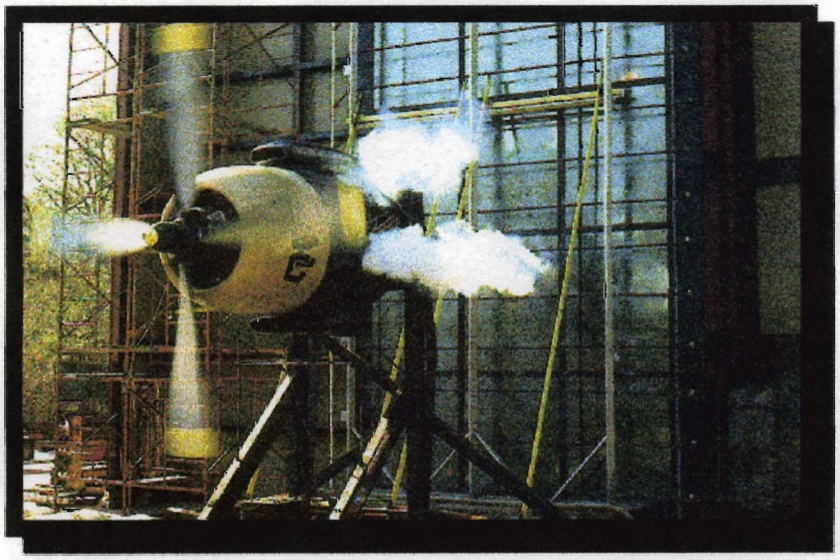
CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*



TEST REPORT:

AAMA 506-2000 Performance Testing
Simpson Door Company
Series 7001 Wood French In-Swing
REPORT #CCLI–05–082

August 3, 2005

Prepared for:

Simpson Door Company
400 Simpson Ave
McCleary, WA 98557

1601 Luna Road
Carrollton, Texas 75006

S-UNITED, INC.
A Quality Control Company

Office: (972) 242-0556
FAX: (972) 245-6047

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4. IMPACT ACCEPTANCE CRITERIA 1

5. TEST SPECIMEN 2

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8. CONCLUSION 6

APPENDIXES

APPENDIX A: SIMPSON DOOR COMPANY 7001 WOOD FRENCH IN-SWING PRODUCT DRAWINGS

APPENDIX B: PHOTOGRAPHS

1. PROJECT DATA

Project: AAMA 506-2000 Performance Testing

Date(s) of Testing: May 10-12, 2005

Tested For:
Simpson Door Company
400 Simpson Ave
McCleary, WA 98557
Phone: (360) 495-3291
Fax: (360) 495-2088

Witnessed By: (All or Partial Viewing)

John Quist — Simpson Door Company

Brandon Newman — Construction Consulting Laboratory, *International*
Wesley A. Wilson — Construction Consulting Laboratory, *International*

2. INTRODUCTION

This report presents the performance characteristics of a Simpson Door Company. Series 7001 Wood French In-Swing. Tests were conducted at Construction Consulting Laboratory, *International* (**CCLI**) testing facility in Carrollton, TX.

3. SUMMARY

Simpson Door Company 7001 Wood French In-Swing was tested in accordance with AAMA 506-2000 and achieved a design 50 rating. The impact resistant series was also impacted with a large nominal 2x4 #2 yellow pine projectile weighing 9 lbs and measuring 8'-0". This missile size and weight complies with the Type D requirements of ASTM E 1996-03 and the Type C requirements of ASTM E 1996-97. At the completion of impacts, the test specimen was Uniform Load cycled at a Design 52.5 psf test pressure in accordance with ASTM E 1886-04.

4. IMPACT ACCEPTANCE CRITERIA

The test specimen shall resist the large missile impact with no tear formed longer than 5" (130 mm) or no opening formed through which a 3" (76 mm) solid sphere can freely pass when evaluated during and upon completion of missile impacts and test loading program.

STATE OF TEXAS
A. REZADAD
82468
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PROFESSIONAL ENGINEER
9/9/05

Florida Registered Professional Engineers Review: Reg. # 52849, February 28, 2007 – Abdol Rezadad, P.E.
Signature: 8/9/05

5. TEST SPECIMEN

Product Type:	Wood French In-Swing **Product Drawings, Appendix A; Photographs, Appendix B**
Series Model:	Simpson Door Company 7001 Wood French In-Swing
Specifications:	AAMA 506-2000 (1996-03 Type D/1996–97 Type C)
Design:	DP-52.5
Frame Size:	6'-2 5/8" x 8'-1 3/4" (74.625" x 97.750")
Fixed Panel Size:	3'-0" x 8'-0" (36" x 96")
Active Panel Size:	3'-0" x 8'-0" (36" x 96")
Frame Dimension:	4.632"
Door Thickness:	1.715"
Configuration:	X.X

STATE OF TEXAS
A. REZADAD
82468
REGISTERED
PROFESSIONAL ENGINEER
9/6/05

Refer to Mock-Up drawings in **Appendix A.** This report is not complete unless this laboratory symbol is stamped and initialed onto the drawings.

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1601 Luna Road
Carrollton, Texas 75006
Phone (972) 242-0556
Report# 05-082, Date 8/3/05
Reviewed BY

6. DESCRIPTION

Weather Strip: Kerf mounted Q-Lon foam filled single leaf gasket located at exterior face of frame head, sill, jamb, and fixed T-astragal. 5-Leg vinyl sweep at the bottom of door panel bottom rails attached with 1" x 0.050" diameter staples spaced 1" from each end and on 6" centers.

Hardware: Four (4) 4" 5 knuckle butt hinge located 7" from each end and 26.5" on center of active and inactive panel hinge stiles. Hinges attach to door with four (4) #9 x 3/4" screws per hinge leaf, and to doorframe with two (2) #9 x 3/4" and two (2) #9 x 3"screws. Active door panel with a two-point lock consisting of the handle and lock set throw bolt located 36" from door panel bottom rail and a key actuated deadbolt located 42¼" from panel bottom rail. Handle set and deadlock keepers attached to T-astragal with two (2) #10 x 2¼" screws per keeper. Two (2) H.B Ives model #B253 brass surface bolts at top and bottom of each panel lock stile. Surface bolt slides between two slide collars and engages keeper at interior of frame head and sill. Collars are attached to door panel with two (2) #6 x 1½" screws per collar and keepers are attached to door frame members with two (2) #9 x 2¼" per keeper. Integral surface bolts at inactive panel attached with two (2) #9 x 1½" screws. Keepers attached through frame head and sill and into test buck with two (2) #9 x 2¼" fasteners.

Cardinal I.G. Impact Resistant Sealed Insulated Glass: Laminated interior lite, interior side is 1/8" annealed, SenturyGlas 0.090" interlayer, and 1/8" annealed, ½" aluminum air spacer, exterior side is 1/8" fully tempered. Glass thickness is 3/4" overall.

Impact Resistant Glazing: Interior glazed with Schnee Moorehead SM2100 Cura-sil reactive polymeric back bedding compound at exterior, and heel of glass, full perimeter at panel glazing leg. Glass stop rails part PP-005-0700 at exterior of glass and glazing stop part #PP-009-6000 at the interior of glass.

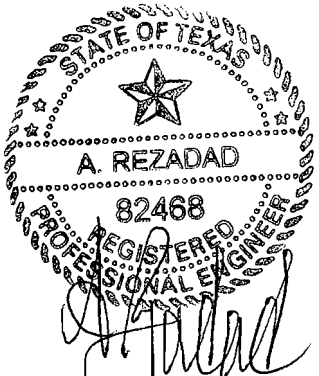
Weep Arrangement: Sloped

Reinforcement: T-Astragal

Installation: (4) four #9 x 3/4" Penrod Screws to attach hinge to door, (2) two #9 x 3/4" Penrod Screws to attach hinge to jamb leaving (2) two screw holes open on each hinge to be used in bucking the door unit. Secure door unit into buck using #10 x 3" wood screws in remaining open hinge holes.

Other Features: Panel corner construction is coped and butted and attached with 5/8" x 4 9/16" fluted wood dowels and Type 1 Polyvinyl Acetate Catalyzed adhesive. Top rail to stile connected with two (2) fluted wood dowels and bottom rail to stile connected with four (4) fluted wood dowels.

Date Tests Started: May,23 2005
Date Tests Completed: May 23, 2005
Testing Performed at: Construction Consulting Laboratory, *International*
Carrollton, Texas



9/26/05

9/26/05

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Signature:

7. PERFORMANCE RESULTS

Specification: AAMA506-2000

Title of Test	Test Method	Measured	Allowed
Uniform Structural	ASTM E 330-02		
-Positive		78.75 PSF	75.0 PSF
-Negative		78.75 PSF	75.0 PSF
-Permanent Set		No Set	0.391"

Specification: AAMA 506-2000: ASTM E 1886-04/ASTM E 1996-03 Missile Level Type D, 1996-97 Missile level Type C (#2 yellow pine weighing 9 lbs and measuring 7'-11" overall).

Test Specimen 1

Par No	Speed	Rotation	Title of Test	Measured	Allowable
5.3.1.1	50.8 fps	0°	Center of operable	No Penetration	See Section 4
5.3.2.1	50.6 fps	0°	Upper right corner	No Penetration	See Section 4

Test Specimen 2, Photograph 2, Appendix B

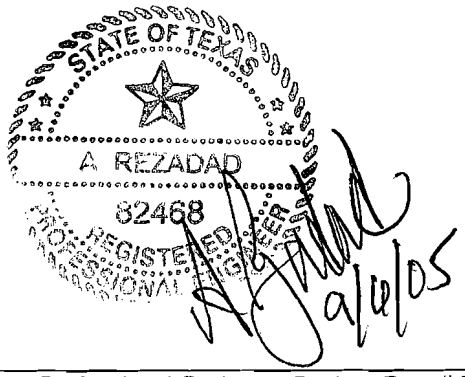
Par No	Speed	Rotation	Title of Test	Measured	Allowable
5.3.1.2	50.4 fps	0°	Lower left corner	No Penetration	See Section 4
5.3.2.2	50.3fps	0°	Center of panel	No Penetration	See Section 4

Test Specimen 3, Photograph 3, Appendix B

Par No	Speed	Rotation	Title of Test	Measured	Allowable
5.3.1.3	51.1 fps	0°	Upper left corner	No Penetration	See Section 4
5.3.3.6	50.2 fps	0°	Center of T-Astragal	No Penetration	See Section 4

The laboratory temperature was 86° F for the duration of testing. Test specimens were stored in the lab prior to testing and the skin temperature was recorded at 85° F.

Visual inspections performed on the test specimens revealed there were no penetrations through the laminate and no separation of vision-to-member glazing at the conclusion of the large missile impact tests.



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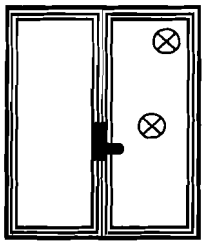
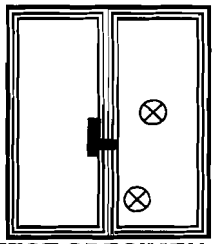
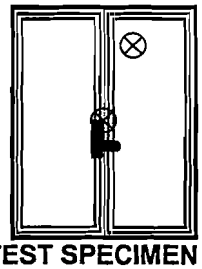
Signature: 8/19/05



TEST SPECIMEN 1



TEST SPECIMEN 2



TEST SPECIMEN 3

⊗Impact #1 ⊗Impact #2

Uniform Static Air Cyclic Test

Test Specimens 1, 2, & 3

Load Direction	Sequence	Range	Cycle Time	Cycles	Damage
52.5 PSF Positive	Cycle 1	0.2 P_{max} to 0.5 P_{max}	< 3 seconds	3500	None
	Cycle 2	0 to 0.6 P_{max}	< 3 seconds	300	None
	Cycle 3	0.5 P_{max} to 0.8 P_{max}	< 3 seconds	600	None
	Cycle 4	0.3 P_{max} to 1.0 P_{max}	< 3 seconds	100	None
2-mil polyethylene plastic was duct taped to frame and covered specimens to maintain chamber pressure.					

Load Direction	Sequence	Range	Cycle Time	Cycles	Damage
52.5 PSF Negative	Cycle 1	0.3 P_{max} to 1.0 P_{max}	< 3 seconds	50	None
	Cycle 2	0.5 $_{max}$ to 0.8 P_{max}	< 3 seconds	1050	None
	Cycle 3	*0* to 0.6 P_{max}	< 3 seconds	50	None
	Cycle 4	0.2 P_{max} to 0.5 P_{max}	< 3 seconds	3350	None
2-mil polyethylene plastic was duct taped to frame and covered specimens to maintain chamber pressure. Plastic did not enhance the structural properties of the test specimen.					

Visual inspections performed on the test specimens revealed there were no penetrations through the laminate and no separation of vision-to-member glazing at the conclusion of the cyclic pressure differentials.

Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and have been compared to the test sample submitted. These records will be retained at **CCLI** for a period of four years.

STATE OF TEXAS
A. REZADAD
82468
REGISTERED
PROFESSIONAL ENGINEER

8/9/05

Florida Registered Professional Engineers Review: Reg. # 52849, February 28, 2007 – Abdol Rezadad, P.E.
Signature: 8/9/05

8. CONCLUSION

The test specimens, Simpson Door Company Series 7001 Wood French In-Swing, passed the impact resistant criteria of AAMA 506-2000 at 52.5 psf. The above results were achieved by using the designated test methods and indicate compliance with the above specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

Respectfully submitted,

CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*

BRANDON NEWMAN
TESTING TECHNICIAN

WESLEY A. WILSON
LABORATORY MANAGER

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A REZADAD
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9/6/05

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Signature: 8/9/05

APPENDIXES

APPENDIX A

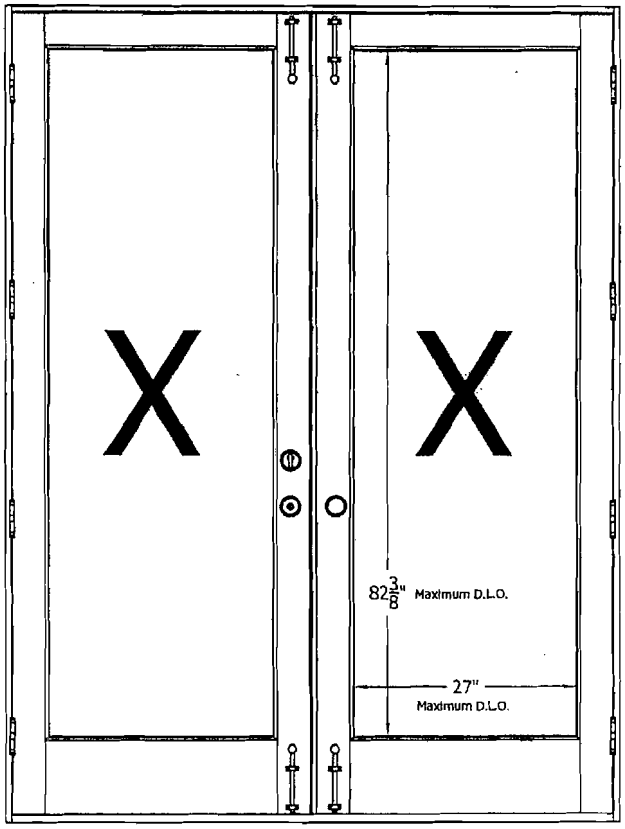
PRODUCT DRAWINGS

Drawings	Part #	Date
COVER		
LAYOUT DETAIL	D-7001-300-800-0300	6/4/2005
IN-SWING DETAILS 1/9 & 2/9	D-7001-300-800-0300	6/4/2005
IN-SWING DETAILS 1/10	D-7001-300-800-0300	6/4/2005
ENDURA ADJUSTABLE SILL	D-7001-300-800-0300	6/4/2005
CONFIGURATION OF OPENINGS	D-7001-300-800-0300	6/4/2005
UNIT ASSEMBLY NOTES	D-7001-300-800-0300	6/4/2005
HINGE & LOCKSET PLACEMENTS	D-7001-300-800-0300	6/4/2005
LAMINATED I.G. ORIENTATION	D-7001-300-800-0300	6/4/2005
LAMINATED I.G. MAKEUP	D-7001-300-800-0300	6/4/2005
ASTRAGAL CROSS SECTION	D-7001-300-800-0300	6/4/2005
DOOR JAMB CROSS SECTION	D-7001-300-800-0300	6/4/2005
GLAZING BEAD	PP-009-6000	6/4/2005
VIEW SAVER DOUBLE COPE	PP-001-0701	6/4/2005
VIEW SAVER WITH ID MARK	PP-005-0700	5/31/2005
STILE AND RAIL INTERSECTION	D-7001-300-800-0300	6/4/2005
CONSTRUCTION OF STILE AND RAIL	D-7001-300-800-0300	6/4/2005
SURFACE BOLT	2538	8/1/2005

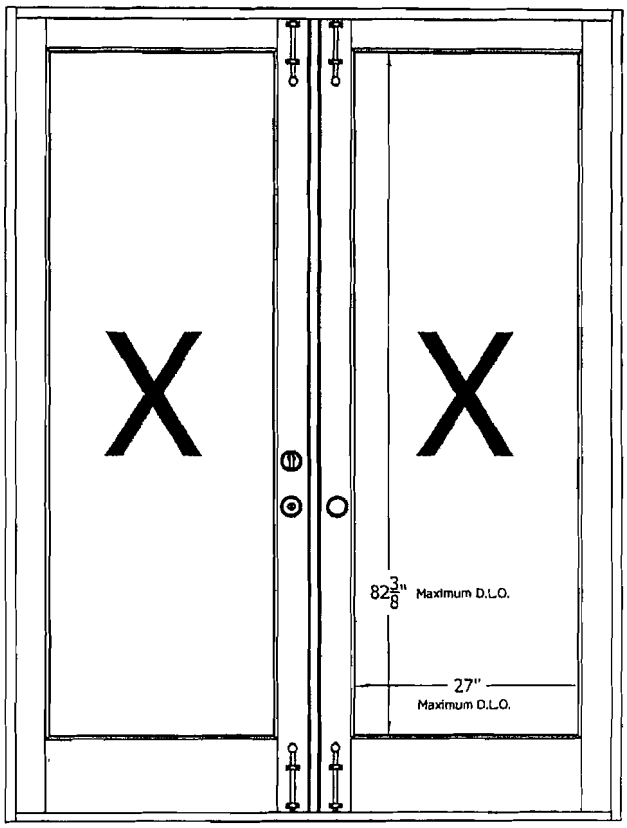
Submittal Information for Door Unit Evaluation
to: Texas Department of Insurance for compliance evaluation of wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

Simpson®

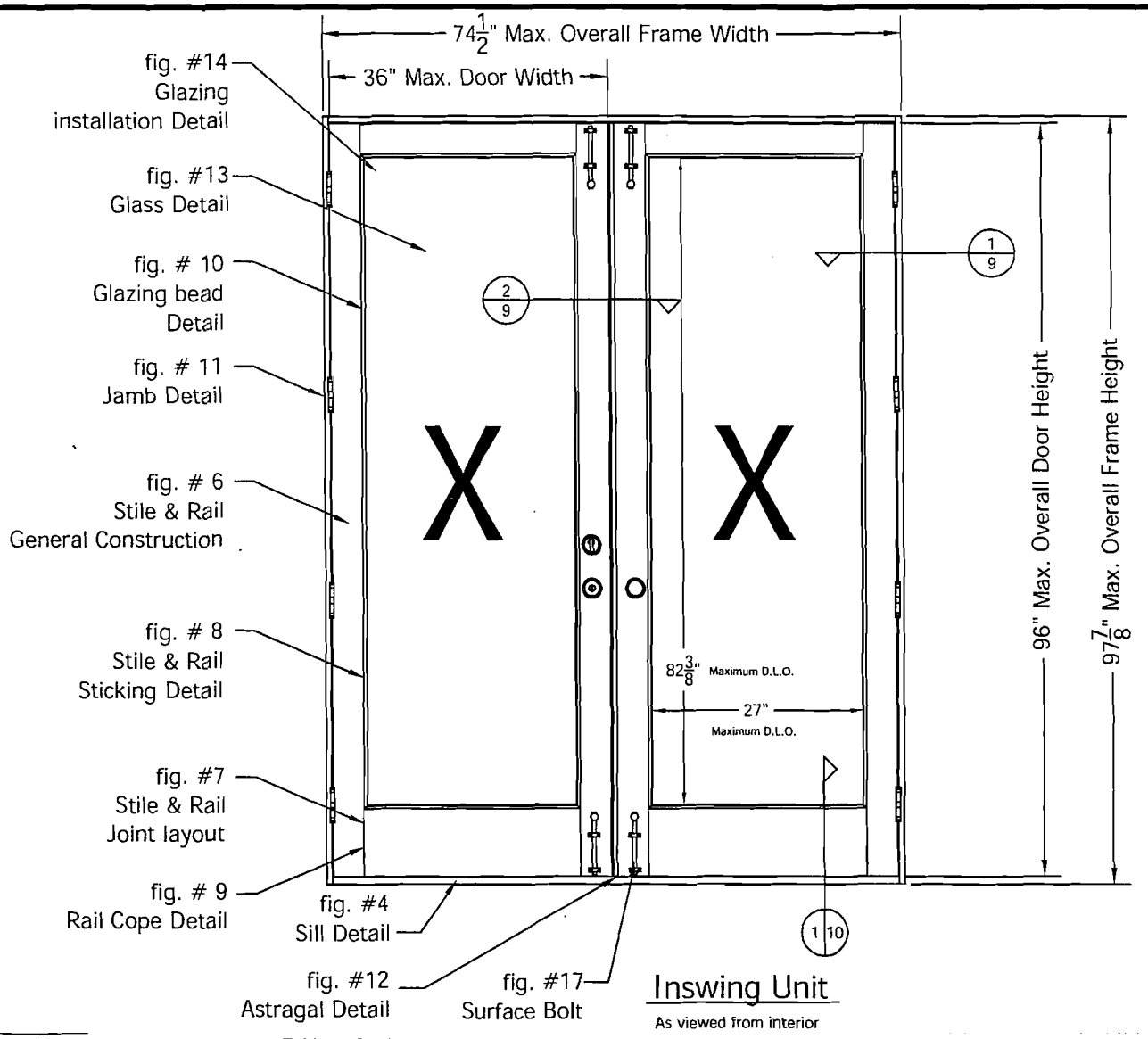
Simpson Door Co.
400 Simpson Ave.
McCleary, WA 98557
ph. 360-495-3291
fx. 360-495-2088



Inswing Unit
As viewed from interior



Outswing Unit
As viewed from interior



Inswing Unit

As viewed from interior

Table of Contents

Page #	Description	Page #	Description
1	Cover page showing General unit looks	12	fig. #7 – General construction of Stile & Rail intersection Joints
2	fig. #1 - Full light Double Door operable inswing unit, Tested Elevation	13	fig. #8 – Simpson Sticking Profile PP-005-0700
3	fig. #2 - Full light Double Door operable outswing unit, Tested Elevation	14	fig. #9 – Simpson Cope Profile PP-001-0701
4	fig. #3 - Configuration of openings overview	15	fig. #10 – Simpson Door Co. – Glazing bead Profile PP-009-6000
5	Section Details 1/9 & 2/9	16	fig. #11 – Jamb cross section
6	Section Details 1/10	17	fig. #12 – Astragal cross section
7	Section Details 1/11 & 2/11	18	fig. #13 – Cardinal Glass Co. Laminated IG Impact Glazing makeup section
8	Section Details 1/12	19	fig. #14 – Laminated IG unit installation direction section view
9	fig. #4 – Endura products Inswing Adjustable Sill cross section	20	fig. #15 – Hinge & Lockset placement view
10	fig. #5 – Endura products Outswing Adjustable Sill cross section	21	fig. #16 – Unit assembly notes
11	fig. #6 – General construction of Stile & Rail rough stock	22	fig. #17 – Surface Bolt by H.B. Ives Model 253B

Revisions

Rev. #	Description	Date	by Whom

TITLE: fig. #1
Wood French Inswing Door unit

DRAWING NO. D-7001-300-800-0300

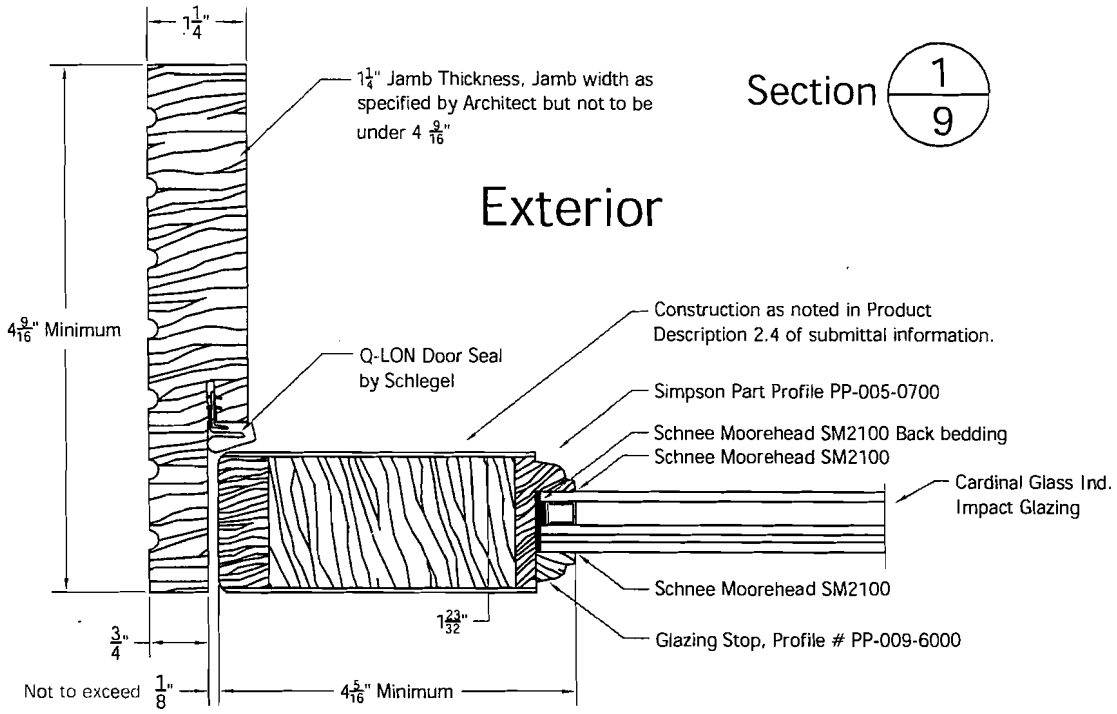
LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY:	DATE
S. Beerbower	6/4/2005

Simpson®

Phone [illegible]
Report 05-CS2 8-4-05
Reviewed By: BR

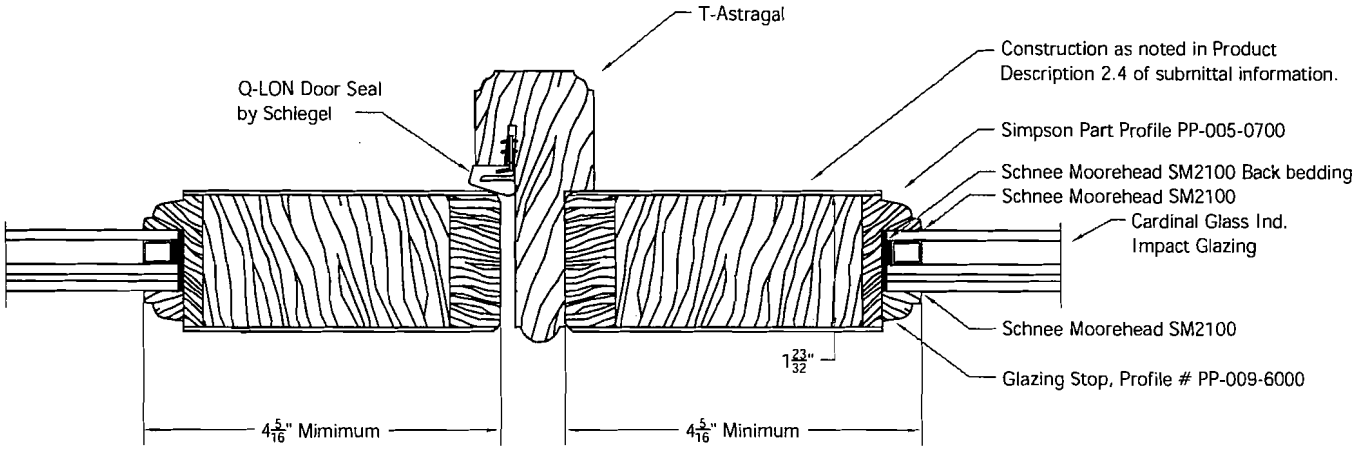
Section 1/9



Exterior

Interior

Section 2/9



Exterior

Interior

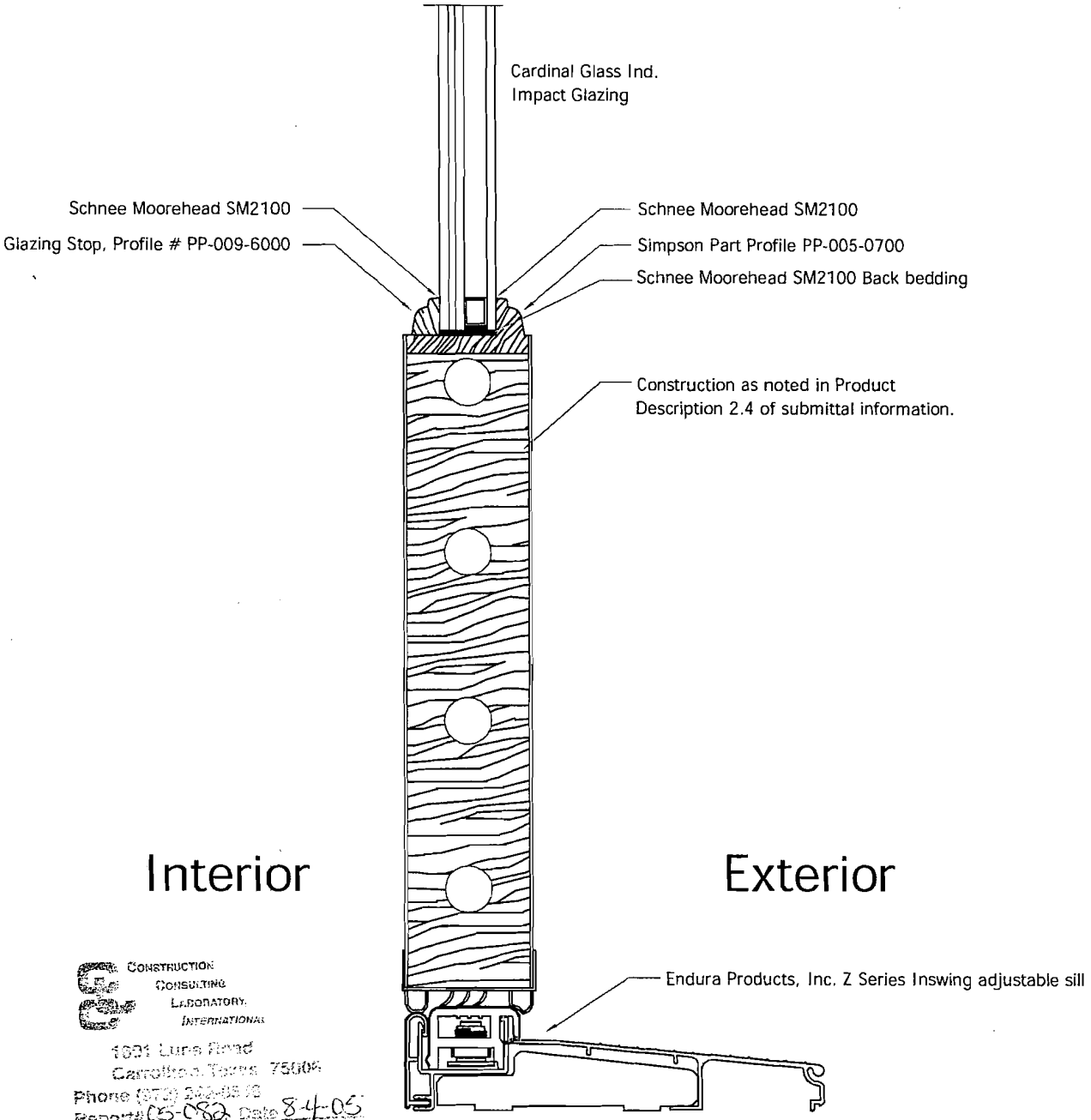
Revisions

Rev. #	Description	Date	by Whom
	Reviewed 05CS2	9-4-05	
	Reviewed BA		

TITLE	Inswing Sections Section Details 1/9 & 2/9
DRAWING NO.	D-7001-300-800-0300
LAYOUT	00
SCALE	NTS
BORE PATTERN #	7054
DRAWN BY:	S. Beerbower
DATE	6/4/2005

Simpson®

Section 1/10



Construction Consulting Laboratory International
1031 Luna Road
Carrollton, Texas 75006
Phone (972) 242-[illegible]
Report# C5-082 Date 8-4-05
Reviewed By BA

Revisions

Rev. #	Description	Date	by Whom

TITLE: Inswing Sections
Section Details 1/10

DRAWING NO. D-7001-300-800-0300

LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY:	DATE
S. Beerbower	6/4/2005

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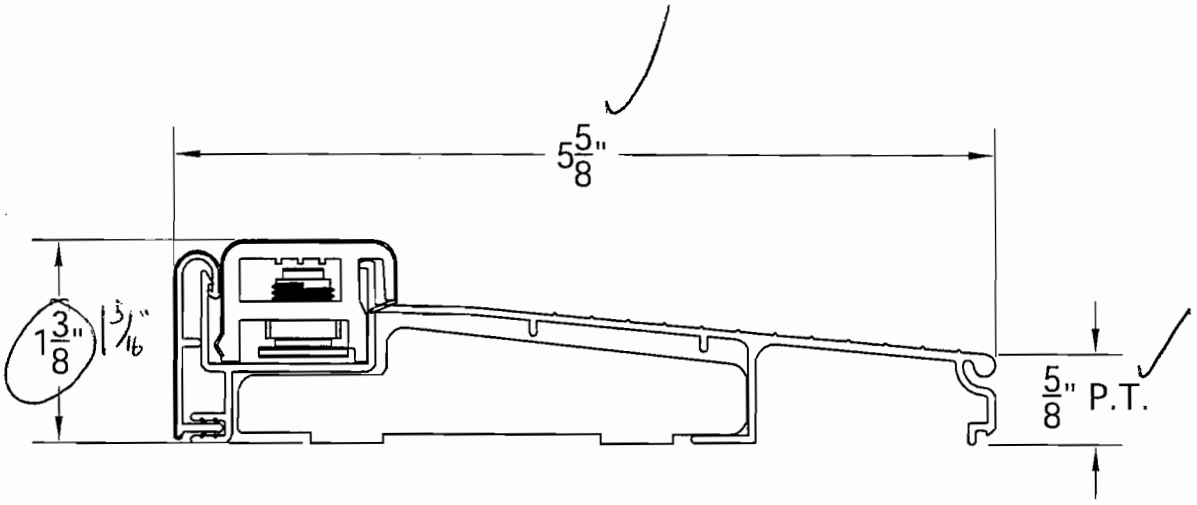

Endura Products, Inc. Z- Series Inswing adjustable sill

CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL
1801 Lin[illegible] Road
Carroll[illegible] Texas 75006
Phone (972) 3[illegible]
Report# 05-083 Date 8-4-05
Reviewed BY PM

Revisions

Rev. #	Description	Date	by Whom

TITLE	fig. #4 Endura Products Inswing Adjustable Sill Model # ZAI5625
DRAWING NO.	D-7001-300-800-0300
LAYOUT 00 / SCALE NTS / BORE PATTERN #	7054
DRAWN BY: S. Beerbower / DATE	8/6/2005

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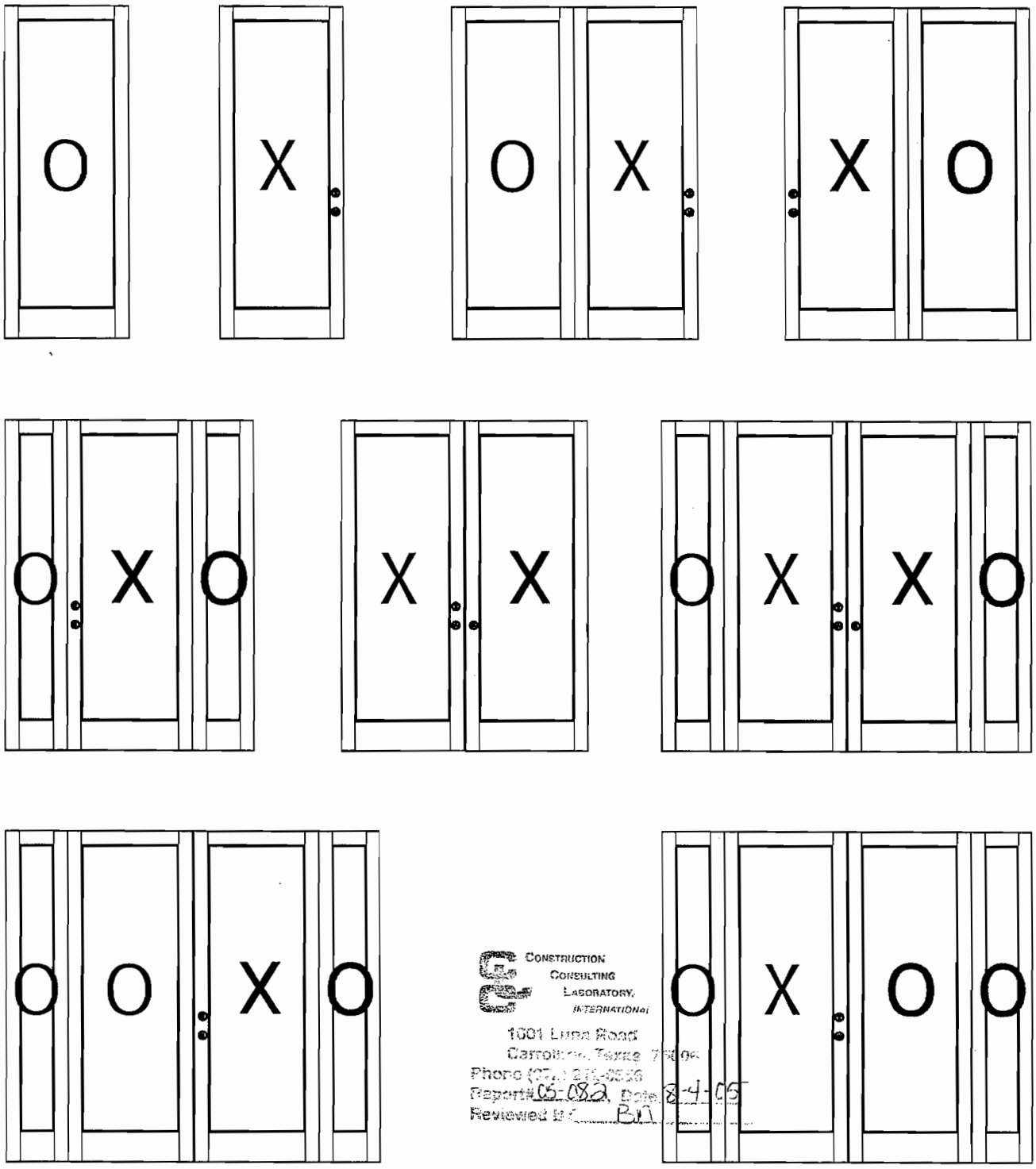


CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL
1001 Lupa Road
Carrollton, Texas 75006
Phone (972) 242-8536
Report# 05-082 Date 8-4-05
Reviewed By: BM

Revisions

Rev. #	Description	Date	by Whom

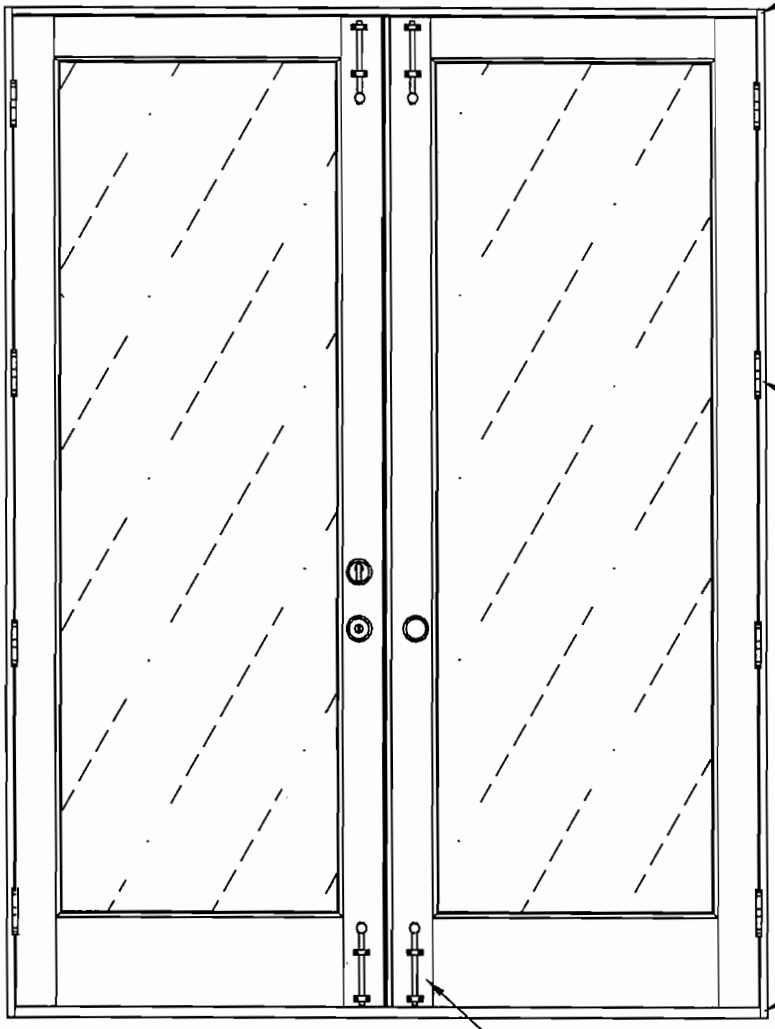
TITLE: fig. #3
Configuration of Openings / Overview

DRAWING NO. D-7001-300-800-0300

LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY:	DATE
S. Beerbower	6/4/2005

Simpson®



Each Jamb to header (2 typ.) are to have a caulking sealer applied to joint before assembly. Each joint is to be fastened with four each 2" long 3/4" crown gun driven staples.

Four each #9 x ¾" Penrod Screws to attach each hinge to door slab, use two each #9 x ¾" Penrod Screws to attach each hinge to Jamb leaving 2 screw holes open on each hinge to be used in bucking the door unit. Secure door unit into buck using #10 by 3" wood screws and #9 x 2 1/2" FHWS screws in remaining open hinge holes when bucking the door.

Each Jamb to Sill joints (2 typ.) are to have caulking sealer applied to joint before assembly. Each joint is to be fastened with four each 2" long 3/4" crown gun driven staples.

Surface bolts are to be attached as recommended by Installation Instructions.

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Report# E5-082 8-4-05
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Revisions

Rev. #	Description	Date	by Whom

TITLE: fig. #16
Unit Assembly notes

DRAWING NO. D-7001-300-800-0300

LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY:	DATE
S. Beerbower	6/4/2005

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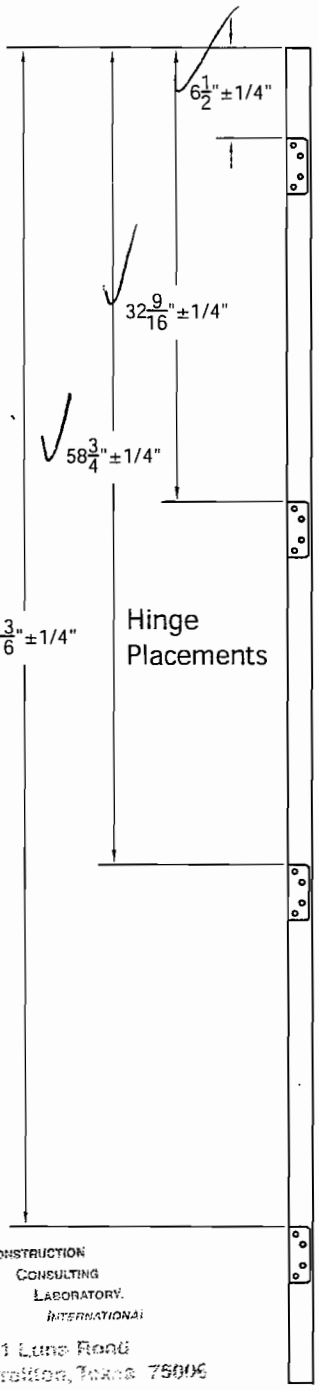

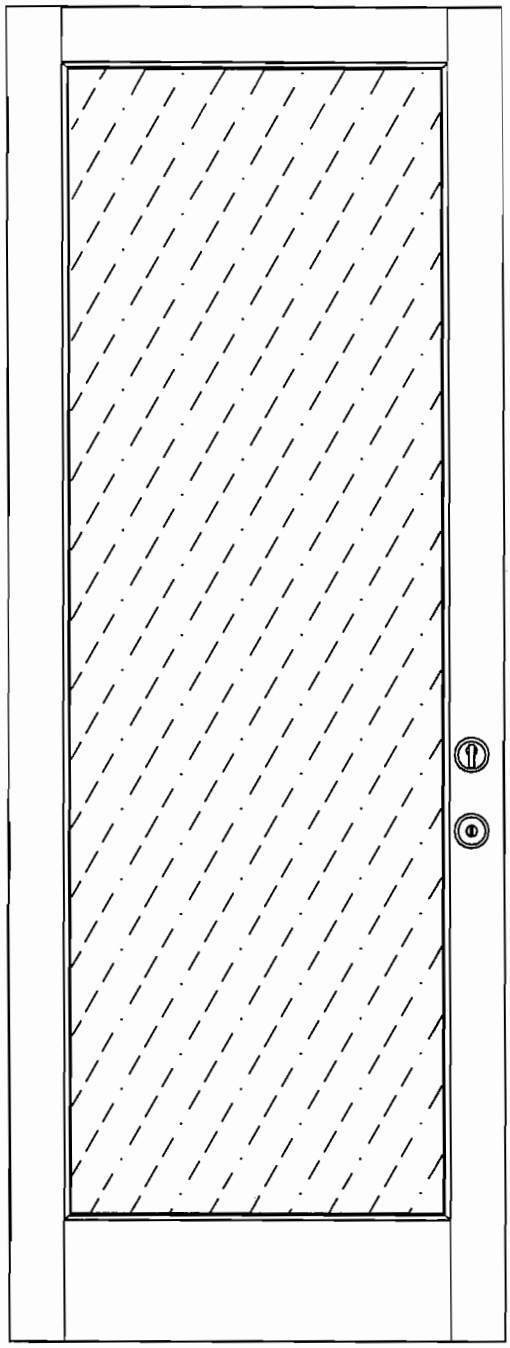

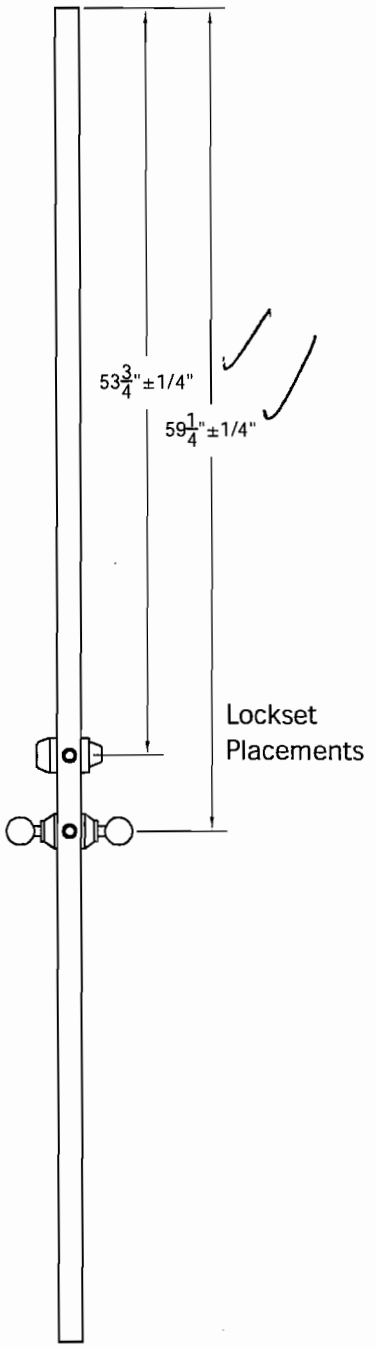

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1601 Luna Road
Carrollton, Texas 75006
Phone (972) 242-0539
Report# 05-082, Date 8-4-05
Reviewed BY BD

Revisions

Rev. #	Description	Date	by Whom

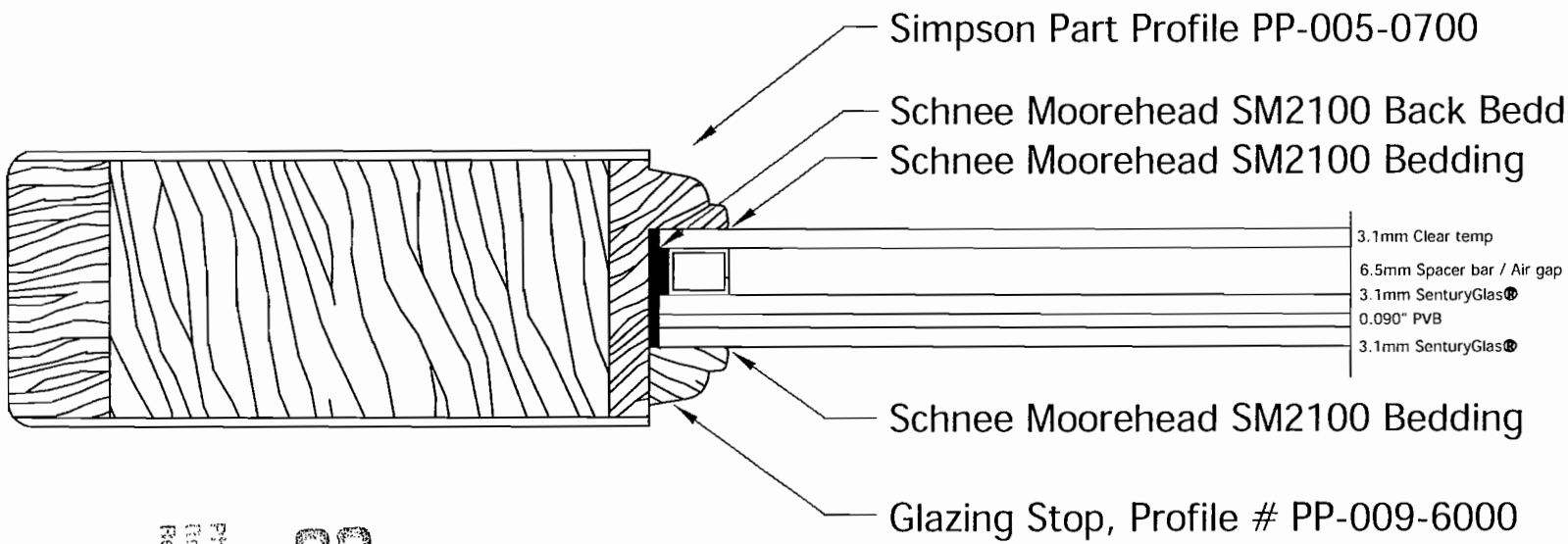
TITLE fig. #15
Hinge & Lockset placements

DRAWING NO. D-7001-300-800-0300

LAYOUT	00	SCALE	NTS	BORE PATTERN #	7054
DRAWN BY:	S. Beerbower	DATE	6/4/2005		

Simpson®

Exterior



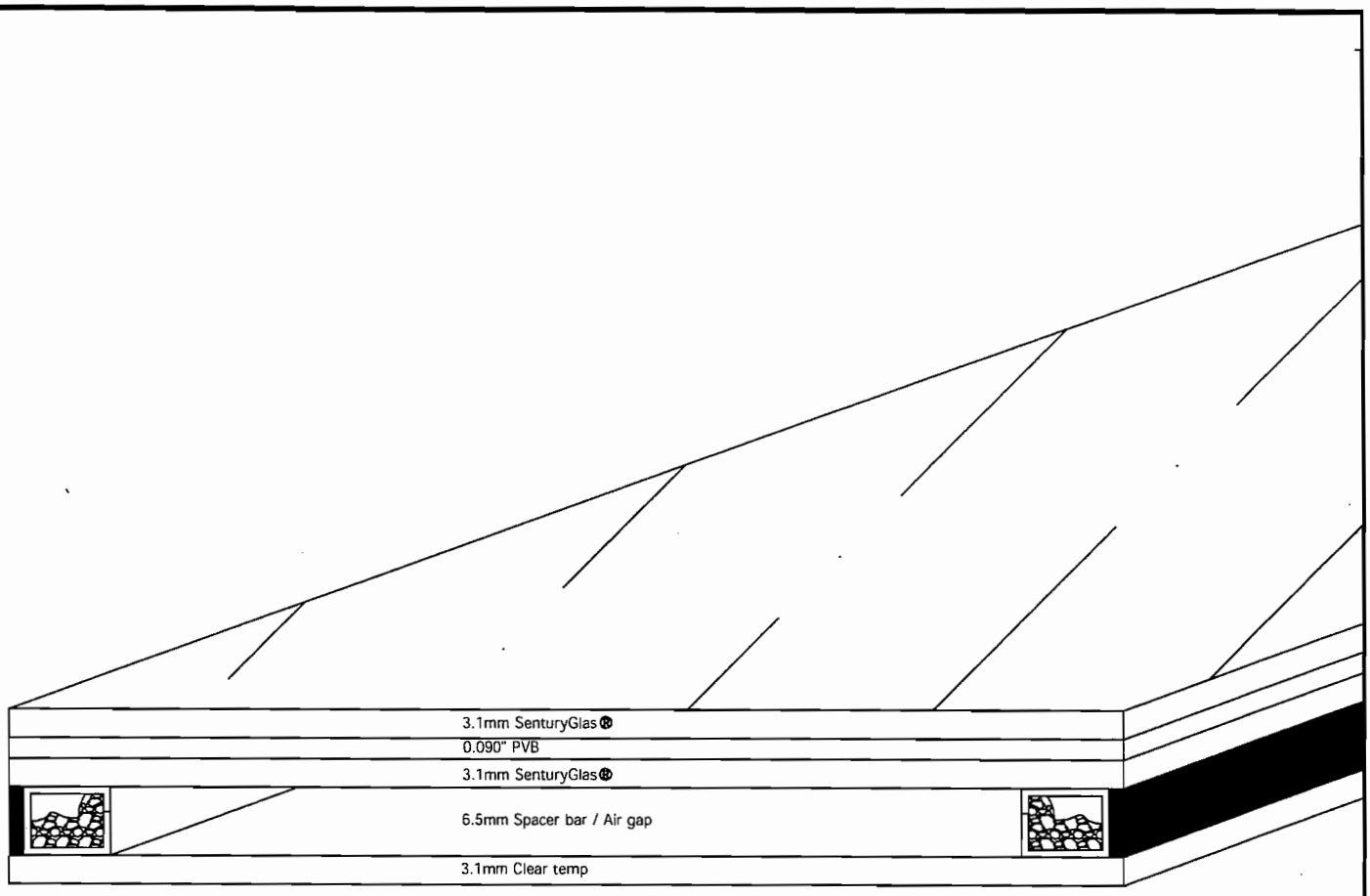
Interior

Revisions

Rev. #	Description	Date	by Whom

TITLE	fig. #14 Laminated IG unit installation orientation		
DRAWING NO.	D-7001-300-800-0300		
LAYOUT 00	SCALE NTS	BORE PATTERN # 7054	
DRAWN BY: S. Beerbower	DATE 6/4/2005		

Simpson®



Cardinal IG Co. Glazing Material.
IG Unit makeup is as follows:
3.1 mm Clear temp, 6.5 mm Spacer bar, 8.6mm Laminated sheet.
Laminated sheet makeup is as follows:
3.1mm SenturyGlas®, 0.090"PVB, 3.1mm SenturyGlas ®

CONSTRUCTION
CONSULTING
LABORATORY,
INTERNATIONAL

1001 Lane Road
Carrollton, Texas 75006
Phone [illegible]
Report No. 05-082 Date 8-4-05
Reviewed BY BN

Revisions

Rev. #	Description	Date	by Whom

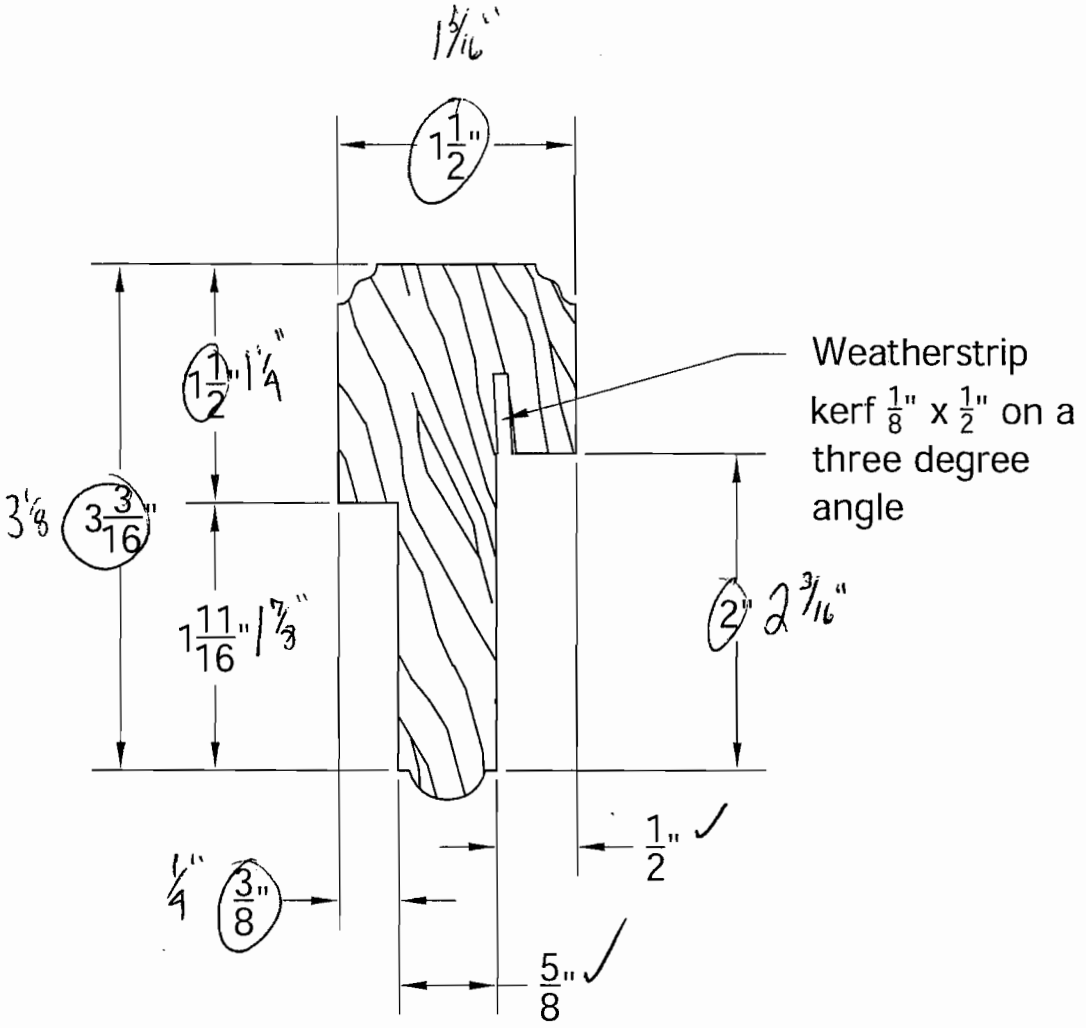
TITLE fig. #13
Laminated IG unit makeup

DRAWING NO. D-7001-300-800-0300

LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY:	DATE
S. Beerbower	6/4/2005

Simpson®



CONSTRUCTION CONSULTING LABORATORY INTERNATIONAL

1021 Luna Road
Carrollton, Texas 75006
Phone (972) 242-[illegible]
Report# C5-082 Date 8-4-05
Reviewed BY BN

Revisions

Rev. #	Description	Date	by Whom

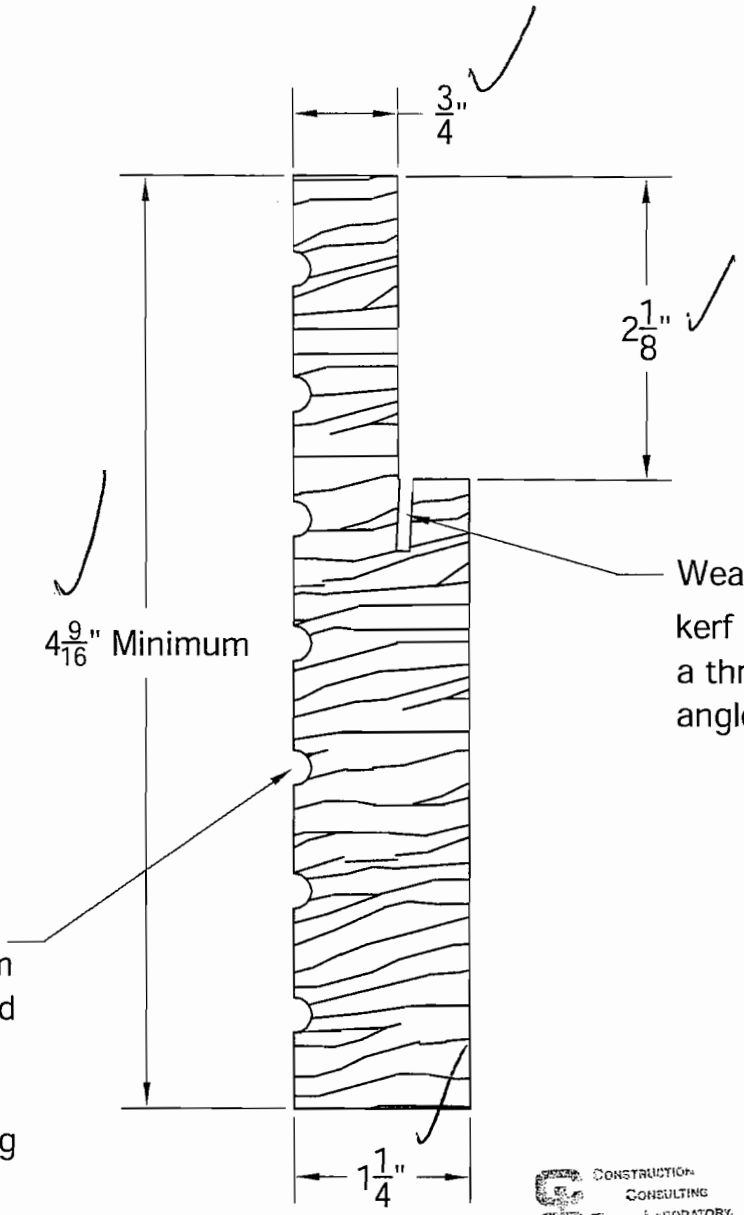
TITLE fig. #12
Astragal cross section

DRAWING NO. D-7001-300-800-0300

LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY:	DATE
S. Beerbower	6/4/2005

Simpson®



Note:
Frame components are kerfed along the back side to provide relief from wood stresses and help in the prevention of bowing or warping of the frame.

Construction Consulting Laboratory, International
1801 Luna Road
Carrollton, Texas 75006
Phone (972) 242-0558
Report 05-082 Date 8-4-05
Reviewed BY BA

Revisions

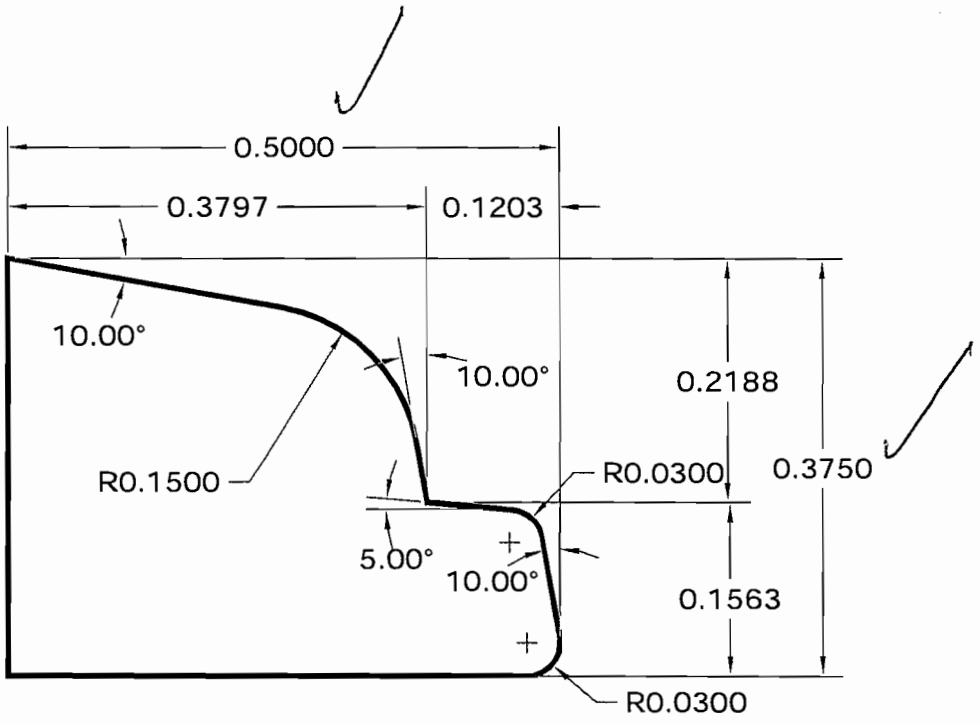
Rev. #	Description	Date	by Whom

TITLE fig. #11
Door Jamb cross section

DRAWING NO. D-7001-300-800-0300

LAYOUT	00	SCALE	NTS	BORE PATTERN #	7054
DRAWN BY:	S. Beerbower	DATE	6/4/2005		

Simpson®



This Detail is of the Glazing bead (stop) that holds the glazing into the door unit. The Glazing bead is secured with Pneumatic driven brads 1" long by 18 gauge diameter placed at a spacing of 6 to 8 inches with a brad being placed within 3" of the end of any bead.

CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL
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Phone (972) 242-0556
Report No. 05-082 Date 8-4-05
Reviewed By: BH

Revisions

Rev. #	Description	Date	by Whom

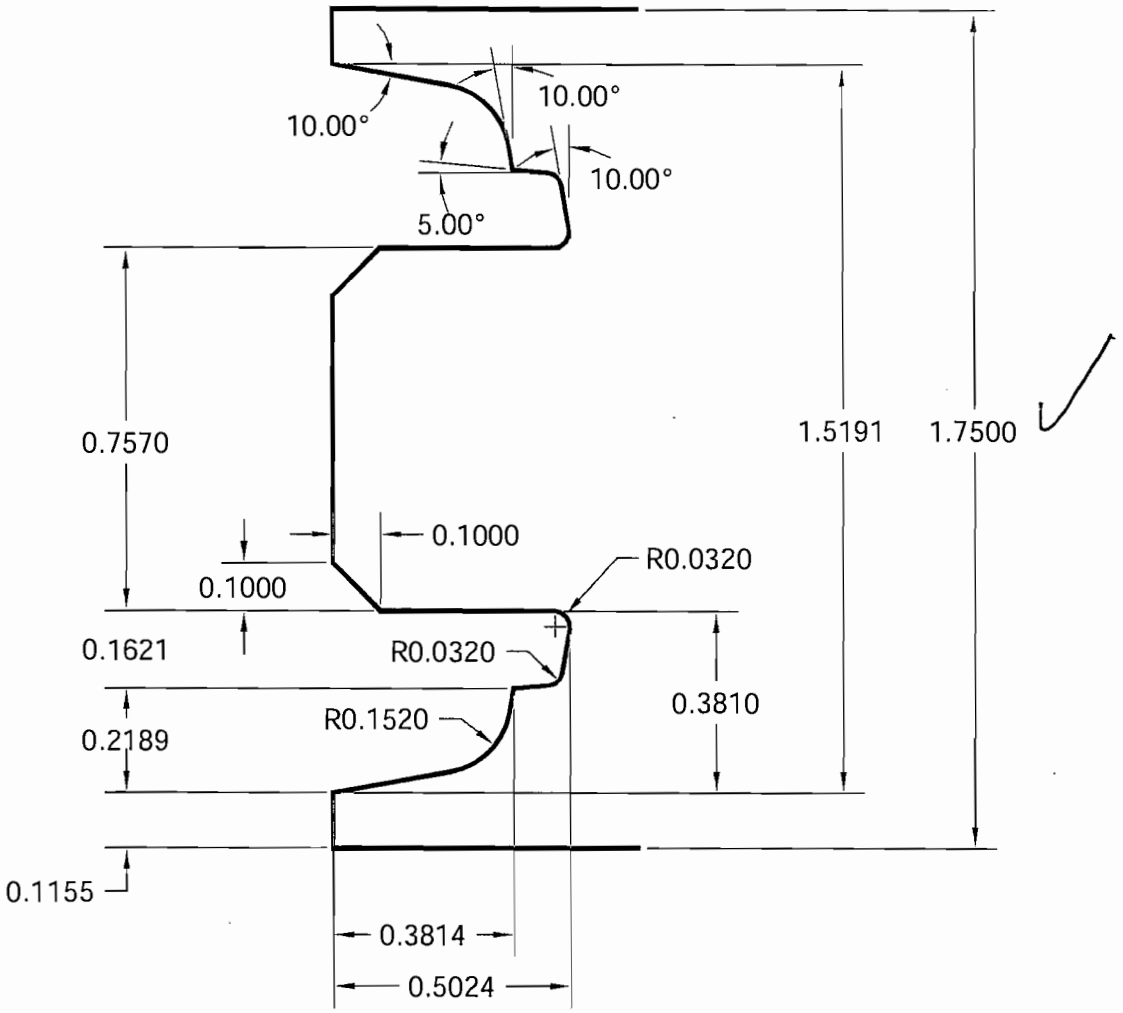
TITLE: fig. #10
View Saver® Replacement Sticking & Glazing bead

DRAWING NO.: PP-009-6000

LAYOUT	SCALE	BORE PATTERN #
00	NTS	N/A

DRAWN BY:	DATE
S. Beerbower	6/4/2005

Simpson®



This detail is used on the ends of the Door rails.

Revisions

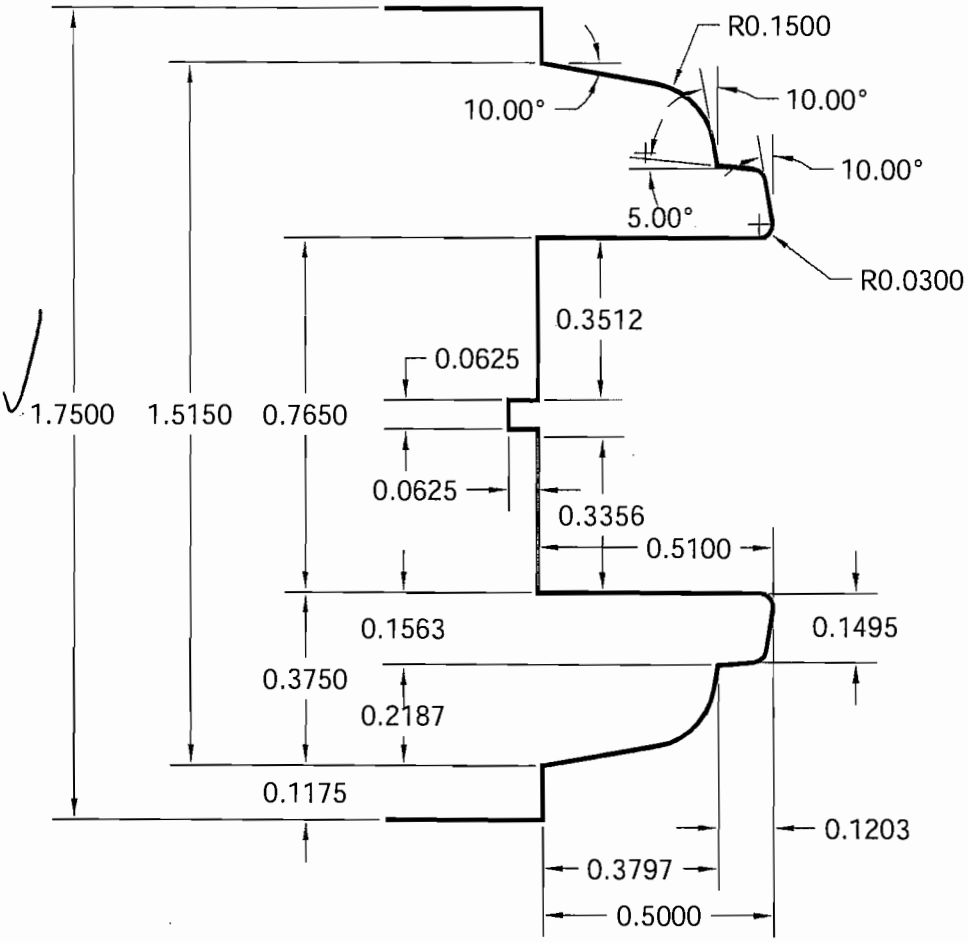
Rev. #	Description	Date	by Whom

TITLE fig. #9
View Saver® Double Cope

DRAWING NO. PP-001-0701

LAYOUT	00	SCALE	NTS	
DRAWN BY:	S. Beerbower	DATE	5/31/2005	

Simpson®



This Detail is used on the edges of the Door Stiles and Rails that face into the glazing opening.

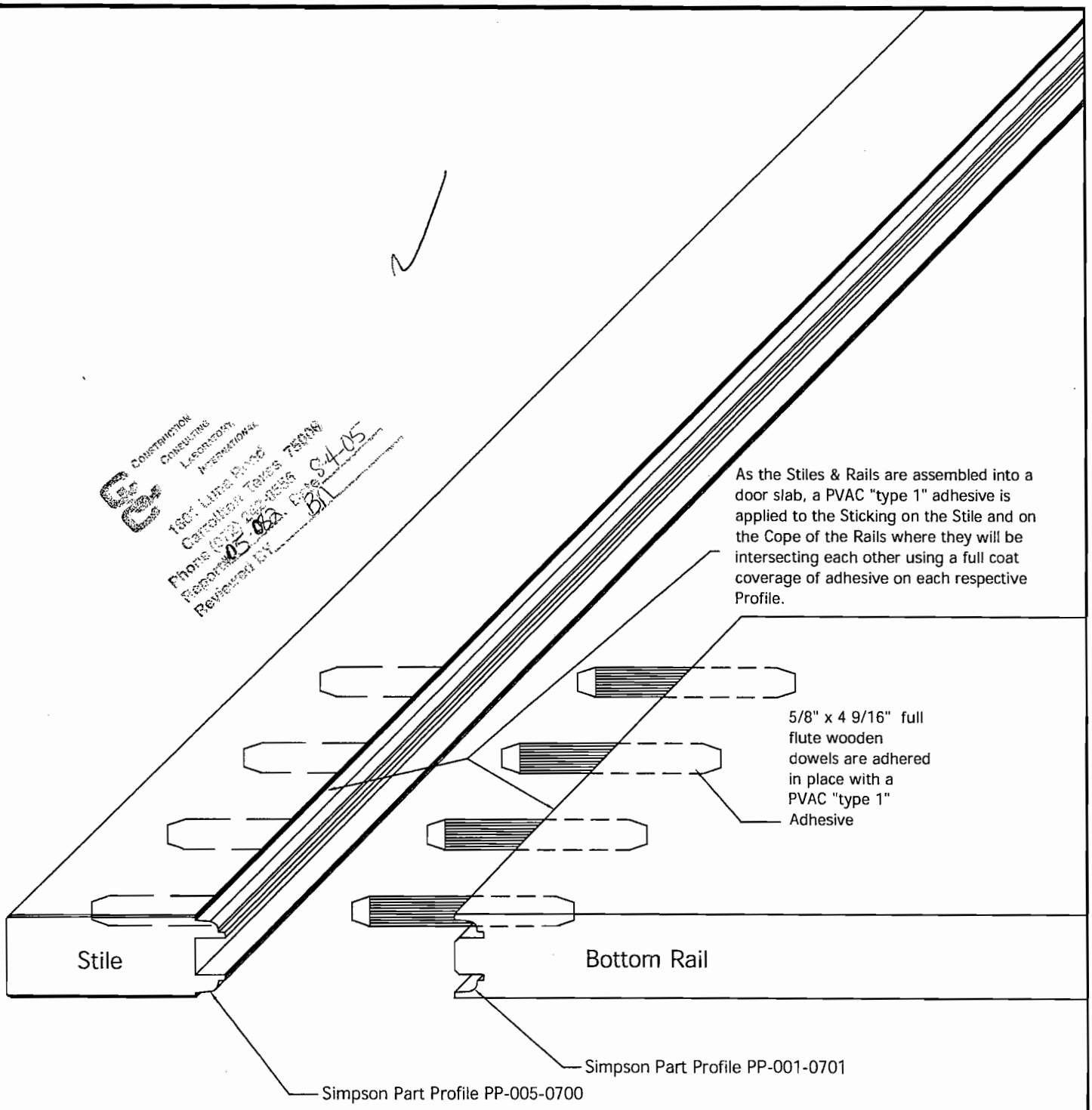
Construction Consulting Laboratory International
1801 Luna Road
Carrollton, Texas 75006
Phone (972) 242-8595
Reports 05-082 Date 8-4-05
Reviewed BY BN

Revisions

Rev. #	Description	Date	by Whom

TITLE	fig. #8 View Saver® Double Sticking w/ID Mark
DRAWING NO.	PP-005-0700
LAYOUT	00
SCALE	NTS
DRAWN BY:	S. Beerbower
DATE	5/31/2005

Simpson®

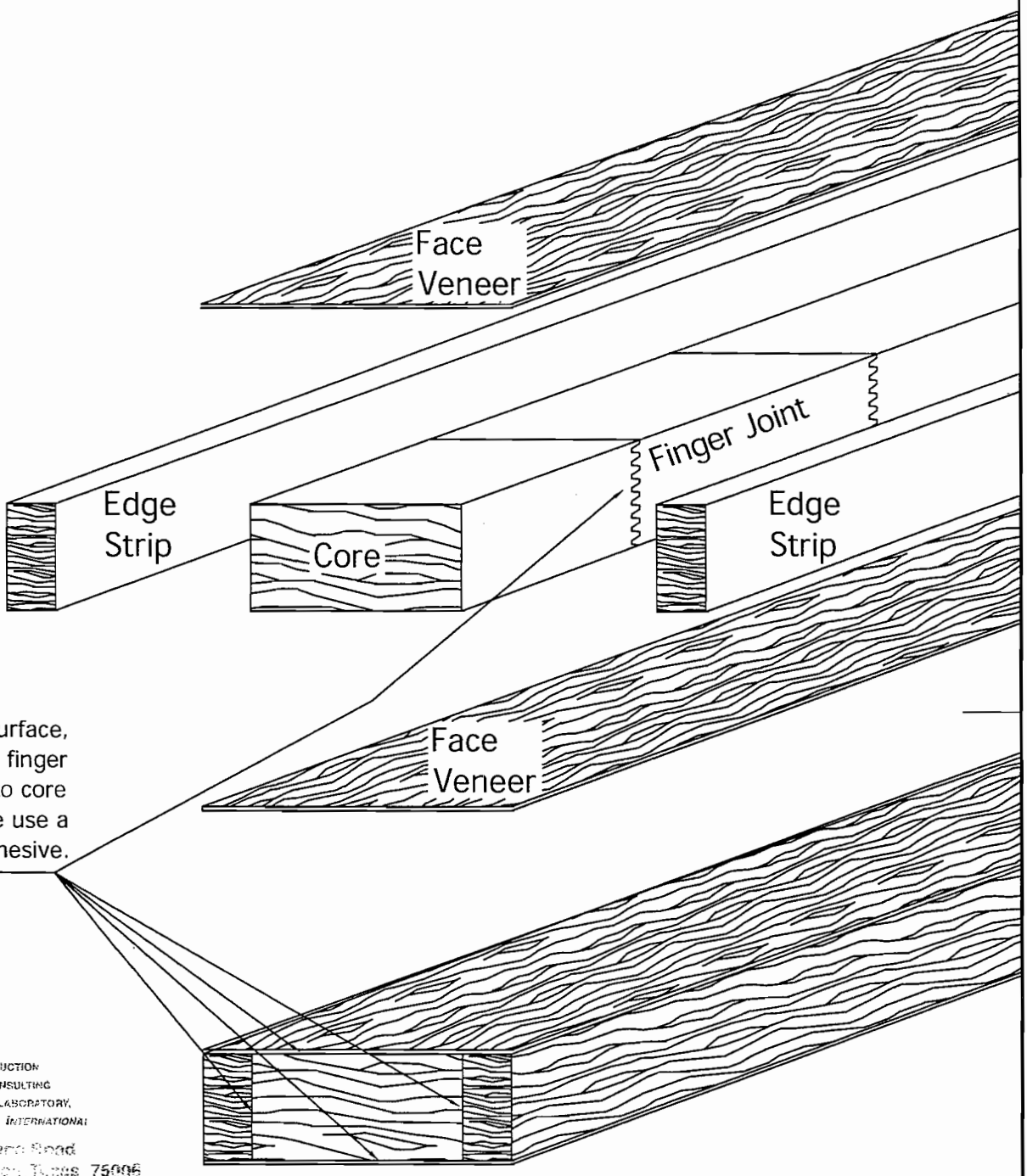


Revisions

Rev. #	Description	Date	by Whom

TITLE	fig. #7 Stile & Rail Joint intersection joint
DRAWING NO.	D-7001-300-800-0300
LAYOUT	00
SCALE	NTS
BORE PATTERN #	7054
DRAWN BY:	S. Beerbower
DATE	6/4/2005

Simpson®



Every Joined surface, core to core via finger joint, Edge strip to core & faces to core use a PVAC "type 1" adhesive.

Construction Consulting Laboratory, International
1601 Luna Road
Carrollton, Texas 75006
Phone (972) 242-7846
Report# 05-021 Date 6-1-05
Reviewed BY BR

Revisions

Rev. #	Description	Date	by Whom

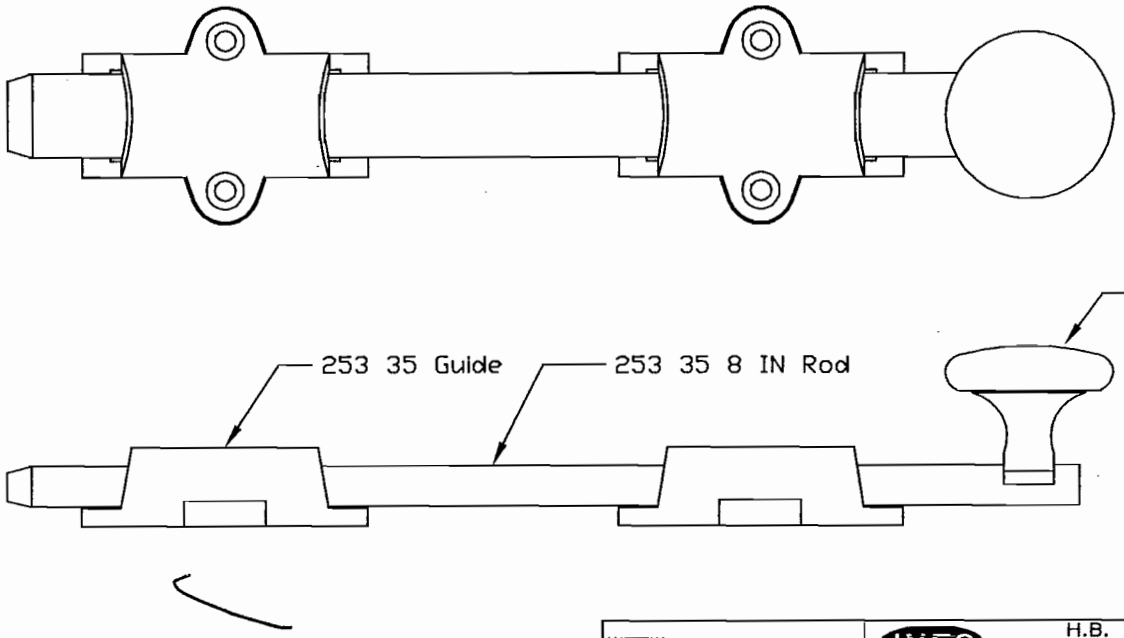
TITLE fig. #6
General construction of Stile & Rail rough stock

DRAWING NO. D-7001-300-800-0300

LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY:	DATE
S. Beerbower	6/4/2005

Simpson®



SYM	DESCRIPTION	DATE	DWN.
C			
B			
A	New drawing in CAD	08/01/05	RWW

REVISIONS

MATERIAL	BRASS			
MACHINED SURFACE TEXTURE	X			
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED	XXX	XX	FRAC	ANG
	±.005	±.010	±.020	±1°

IVES H.B. IVES
AN INGERSOLL RAND CO.
P.O. BOX 1887, NEW HAVEN, CONN. 06508

PRODUCT LINE AND PART DESCRIPTION
253B 8" SURFACE BOLT
ASSEMBLY DRAWING

DRAWN RWW DATE 8/1/2005
APPROVED DATE

SCALE	PART NUMBER	DRAWING NUMBER	REV.
1:1	X	X	A

Revisions

Rev. #	Description	Date	by Whom

TITLE fig. #17
Surface Bolt by H.B. Ives
Model # 253B 8"

DRAWING NO. D-7001-300-800-0300

LAYOUT	SCALE	BORE PATTERN #
00	NTS	7054

DRAWN BY: S. Beerbower DATE 8/6/2005

Simpson®

Simpson Door Company
Impact Resistant Door Assembly and Installation Instructions

1) **Door Preparation**

a) Prep doors and frames for hinges and locksets

A Match hinge locations on the frame assembly and door slab; four each 4" door hinges on 8'-0" doors (three hinges on 6'-8") are to be located as follows from the top of the door to the top to the hinge.

(1) 8'-0" Door hinge locations

(a) Top hinge 6-1/2" +- 1/2"

(b) Upper hinge 32-9/16" +- 1/2"

(c) Lower hinge 58-3/4" +- 1/2"

(d) Bottom hinge 84-13/16" +- 1/2"

(2) 6'-8" Door hinge locations

(a) Top hinge 6-1/2" +- 1/2"

(b) Upper hinge 37-5/8" +- 1/2"

(c) Lower hinge 68-13/16" +- 1/2"

b) Lockset locations

A Passage lockset location from top of door

(1) 8'-0" tall doors are 59-1/4" with either a 2-3/8" or 2-3/4" backset.

(2) 6'-8" tall doors are 43-11/16" with either a 2-3/8" or 2-3/4" backset.

B Deadbolt to be 5-1/2" on center above the passage lockset.

2) Frame Assembly

c) Assembly of the frame set is by butted corner and coped corner construction.

A Start the assembly of the frame set at the head.

B Caulk in-between the butted joints where the frame legs meet with the header.

C Secure the joint using four each 2" long by 3/4" wide crown gun-driven staples at each joint making sure the header fits tight against the frame when stapled together.

D Remove excess caulking squeeze-out from joint area.

E Caulk ends of the sill and the insides of the coped frame legs where the sill mounts.

F Position sill inside frame legs at the appropriate position making sure the bottom of the sill is flush with the frame leg before stapling together.

G Secure the joint using four each 2" long by 3/4" wide crown gun-driven staples at each coped sill joint making sure of a tight fit between the sill and the frame leg.

H Remove excess caulking squeeze-out from area.

I Cut and install Q-LON door seal in weather-strip kerf around the perimeter of the frame rabbet.

d) **Door Placement**

A Use four (4) each #9 x 3/4" FHWS to attach each hinge to door slab, use 2 each #9 x 3/4" FHWS to attach each hinge to the frame leaving two screw holes open on each hinge to be used during installation. Put upper and lower hinges in hinge pockets first and secure. Then place and secure the top and bottom hinges.

B When placing and securing the hinges make sure the hinges seat all the way down in the pocket then install the screws.

C Install astragal to inactive door panel with a pneumatic nailer using 15 gauge 2" nails approximately every 8".

D Put Simple Solution pads in place behind the Q-Lon weather-strip on the frame at the top of the sill before closing the unit.

E Close doors (astragal side first).

F Secure shipping clips to the unit to keep the doors from opening during transport to the rough opening at the jobsite.

e) **Installing the Door Unit**

A Remove any shipping clips that would interfere with the normal operation of the door during installation.

B Check the dimensions of the rough opening prior to installation and make any necessary adjustments. The rough opening needs to be one (1) inch wider than the assembled door unit, and 1/2" taller.

C Put a 3/8" unbroken bead of silicone caulking on top of the sub-sill for the entire length of the door frame, flooding the corner of the sub-floor where it meets the sill plate of the wall.

D Bring the caulking up the studs a minimum of 8".

E Set the assembled door unit in the opening, shimming behind the hinge pockets on either side to center the door unit in the opening. Single door units should shim behind the hinge pockets and set matching shim locations on the strike side of the frame. Install one #9 x 2-1/2" screw through the top hinge and shim assembly into the stud wall opening to secure the frame in place.

F Check the doors and align them to be square, plumb, level, and in the same plane. Make any necessary adjustments. The sill must be level. Remember, the studs might not be in the same plane, do not count on the opening being square, plumb, level, and in the same plane. This is the time to make any adjustments.

G Fasten into the rough opening and secure the unit using two (2) #9 x 2-1/2" FHWS through each hinge securing the frame with a minimum 1-1/2" penetration into the wood studs.

(1) Inswing notes

(a) Secure the inswing frame head to the header by using the two Ives by Schlage D-Ring universal strike plates installed into the head frame to receive the surface bolts installed on each door leaf, secured with three #8 x 3" wood screws gaining a minimum 1-1/2" penetration into the rough opening header. Do not over tighten the screws and distort or 'crown' the frame head toward the header significantly. Shim as necessary at the screw location to keep the frame aligned properly. Single doors will use only one surface bolt assembly.

(b) Secure the inswing sill to the buck using the two Ives by Schlage D-Ring universal strike plates installed through the sill to receive the surface bolts installed on each door leaf, secured with three #8 x 3" wood screws through the sill into the buck gaining a minimum 1-1/2" penetration into the sub-floor. Drill first with 1/8" drill to gain the necessary penetration. Do not over tighten the screws and distort the sill assembly. The screws should be tight and firm, not screwed down as far as they can go. But they must be level with the top of the sill assembly. Do not allow the screws to interfere with the operation of the door by protruding above the sill assembly.

(2) Outswing notes

(a) Secure the inswing frame head to the header by using the two Ives by Schlage mortise strike plates installed into the head frame to receive the surface bolts installed on each door leaf, secured with three #8 x 3" wood screws gaining a minimum 1-1/2" penetration into the rough opening header. Do not over tighten the screws so as to distort the frame head or bow the header significantly. Shim as necessary at the screw location to keep the frame aligned properly. Single door units will use only one surface bolt assembly.

(b) Secure the outswing sill to the sub-floor using the two Ives by Schlage mortise strike plates installed into the sill to receive the surface bolts installed on each door leaf, secured with three #8 x 3" wood screws through the sill into the sub-floor gaining a minimum 1-1/2" penetration into the buck. Pre-drill as necessary so as to not distort the sill assembly, the screws need to be set firm, but not so as to over tighten the screws and disfigure the alignment of the sill assembly or strip the screw pockets.

f) **Installation of Surface Bolts**

A Mark location and install surface bolts at the top and bottom of each door slab. Center the bolt on the stile and set the keepers to allow for maximum throw into the strike plates. Use a minimum of two surface bolt keepers on the face of the door slab. Keep the surface bolt retainer within 1/4" of the bottom and 1/4" of the top edge of the door slab. Use two #6 x 1-1/2" FHWS to hold each retainer to the door slab.

B Outswing doors need to have the frame header and sill assembly drilled to receive the bolts. Mark the location for the surface bolt on the sill and header, drill 1/8" pilot holes in all marked locations then increase the header hole and sill holes to 3/4" diameter 1" deep.

C Check all screws to be certain they are firm and flush as intended to give maximum holding power to the threads. Do not over tighten and strip the wood in the screw holes.

g) **Install door lock sets according to the manufacturers instructions**

A Follow the lock manufacturer's instructions for installation into the door panel.

B Additional lockset notes:

(1) It is important to install two #10 x 3" FHWS security screws through the security strike plate for the deadbolt as provided by and required by the lockset manufacturer as security against forced entry.

(2) Simpson Door recommends using a small bead (1/8" or less) of silicone around the exterior perimeter edge of the 2-1/8" face bore for both the passage and the deadbolt locks to help prevent moisture migration.

h) **Insulate around the door frame and trim with your choice of interior and exterior trim.**

APPENDIX B

PHOTOGRAPHS

AAMA 506-2000 Performance Testing
Simpson Door Company
Series 7001 Wood French In-Swing
Report #CCLI-05-082

August 3, 2005

PHOTOGRAPH 1

Product Type:	Wood French In-Swing **Product Drawings, Appendix A**
Series Model:	Simpson Door Company Wood French In-Swing
Specifications:	AAMA 506-2000 (1996-03 Type D/1996–97 Type C)
Design:	DP - 52.5
Frame Size:	6'-2 5/8" x 8'-1 3/4" (74.625" x 97.750")
Fixed Panel Size:	3'-0" x 8'-0" (36" x 96")
Active Panel Size:	3'-0" x 8'-0" (36" x 96")
Frame Dimension:	4.632"
Door Thickness:	1.715"
Configuration:	X.X

PHOTOGRAPH 2
-Test Specimen 2-

Impact at glazing center midspan and lower left corner with no penetrations.

- END OF REPORT -