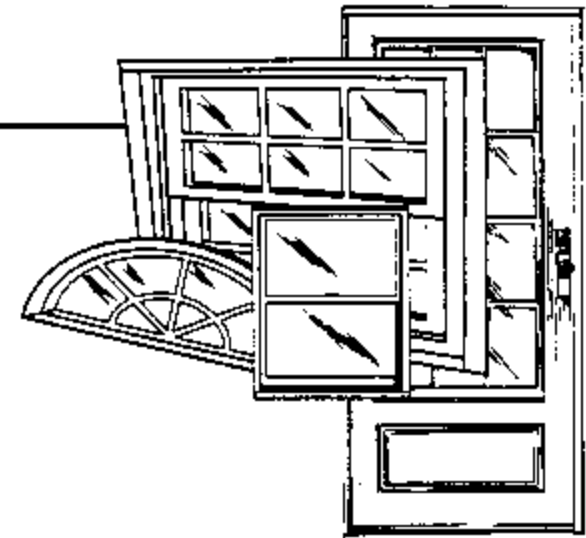


CERTIFIED TESTING LABORATORIES

Architectural Division • 7252 Narcoossee Rd. • Orlando, FL 32822
(407) 384-7744 • Fax (407) 384-7751
Web Site: wwwctlarch.com
E-mail: ctlarch.com



Report No.: CTLA-697WA

DC Not. No.:01014

Date: November 12, 2001

CTL Certification # 99-0105.02

Test Dates: October 31, 2001
November 01, 2001

Test Requested By - JELD-WEN, INC.
31725 Highway 97 North
Suite C
Chiloquin, OR 97624

Tests Conducted: PA 201, PA 202 & PA 203 (with no deviations)

Design Pressures -

Spec. 1 (PA 202) W/WindJamber & Sur. Blts	Outswing	+ 53.0 psf. - 53.0 psf.
Spec. 2 (PA 202) W/WindJamber	Outswing	+ 53.0 psf. - 53.0 psf.
Spec. 3 (PA 202) W/WindJamber & Sur. Blts	Outswing	+ 53.0 psf. - 53.0 psf.
Spec. 4 (PA 202) W/Imperial & Sur. Blts	Outswing	+ 47.0 psf. - 47.0 psf.

Note: Specimens 1 & 3 only had (2) of the (4) astragal bolts engaged, (2) closest to the weather-stripping, during testing.

(1) DESCRIPTION OF SERIES:

Model Designation - DoorCraft® Out-swing Wood Edge Steel Door (Glazed)

Overall Size - Out-swing 107.0" wide x 97.5" high x 4.5625" deep

Configuration - OXXO

No. & Size of Doors - All Specimens -
(1) active 36.0" wide x 96.0" high
(1) in-active w/astragal 36.625" wide x 96.0" high
(2) sidelite sash 14.0" wide x 96.0" high

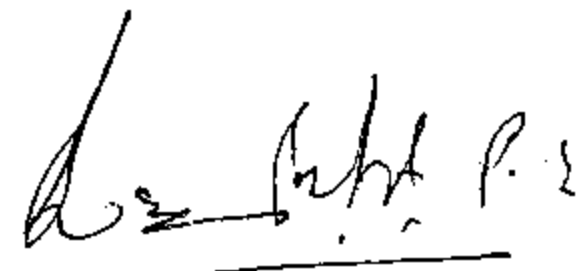
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(2) MATERIAL CHARACTERISTICS:

Frame and Door Material - Finger jointed pine jambs and steel panels.

Frame Construction -- The sidelite frames consist of primed finger jointed pine (2) side jambs and (1) sash head jamb and (1) sash bottom jamb all measuring 1.25" wide x 4.5625" deep. The head and bottom jambs are joined to the side jambs with (3) 16 ga. 2" wire staples with 7/16" crown at each corner. The double door frames consist of (2) side jambs measuring 1.25" wide x 4.5625" deep and each are mortised for four 4.0" butt hinges at 8.875", 34.875", 58.875" and 84.875" from the top of jamb. The head jamb is 1.25" wide x 4.5625" deep and is attached to the side jambs at each end with (3) 16 ga. 2" wire staples with a 7/16" crown. All Specimens were tested with a high dam aluminum bump threshold by Imperial measuring 5.25" deep x 1.75 high. The threshold was attached to the side jambs with (3) 16 ga. 2" wire staples with a 7/16" crown at each end. The frames had a pressure treated stiffener between the door frame and sidelite frame measuring 0.75" thick x 4.563" wide. The wood was sealed between the jambs with silicone caulking. Each sidelite frame was attached to the door frame with (7) #8 x 2.5" Phillips flat head wood screws from the door frame to the sidelite frame spaced at 6.0" from each vertical end and (5) more equally spaced on the field.

Panel Construction: The active and inactive door panels are 1.75" thick overall and constructed from (2) 24 ga. (0.020") thick galvanized steel skins with roll formed edges to receive the 1.67" wide x 1.0" thick wood stiles (strike is LVL and hinge is finger jointed Ponderosa Pine). The tops of the steel panels are bent at a ninety-degree angle to overlap 0.25" the 1.67" wide x 1.0" thick LVL top rail. The bottoms of the steel panels are bent at a ninety-degree angle to overlap the bottom rail 0.25". The bottom rail measures 1.25" high x 1.67" wide. The corners of the side stiles are mitered and butted to the top rail and fastened with (1) 0.5" crown x 2.0" long wire staple at each corner. The wood bottom rail is butted to the side stiles and secured with (1) 0.5" x 2.0" wire staple at each corner. The bottom rail is kerfed to receive the door bottom sweep when required. The interior cavity of each door is filled with polystyrene (1.0 to 1.25lb. density) as stated and manufactured by JELD-WEN, INC. All specimens door panels are reinforced with an LVL lock block measuring 4.0" wide x 48.0" high x 1.71" thick, located at 32.0" from the bottom of the door panel on the latch side. The steel face sheets are interlocked with the stiles and rails and glued to the expanded polystyrene core. The inactive panels of Specimens 1 through 3 were affixed with an extruded aluminum astragal (Windjamber II) kerfed to receive weather-stripping. The astragal had integral channels to receive (2) cold rolled steel rods at the top and (2) cold rolled steel rods at the bottom. The rods are 0.312" diameter x 8.0" long at the bottom and 17.0" long at the top. The bolts extend 2" beyond the end of the astragal when engaged. The astragal is attached to the panel with (9) # 8 x 1" Phillips pan head wood screws located 1", 3", 5" from the top of door panel, 1", 3", 5", 20", 42.0" and 61.0" from the bottom of the door panel. The inactive panels of Specimen 4 were affixed with an extruded aluminum astragal (Imperial) kerfed to receive weather-stripping. The astragal has integral extruded channels to receive (1) cold rolled steel rod at the top and (1) cold rolled steel rod at the bottom. The rods are 0.3125" diameter x 9.0" long. The rods are contained within extruded aluminum reinforcements measuring 1.0" wide x 4.5" long x 0.5625" thick. The bolts extend 2.5" beyond the end of the astragal when engaged. The astragal is attached to the panel with (14) #10 x 1.0" Phillips flat


11/29/01

Panel Construction Con't:

head wood screws located at 1.0", 2.5", 4.0", 5.5", 13.0", 18.0" and 26.0" from the top of the astragal down, and 1.0", 2.5", 4.0", 5.5", 13.0", 18.0" and 26.0" from the bottom of the astragal up. The center of the astragal is reinforced at the latch and deadbolt area with three extruded aluminum slide bars measuring 1.0" wide x 4.5" long x 0.5625" thick. The active panel of Specimen 4 was fitted with, (2) each, Ives surface bolts #454 measuring 8.0" long x 0.75" wide x 0.25" thick. The bolts were attached to the door panels with (4) sex bolts, (1/4-20 phillips flat head machine screw and 1/4-20 female end x 1.75" long). The bolts were located 2.0" from the latch stile and 2.0" from the top and bottom rails. The units used a 2.125" x 0.75" x 0.50" thick vinyl spacer between the surface bolt retaining bracket and panel face.

Sash Construction: The sash is constructed from (2) 24 ga. (0.020") thick galvanized steel panels with a 0.50" ninety-degree vertical edge glued to an expanded polystyrene core. The steel sash panels are routed to receive lip lite inserts. The sashes are set into the wood sidelite frames against the frame stops secured with 3/8" quarter round. The quarter round is mitered and fitted along the sidelite edges and secured to the wood frame with (22) 16 ga. steel brads 0.75" long. The head and sill contained three each at 1.25" from each end and one in the center. The sides contained eight at 1.25" from each end and six equally spaced on the field. When the sidelite sash was being used with an in-swing unit the sash utilized an extruded vinyl boot interlocked with compression fit and adhered to the threshold CRL 33C silicone adhesive.

Glazing:

Specimen All Specimens - (2) Full Lite Door panels - ODL plastic lip lite (Spartech Polycom PP5530 C13) The glass is PPG 0.125" tempered glass (identified by BUG), with a 1/2" glass bite.

All Specimens - (2) Sidelite sash - ODL plastic lip lite (Spartech Polycom PP5530 C13) The glass is PPG 0.125" tempered glass (identified by BUG), with a 1/2" glass bite.

Glazing Method - The glass is sandwich glazed with the 2-piece lite frame into the steel panels with (20) #8 x 1.50" Plascrew spaced as follows: The door panel top and bottom member (1) at 3.0" from each end and (1) in the center. The sidelite sash top and bottom member (1) screw at 3.0" in from each corner. There are (8) in each side member, both door and sash, from the top down at 3.0", 13.5", 24.5", 36.0", 46.0", 57.5", 68.5" and 79.0". The exterior surfaces were sealed with QSD glazing compound by ODL as stated by MFG. The interior surface is wet glazed using Dow 1199 silicone.

Daylight Opening - Door Panel - 21.125" wide x 79.125" high
Sidelite Sash - 7.125" wide x 79.125" high

Weather-stripping - All Specimens - Schlegel Q-lon QDS 650 (1) piece length of head jamb, (1) piece length of aluminum bump threshold, (1) piece length of each side jamb and (1) piece length of astragal. (3) Schlegel corner pads, one at the bottom of each side jamb at the threshold and one at the bottom of the astragal at the threshold.

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Hardware -

- Specimens 2 (1) Kwikset 400 Latchbolt @ 36" from bottom of panel
(1) Kwikset 780 Deadbolt @ 48" from bottom of panel
(4 pair) Hager 4" butt type hinge (0.097" leaf thickness)
spaced at 8.125", 34.0625" 58.0625" & 84.0625" from the top
of the door panel down.
- Specimens 1&3 (1) Yale Latchbolt @ 36.0" from bottom of panel
(1) Yale Deadbolt @ 48.0" from bottom of panel
(4 pair) Hager 4" butt type hinge (0.097" leaf thickness)
spaced at 8.125", 34.0625" 58.0625" & 84.0625" from the top
of the door panel down.
(2) Ives #455 surface bolt (in addition to above listed hardware)
Secured to door slab with four (4) 1/4" x 3" carriage bolts with nuts.
- Specimen 4 (1) Schlage Latchbolt @ 36.0" from bottom of panel
(1) Schlage Deadbolt @ 48.0" from bottom of panel
(4 pair) Hager 4" butt type hinge (0.097" leaf thickness)
spaced at 8.125", 34.0625" 58.0625" & 84.0625" from the top
of the door panel down.
(2) Ives #455 surface bolt (in addition to above listed hardware)
Secured to door slab with four (4) 1/4" x 3" carriage bolts with nuts.

Weepholes - None

Muntins - None

Reinforcement - None

Sealant – All exterior surface hairline joinery cap beaded with silicone. Q-lon weather-stripping was mitered and sealed with silicone. Frame Head, Jamb, and sill corners sealed with silicone. Latex caulking as needed to seal unit into rough opening.

Additional Description -

All specimens were installed in a wood test buck. Specimen number 2 utilized a 1.0" x 1.0" x .125" aluminum "L" Channel caulked to the inner side of the in-swing threshold to achieve 2.86 psf water test.

(3) INSTALLATION:

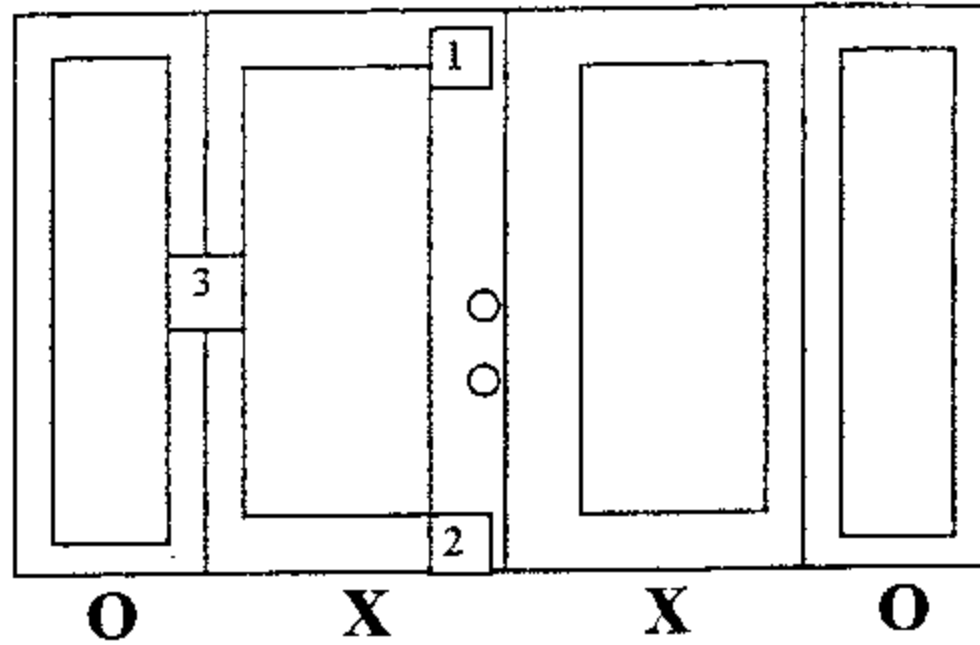
Screws and Method of Attachment – 24 - #8 x 2.5" Phillips flat head wood screws located as follows & (6) #10 x 2.5" screws as follows:

- (7) #8 x 2.5" Side jambs to buck – 6" from each vertical corner with (5) more equally spaced on the field.
(2) #8 x 2.5" Side Lite Head – 1 @ 3.0" from each horizontal corner.
(6) #8 x 2.5" Door Head – 6.0" from both horizontal corners with (4) more equally spaced on the field.

Screws and Method of Attachment – 10 - #10 x 2.5" Phillips flat head wood screws located as follows
(6) #10 x 2.5" Door sill – 6.0" from both horizontal corners with (4) more equally spaced on the field.
(2) #8 x 2.5" Side Lite sills – 1 @ 3.0" from each horizontal corner.

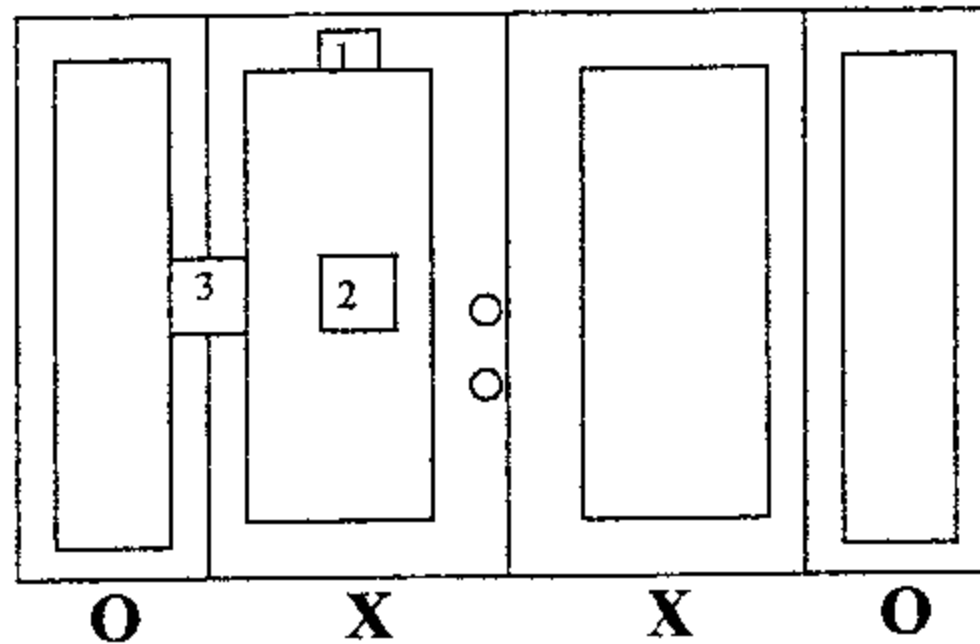
(4) SEQUENCE OF TESTS PERFORMED

Specimens 2.



Deflection Gauges Set At Boxes 1, 2 & 3 – Measurements were taken with three CDI 5" dial indicators: location #1 SN993413562, location #2-SN 001516610, location #3-SN 982539153

Specimen 1,3, 4



Deflection Gauges Set At Boxes 1, 2 & 3 -- Measurements were taken with three CDI 5" dial indicators: location #1 SN993413562, location #2-SN 001516610, location #3-SN 982539153

Test Results:

Test Sequence: PA 202

1. Air Infiltration
2. ½ Test Pressure Positive
3. ½ Test Pressure Negative
4. Design Pressure Positive
5. Design Pressure Negative
6. Water Infiltration Positive Direction
7. Full Test pressure Positive
8. Full Test Pressure Negative
9. Forced Entry

David J. P. E.
11/29/14

75 MPH EGRESS TEST

All Specimens were tested to the 75 MPH Egress procedure (paragraph 5.2.2.2, 5.2.2.3) with only the passage lock engaged. There was no water penetration and no structural failure.

AIR INFILTRATION

Air Infiltration Tests were conducted in accordance with DCBCCD PA 202-94

Air at 1.57 psf		Actual	Allowable
Specimen 1	Out-swing	0.004 CFM/SQ FT	0.34 CFM/SQ FT
Specimen 2	Out-swing	0.007 CFM/SQ FT	0.34 CFM/SQ FT
Specimen 3	Out-swing	0.030 CFM/SQ FT	0.34 CFM/SQ FT
Specimen 4	Outswing	0.004 CFM/SQ FT	0.34 CFM/SQ FT

WATER INFILTRATION TEST

Water Infiltration Test was conducted in accordance with DCBCCD PA 202 – 94

Specimen 1 Out-swing	Water @ 7.95 psf for 15 min. Result: No water penetration over sill
Specimen 2 Out-swing	Water @ 8.25 psf for 15 min. Result: No water penetration over sill
Specimen 3 Out-swing	Water @ 7.95 psf for 15 min. Result: No water penetration over sill
Specimen 4 Out-swing	Water @ 7.05 psf for 15 min. Result: No water penetration over sill

STATIC AIR PRESSURE TESTS

Static Tests were conducted in accordance with DCBCCD PA 202-94

Design Loads +53.0 psf, - 53.0 psf. Specimen 1 (Out-swing With Surface Bolts)

Range of test	time	actual load	deflection	perm. set
Positive loads	(seconds)	psf		
1/2 Test	30	39.75		
Design	30	53.0	Mullion (3) 0.418"	N/A
Test	30	79.5	Door (1) 0.433"	0.051"
			Door (2) 1.485"	0.088"
			Mullion (3) 0.750"	0.089"

Range of test	time	actual load	deflection	perm. set
Negative loads	(seconds)	psf		
1/2 Test	30	39.75		
Design	30	53.0	Mullion (3) 0.441"	N/A
Test	30	79.5	Door (1) 0.410"	0.051"
			Door (2) 1.689"	0.180"
			Mullion (3) 0.735"	0.085"

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11/29/14

Mullion – max allowable deflection at design is $(L / 180) 97.5 / 180 = 0.542''$

Mullion – max allowable set after test load is $(.4\% \times L) .004 \times 97.5 = 0.390''$

Door (1) Mid-span of top rail – max allowable set after test load is $(.4\% \times L) .004 \times 36.0 = 0.144''$

Door (1) Mid-span of panel – max allowable set after test load is $(.4\% \times L) .004 \times 96.0 = 0.384''$

STATIC AIR PRESSURE TESTS Cont.

Static Tests were conducted in accordance with DCBCCD PA 202-94

Design Loads +53.0 psf, - 53.0 psf. Specimen 2 (Out-swing No Surface Bolts)

Range of test	time	actual load	deflection	perm. set
Positive loads	(seconds)	psf		
1/2 Test	30	39.75		
Design	30	53.0	Mullion (3) 0.380"	N/A
Test	30	79.5	Door (1) 0.547"	0.025"
			Door (2) 0.502"	0.020"
			Mullion (3) 0.680"	0.056"

Range of test	time	actual load	deflection	perm. set
Negative loads	(seconds)	psf		
1/2 Test	30	39.75		
Design	30	53.0	Mullion (3) 0.436"	N/A
Test	30	79.5	Door (1) 0.745"	0.083"
			Door (2) 0.389"	0.048"
			Mullion (3) 0.820"	0.085"

Mullion – max allowable deflection at design is $(L / 180) 97.5 / 180 = 0.542"$

Mullion – max allowable set after test load is $(.4\% \times L) .004 \times 97.5 = 0.390"$

Door – max allowable set after test load is $(.4\% \times L) .004 \times 96.0 = 0.384"$

Design Loads +53.0 psf, - 53.0 psf. Specimen 3 (Out-swing No Surface Bolts)

Range of test	time	actual load	deflection	perm. set
Positive loads	(seconds)	psf		
1/2 Test	30	39.75		
Design	30	55.0	Mullion (3) 0.325"	N/A
Test	30	79.5	Door (1) 0.380"	0.046"
			Door (2) 1.402"	0.113"
			Mullion (3) 0.670"	0.081"

Range of test	time	actual load	deflection	perm. set
Negative loads	(seconds)	psf		
1/2 Test	30	39.75		
Design	30	55.0	Mullion (3) 0.458"	N/A
Test	30	79.5	Door (1) 0.331"	0.024"
			Door (2) 1.535"	0.095"
			Mullion (3) 0.704"	0.058"

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STATIC AIR PRESSURE TESTS Cont.

Mullion – max allowable deflection at design is $(L / 180) 97.5 / 180 = 0.542''$

Mullion – max allowable set after test load is $(.4\% \times L) .004 \times 97.5 = 0.390''$

Door (1) Mid-span of top rail – max allowable set after test load is $(.4\% \times L) .004 \times 36.0 = 0.144''$

Door (1) Mid-span of panel – max allowable set after test load is $(.4\% \times L) .004 \times 96.0 = 0.384''$

Design Loads +47.0 psf, - 47.0 psf. Specimen 4 (Out-swing With Surface Bolts)

Range of test	time	actual load	deflection	perm. set
Positive loads	(seconds)	psf		
1/2 Test	30	35.25		
Design	30	47.0	Mullion (3) 0.360''	N/A
Test	30	70.5	Door (1) 0.352''	0.032''
			Door (2) 1.890''	0.124''
			Mullion (3) 0.549''	0.024''

Range of test	time	actual load	deflection	perm. set
Negative loads	(seconds)	psf		
1/2 Test	30	35.25		
Design	30	47.0	Mullion (3) 0.336''	N/A
Test	30	70.5	Door (1) 0.438''	0.005''
			Door (2) 2.180''	0.091''
			Mullion (3) 0.560''	0.061''

Mullion – max allowable deflection at design is $(L / 180) 98.5 / 180 = 0.547''$

Mullion – max allowable set after test load is $(.4\% \times L) .004 \times 98.5 = 0.394''$

Door (1) Mid-span of top rail – max allowable set after test load is $(.4\% \times L) .004 \times 36.0 = 0.144''$

Door (1) Mid-span of panel – max allowable set after test load is $(.4\% \times L) .004 \times 96.0 = 0.384''$

FORCED ENTRY TEST

Forced Entry Test was conducted in accordance with DCBCCD PA 202-94

<u>Specimen</u>	<u>Size</u>	<u>Time</u>	<u>Result</u>
Specimen 1	36.0'' wide x 96.0'' high	30 seconds	(Door remained locked & shut)
Specimen 2	36.0'' wide x 96.0'' high	30 seconds	(Door remained locked & shut)
Specimen 3	36.0'' wide x 96.0'' high	30 seconds	(Door remained locked & shut)
Specimen 4	36.0'' wide x 96.0'' high	30 seconds	(Door remained locked & shut)

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11/18/01

(5) DRAWINGS TO BE SUBMITTED:

- | | |
|--|--|
| 1. CTL-006A (sheet 1 of 1) | 5. Yale Heritage Series lockset spec. sheet |
| 2. L-2109 (sheets 1 through 9 of 9) | 6. Yale Heritage Series deadbolt spec. sheet |
| 3. Kwikset series 400 knob set spec. Sheet | 7. Schlage lockset F51 spec. sheet |
| 4. Kwikset Titan series 780 deadbolt spec. Sheet | 8. Schlage deadbolt B360 spec. sheet |

Comment: Nominal 2 mil polyethylene film was used to seal against leakage during structural loads. The film was used in a manner that did not influence the test results.

Remarks: The results obtained and reported apply only to the specimens tested.

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 CTL for a period of ten (10) years. The results obtained apply only to the specimen tested.

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 (paragraphs as listed) of the above referenced specifications.

Certified Testing Laboratories assumes that all information provided by the client is accurate and that the physical and chemical properties of the components are as stated by the manufacturer.

Observers

- Brett Carroll – Product Testing Specialist, Jeld-Wen, Inc.
- John Singer – Product Testing Specialist, Jeld-Wen, Inc.
- Rick Wright – Consultant, R.W. Building Consultants, Inc.
- Tim Hoard – Project Manager, R.W. Building Consultants, Inc.

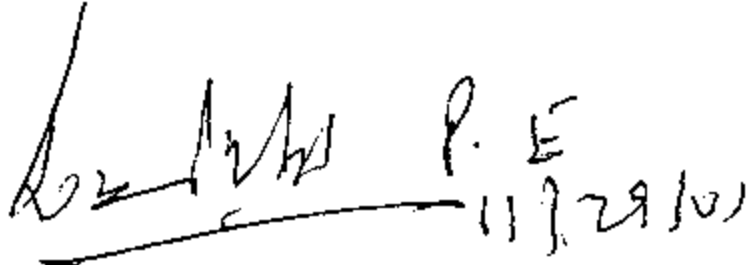
Dade County Witness:

Not present

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All Tests Witnessed by

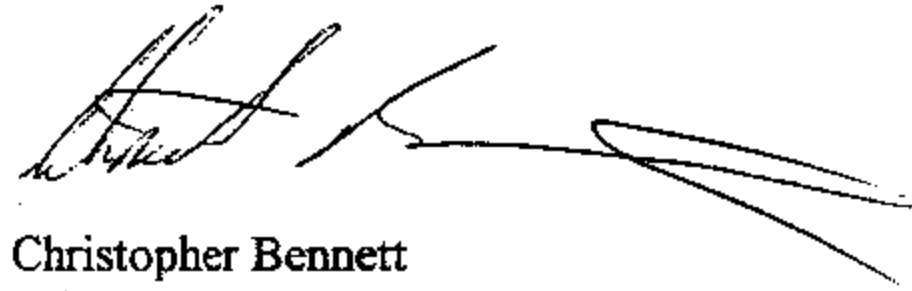
Ramesh Patel, P.E.
Chris Bennett, CTL
Ted Scanlon, CTL



*Ramesh Patel P.E.
11/29/10*

Ramesh Patel, P.E.
Florida Reg. # 20224

Certified Testing Laboratories, Inc.



Christopher Bennett
Laboratory Manager
Architectural Division

cc: Jeld-Wen, Inc (2)
Rick Wright (2)
Ramesh Patel (1)
File (1)