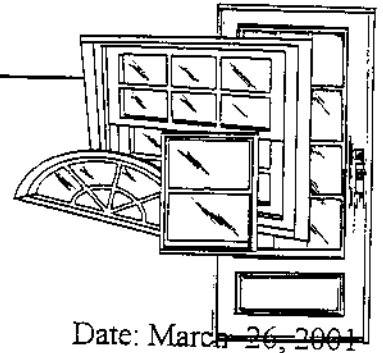


CERTIFIED TESTING LABORATORIES

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Report No.: CTLA 685W

DC Not. No. 01005

Date: March 26, 2001

CTL Certification # 99-0105.02

Test Dates: March 22, 2001

Test Requested By - STANLEY DOOR SYSTEMS
7300 Reames Road
Charlotte, NC 28216
Phone 704.921.3470

Facsimile 704.921.3462

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

Design Pressures -	Specimen 1	(PA 202)	Out-swing	+ 70.0 psf.	- 70.0 psf.
	Specimen 2	(PA 202)	In-swing	+ 70.0 psf.	- 70.0 psf.
	Specimens 3 & 4	(PA 201 & 203)	Out-swing	+ 70.0 psf.	- 70.0 psf.
	Specimen 5	(PA 201 & 203)	In-swing	+ 70.0 psf.	- 70.0 psf.

(1) DESCRIPTION OF SERIES:

Model Designation - Sta-Tru In-swing / Out-swing 8' 0 Opaque Steel Edge Steel Door

Overall Size -

Specimens 1, 3 & 4 (Out-swing Bump Threshold) 37.5" wide x 97.5" high x 4.625" deep
Specimens 2 & 5 (In-swing Bump Threshold) 37.5" wide x 98.5" high x 5.648" deep

Configuration - Specimens 1, 2, 3, 4 & 5 X

No. & Size of Doors - Specimens 1, 2, 3, 4 & 5 (opaque door panel)
(1) active 36" wide x 96" high

(2) MATERIAL CHARACTERISTICS:

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

A handwritten signature in black ink, appearing to read "Ramesh Patel, P.E.". The signature is written in a cursive style.

Ramesh Patel, P.E., Florida Reg. #20224 March 26, 2001

Frame Construction:

Wood Jamb - The head jambs and side jambs are finger jointed ponderosa pine (stated by mfg.) measuring 4.5625" x 1.25" (drawing no. L2098 sheet 8 of 9). The head jamb and side jambs are mortised, butted and joined using (3) 7/8" x 2" wire staples. The threshold tested on specimens 1,3 & 4 is an Aluminum Out-swing Bump measuring 4.625" x 1.244" (Stanley part and drawing no. 00258). The threshold tested on specimens 2 & 5 is an Inswing saddle measuring 5.648" x 1.375".

Panel Construction:

Steel Door Panel - The panel is constructed from 0.021" thick galvanized steel skins. The interior cavity of each door is filled with polyurethane foam manufactured by BASF. The steel face sheets are crimped to fit hinge and lock stiles, terminating with a 908 bend. The perimeter stiles and rails are roll formed from 0.028" thick galvanized steel (drawing no. L2098 sheet 8 of 9).

Glazing: N / A

Glazing Material - N / A

Glazing Method - N / A

Davlight Opening - N / A

Weather-stripping -

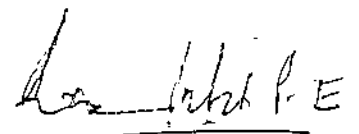
Specimens 1, 3 & 5 Schlegel Q-Lon, QDS 650 Compression (1) row header, (1) row sill, (1) row length of each leg jamb

Specimens 2 & 4 Holmes Compression (1) row length of hinge jamb, Holmes TPE magnetic (1) row header, (1) row sill, and (1) row length of each leg jamb

Hardware - All Specimens (1) Kwikset 200 Latchbolt @ 45.875" from top of door.
(1) Kwikset 660 Deadbolt @ 40.375" from top of panel.
(3) Three 4" butt type hinges @ 6.5", 37.5" and 68.5" from top of door panel (drawing no. L2098 sheet 8 of 9).

Weepholes - None

Muntins - None



Reinforcement - None

Sealant - Latex caulking as needed to seal unit into rough opening.

Additional Description -

All specimens were installed in a wood test buck.

Specimen 1 & 2 -Tested for Air Infiltration, Water Infiltration, Static Air and Forced Entry Tests(PA202).
Specimen 3, 4 & 5 -Tested for Large Missile Impact and Fatigue Cycling (PA201 & PA203)

(3) INSTALLATION:

Screws and Method of Attachment -

Specimens 1, 2, 3, 4 & 5

16 - # 8 x 2.5" F H Phillips wood screws, used to fasten frame to the wood buck at head and side jambs.
(see drawing no. 2098, sheet 7 of 9 for anchor locations)

Side Jambs - 6 Each side 2 @ 6" from each end and 4 evenly spaced on field

Head Jamb - 2 @ 6" from each side

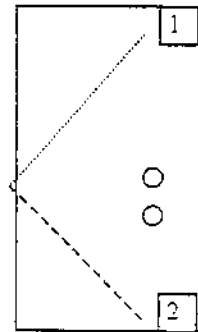
(4) SEQUENCE OF TESTS PERFORMED:

Test Results:

Test Sequence: PA 202

1. Air Infiltration
2. 1/2 Test Pressure Positive
3. 1/2 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

Deflection Gauges Set At Xs



X

Deflection was measured with three (2) CDI 5" dial indicators: location #1-SN 971649614, location #2-SN 980369793.

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	0.00 CFM/SQ FT	0.34 CFM/SQ FT
Specimen 2	In-swing	0.00 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 @2.86 psf for 15 min.	No water penetration over sill.
Specimen 2	In-swing	Water @ 9.75psf for 15 min.	No water penetration over sill.

STATIC AIR PRESSURE TESTS

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

Design Loads + 70.0 psf., - 70.0 psf. Specimen 1 X (Out-swing)

Range of test	time	actual load	deflection	perm. set
Positive loads	(seconds)	psf		
1/2 Test	30	52.5		
Design	30	70.0		
Test	30	105.0	Door T (1) 0.597" Door B (2) 0.137"	0.065" 0.057"

Range of test	time	actual load	deflection	perm. set
Negative loads	(seconds)	psf		
1/2 Test	30	52.5		
Design	30	70.0		
Test	30	105.0	Door T (1) 1.008" Door B (2) 0.199"	0.039" 0.011"

(1) Door T - Max. allowable perm. set at test load (0.4% of span) $.004 \times 96.0" = 0.384"$

(2) Door B - Max. allowable perm. set at test load (0.4% of span) $.004 \times 96.0" = 0.384"$

Static Air Pressure Test Cont.

Design Loads +70.0 psf., - 70.0 psf. Specimen 2 (In-swing)

Range of test	time	actual load	deflection	perm. set
Positive loads	(seconds)	psf		
1/2 Test	30	52.5		
Design	30	70.0		
Test	30	105.0	Door T (1) 1.270" Door B (2) 0.505"	0.170" 0.028"

Range of test	time	actual load	deflection	perm. set
Negative loads	(seconds)	psf		
1/2 Test	30	52.5		
Design	30	70.0		
Test	30	105.0	Door T (1) 0.312" Door B (2) 0.208"	0.031" 0.001"

- (1) Door T - Max. allowable perm. set at test load (0.4% of span) $.004 \times 96.0" = 0.384"$
- (2) Door B - Max. allowable perm. set at test load (0.4% of span) $.004 \times 96.0" = 0.384"$

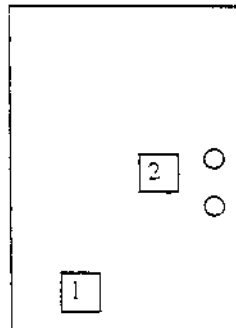
IMPACT TEST - LARGE MISSILE

Impact tests were conducted in accordance with DCBCCD PA 201-94.

Note:

- X measurement from left edge of specimen.
- Y measurement from bottom edge of test specimen.

Type and weight of missile: # 2 Southern Yellow Pine 2x4, Length approx. 89-5/16" & 9 lb.



X

Impact Test-Large Missile Cont.

Specimen 3 Opaque Single Door (Out-swing)

Impact No.	Impact Loc.	Speed Ft/Sec.	X Meas.	Y Meas.
1.	1	50.1	6.5"	6.0"
2.	2	50.0	18.0"	48.5"

None of the impacts penetrated the specimen and all locks remained engaged.

Specimen 4 Opaque Single Door (Out-swing)

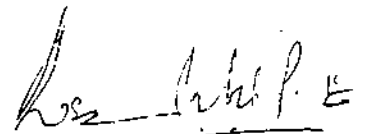
Impact No.	Impact Loc.	Speed Ft/Sec.	X Meas.	Y Meas.
1.	1	50.3	6.0"	6.25"
2.	2	50.0	18.25"	48.0

None of the impacts penetrated the specimen and all locks remained engaged.

Specimen 5 Opaque Single Door (In-swing)

Impact No.	Impact Loc.	Speed Ft/Sec.	X Meas.	Y Meas.
1.	1	50.2	6.25"	6.5"
2.	2	50.1	18.5"	47.5"

None of the impacts penetrated the specimen and all locks remained engaged.



FATIGUE LOADING TEST

Cycle tests were conducted in accordance with DCBCCD PA 203

Specimen 3 Opaque Single Door (Out-swing)

Design Load psf = + 70.0 psf., - 70.0 psf.

Positive loads

<u>Range of Test</u>	<u># Cycles</u>	<u>Load</u>	<u>Cycles/Min.</u>
+ .0 to 0.5	600	35.0 PSF	56
+ .0 to 0.6	70	42.0 PSF	56
+ .0 to 1.3	1	91.0 PSF	

671 cycles completed

Negative Loads

<u>Range of Test</u>	<u># Cycles</u>	<u>Load</u>	<u>Cycles/Min.</u>
+ .0 to 0.5	600	35.0 PSF	56
+ .0 to 0.6	70	42.0 PSF	56
+ .0 to 1.3	1	91.0 PSF	

671 cycles completed

Specimen 4 Opaque Single Door (Out-swing)

Design Load psf = + 70.0 psf., - 70.0 psf

Positive loads

<u>Range of Test</u>	<u># Cycles</u>	<u>Load</u>	<u>Cycles/Min.</u>
+ .0 to 0.5	600	35.0 PSF	56
+ .0 to 0.6	70	42.0 PSF	56
+ .0 to 1.3	1	91.0 PSF	

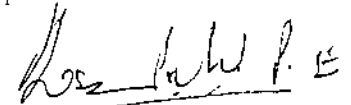
671 cycles completed

Negative Loads

<u>Range of Test</u>	<u># Cycles</u>	<u>Load</u>	<u>Cycles/Min.</u>
+ .0 to 0.5	600	35.0 PSF	56
+ .0 to 0.6	70	42.0 PSF	56
+ .0 to 1.3	1	91.0 PSF	

671 cycles completed

Specimens showed no resultant failure or duress after cycle test. No failure of fasteners. Locks remained engaged. There were no cracks longer than 5" x 1/16" through which air could pass observed. The door was operable at end of test.



Fatigue Loading Test Cont.

Specimen 5 Opaque Single Door (In-swing)

Design Load psf = + 70.0 psf., - 70.0 psf.

Positive loads

<u>Range of Test</u>	<u># Cycles</u>	<u>Load</u>	<u>Cycles/Min.</u>
+ .0 to 0.5	600	35.0 PSF	56
+ .0 to 0.6	70	42.0 PSF	56
+ .0 to 1.3	1	91.0 PSF	

671 cycles completed

Negative Loads

<u>Range of Test</u>	<u># Cycles</u>	<u>Load</u>	<u>Cycles/Min.</u>
+ .0 to 0.5	600	35.0 PSF	56
+ .0 to 0.6	70	42.0 PSF	56
+ .0 to 1.3	1	91.0 PSF	

671 cycles completed

Specimen showed no resultant failure or duress after cycle test. No failure of fasteners. Locks remained engaged. There were no cracks longer than 5" x 1/16" through which air could pass observed. The door was operable at end of test.

(5) DRAWINGS TO BE SUBMITTED:

1. L2098 sheets 1 through 9 of 9
2. Kwikset latch spec sheet
3. Kwikset deadbolt spec sheet
4. Stanley hinge spec sheet

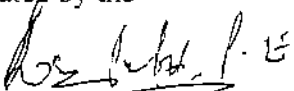
Comment: Nominal 2 mil polyethylene film was used to seal against air leakage during structural loads. The film was used in a manner that did not influence the test results.

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.


 Ramesh Patel, P.E., Florida Reg. #20224 March 26, 2001

Observers:

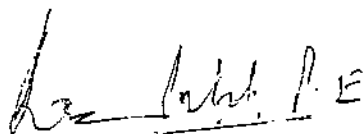
Rick Wright – Consultant, R.W. Building Consultants, Inc.

Dade County Witness:

Not present

All Tests Witnessed by:

Ramesh Patel P.E.
Chris Bennet CTL
Joe Theile CTL



Ramesh Patel, P. E.
Florida Reg # 20224
March 26, 2001

Certified Testing Laboratories, Inc.



Christopher Bennett
Laboratory Manager
Architectural Division

cc: Stanley Door Systems (2)
Rick Wright (2)
Ramesh Patel (1)
File (1)