with and without insect screen.

Note: In addition, Better Bilt Aluminum Products' Series "430" and "440" also receive an SGD-C35 rating being identical in panel construction and interior sill heights.

This test specimen meets the performance criteria level of SGD-C35 of the AAMA/NWWDA/101/I.S. 2-97 specification.

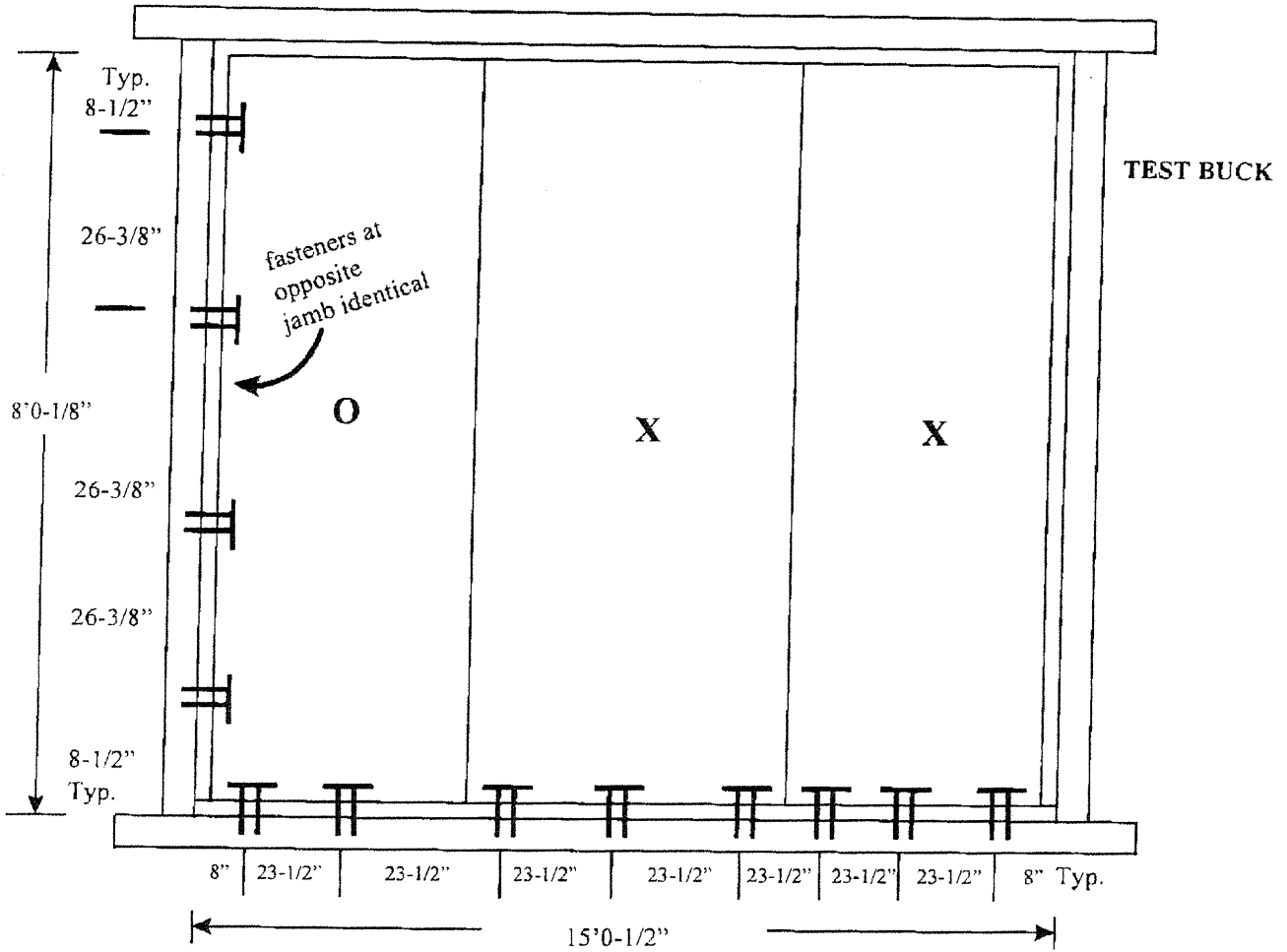
Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen tested.

Barry Portney
 MEI/ad 9/5/98

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MICHAEL E. LANE
 Division Manager

FASTENER LOCATIONS



The test specimen was fin mounted to the test buck using forty-eight (48) (# 8 x 1-1/2") screws at locations shown.

⏏ - Denotes double row (2) at each location.

NOTE: Head fasteners identical to sill both jamb fastening identical

METRO DADE COUNTY REQUIRED

NATIONAL CERTIFIED TESTING LABORATORIES INC.
JOB NO.: NCTL-210-2065-1 & 2
COMPANY: BETTER BILT
TEST DATE: 07-15-98