

500 SERIES FIBERGLASS OPAQUE SINGLE DOOR

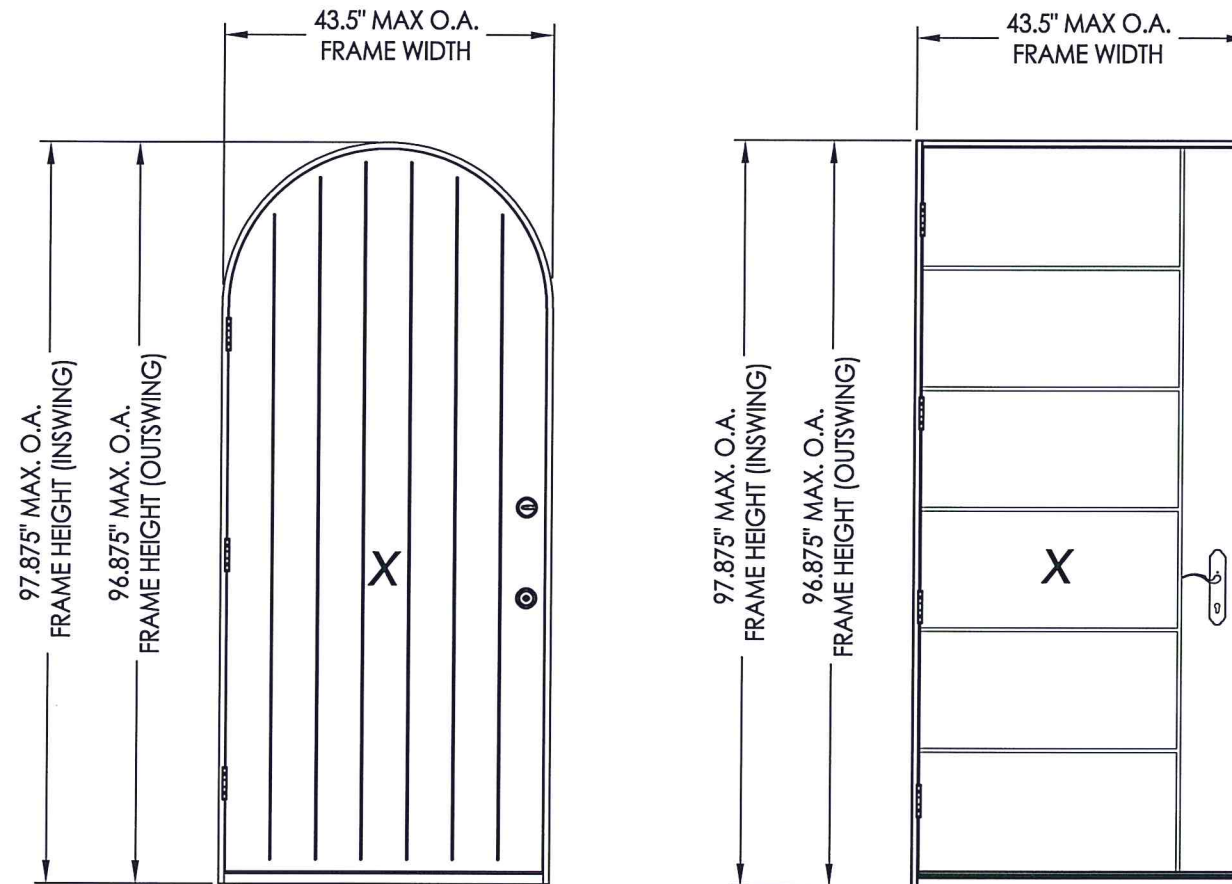
IN SWING / OUT SWING
"IMPACT"

EVALUATED FOR USE IN THE STATE OF TEXAS

The Fiberglass Door system described herein complies with the 2018 International Residential Code (IRC), Sections R301 & R609 and the 2018 International Building Code (IBC), Sections 1404.13, 1609, 1709.5, 2403 and 2404 subject to the following conditions:

1. Anchors shall be as listed and spaced as shown in the details. Anchor embedment to base material shall be beyond wall dressing or stucco.
2. This system has been tested and evaluated as a large missile impact protective system for installation in areas that require wind borne debris protection. This product meets missile level "D" as defined in ASTM E 1996.
3. Allowable design pressure requirements must be equal to or less than the design pressure rating shown in the design pressure chart, sheet 1 of this drawing.
4. Conditions not covered by this drawing are subject to further engineering analysis.

TABLE OF CONTENTS	
SHEET #	DESCRIPTION
1	Typical Elevations, Design Pressures & General Notes
2	Door Panel Details (Arch top door)
3	Door Panel Details
4	Elevation
5	Horizontal & Vertical Cross Sections (2X Framing)
6	Horizontal & Vertical Cross Sections (1X Buck)
7	Vertical Cross Sections (Thresholds)
8	Frame Anchoring
9	Hardware Details
10	Bill of Materials & Components



CONFIGURATION	DESIGN PRESSURE (PSF) IN SWING		DESIGN PRESSURE (PSF) OUT SWING	
	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
X	+70.0	-85.0	+70.0	-70.0

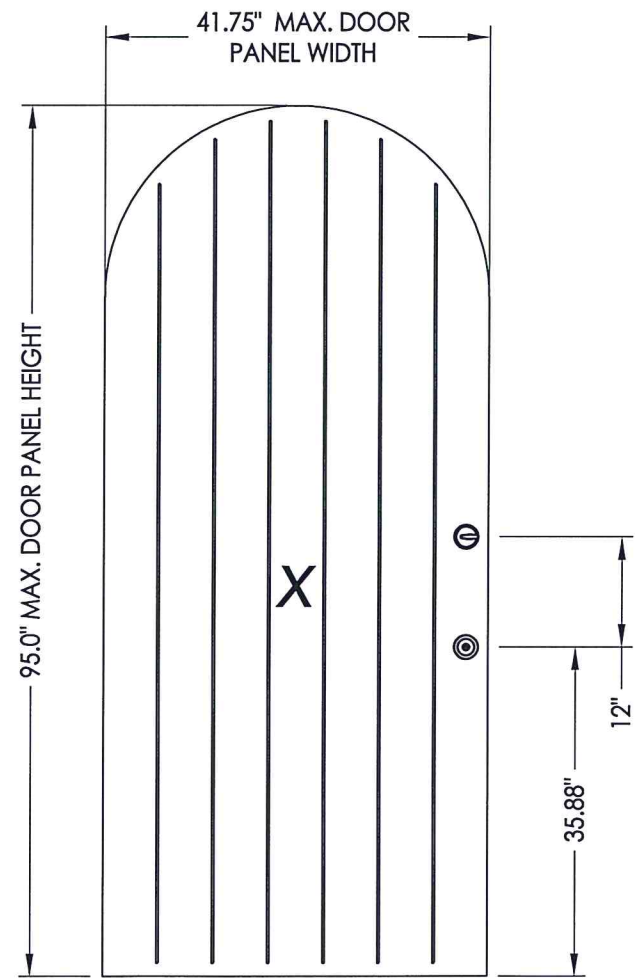


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TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
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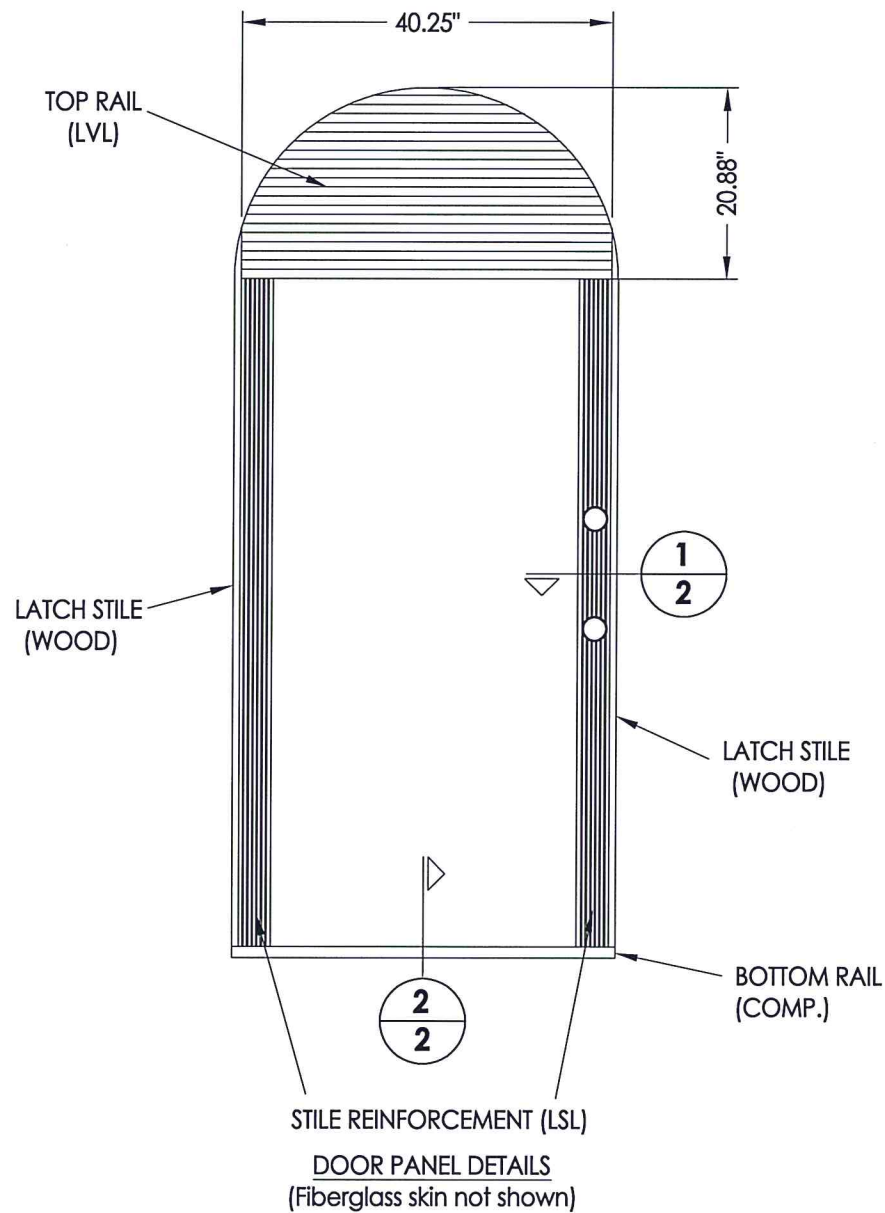
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:	MASTERGRAIN FIBERGLASS DOOR
PART OR ASSEMBLY:	TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES
DATE:	8/29/18
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4879
SHEET	1 OF 10

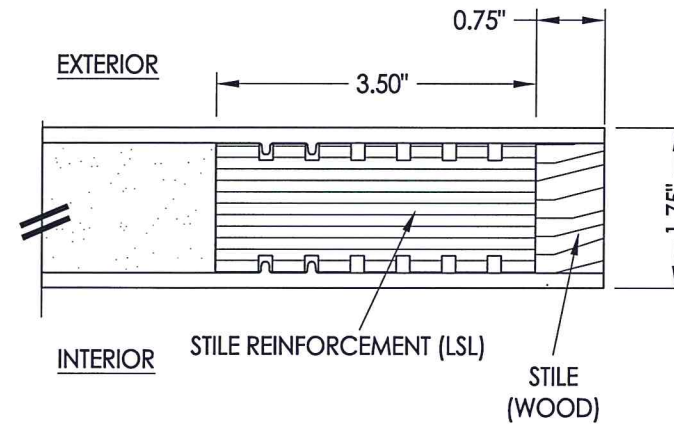


40 DOOR PANEL (ROUTED)
MasterGrain

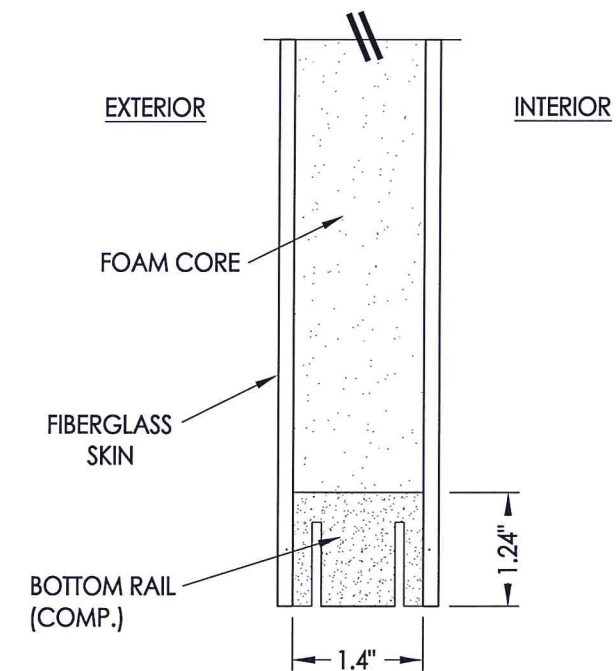
FIBERGLASS DOOR SKIN: 0.166" MIN. THK.
FOAM CORE: POLYURETHANE - 1.9 PCF MIN.



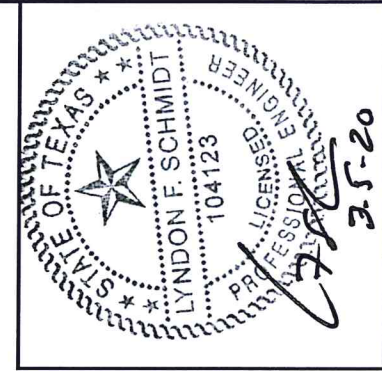
DOOR PANEL DETAILS
(Fiberglass skin not shown)



1 HORIZONTAL CROSS SECTION



2 VERTICAL CROSS SECTION



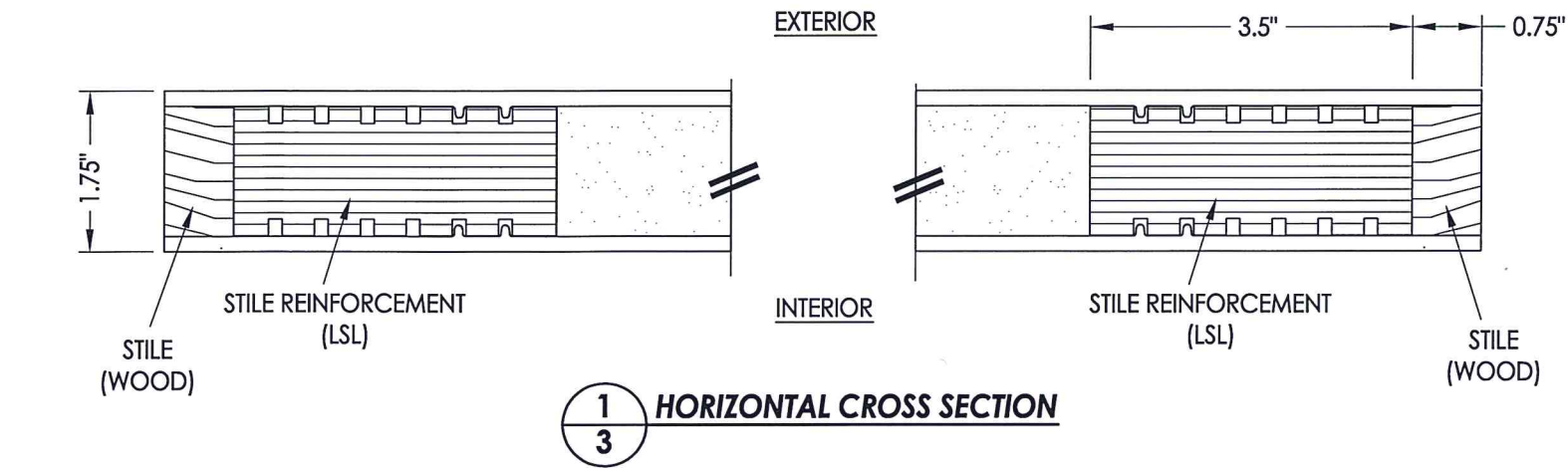
Documents Prepared By: Lyndon F. Schmidt, P.E.
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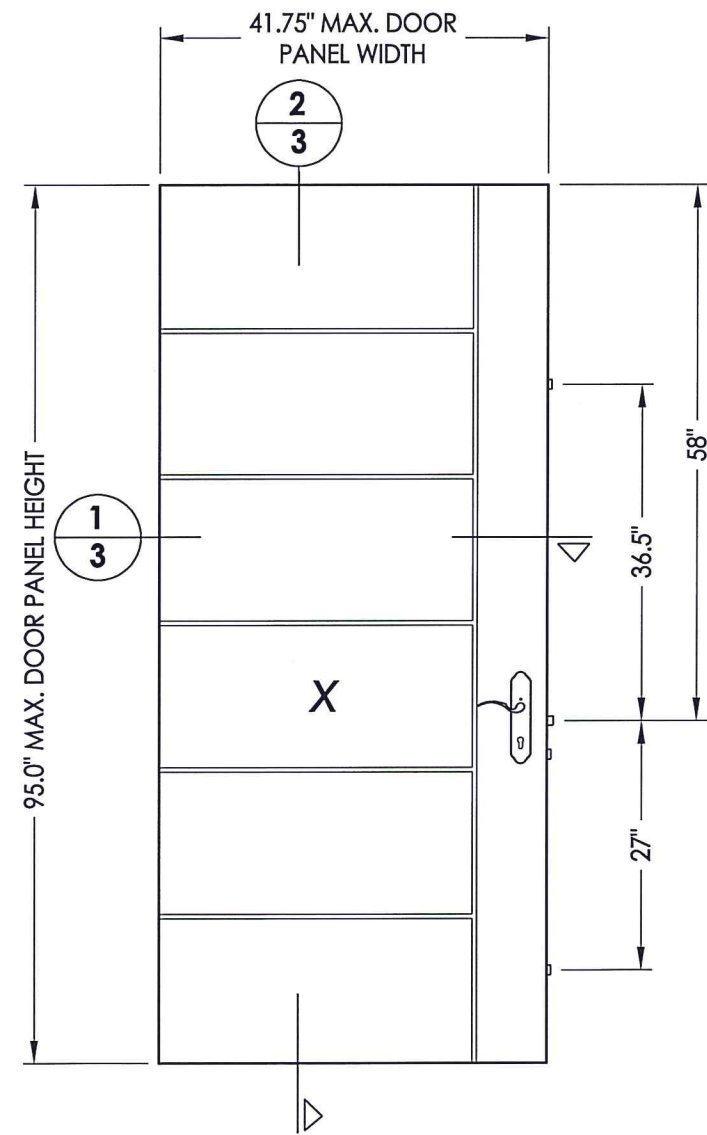
PRODUCT:	MASTERGRAIN FIBERGLASS DOOR
PART OR ASSEMBLY:	DOOR PANEL DETAILS (ARCH TOP DOOR)

NO.	DATE	DESCRIPTION	BY
1	3/05/20	UPDATE TO 2018 IBC/IRC CODE	LFS

DATE:	8/29/18
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4879
SHEET	2 OF 10

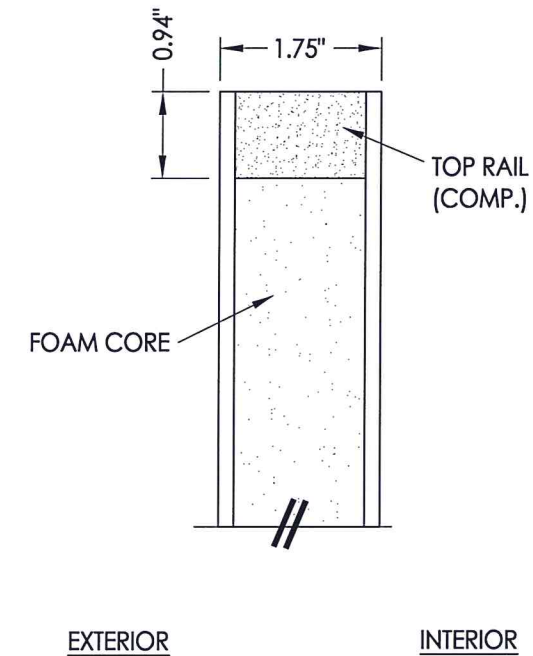


1
3 HORIZONTAL CROSS SECTION

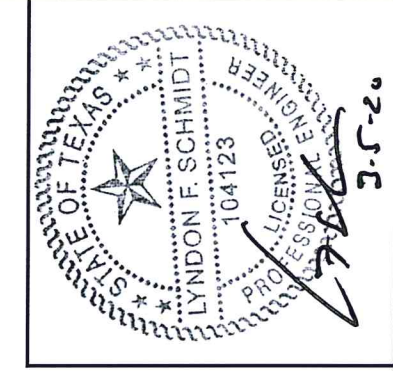


41 DOOR PANEL (ROUTED)
MasterGrain

FIBERGLASS DOOR SKIN: 0.166" MIN. THK.
FOAM CORE: POLYURETHANE - 1.9 PCF MIN.



2
3 VERTICAL CROSS SECTION



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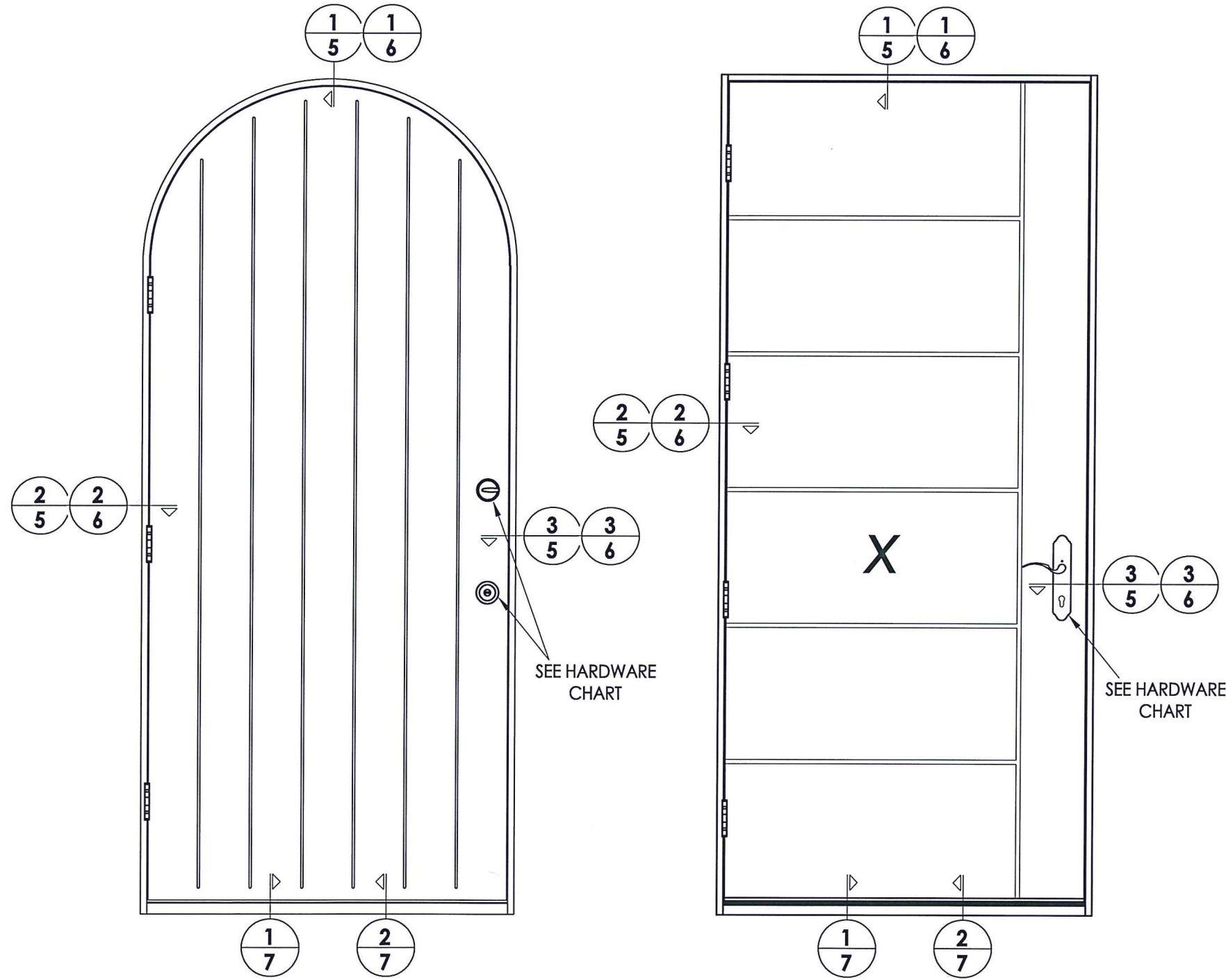
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: MASTERGRAIN FIBERGLASS DOOR

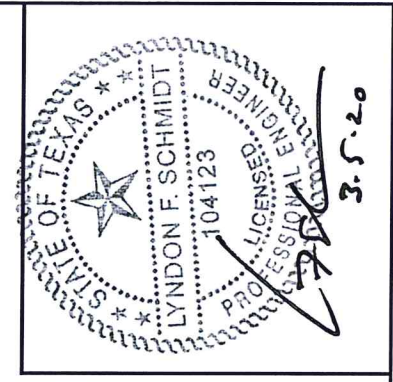
PART OR ASSEMBLY: DOOR PANEL DETAILS

NO.	DATE	UPDATE TO 2018 IBC/IRC CODE	LFS	BY
1	3/05/20			

DATE: 8/29/18
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4879
SHEET 3 of 10



HARDWARE TABLE		
MANUFACTURER	MODEL	MAX. DESIGN PRESSURE
KWIKSET	KNOB: SIGNATURE SERIES DEADBOLT: SIGNATURE SERIES (980)	85 PSF
SCHLAGE	KNOB: F51 DEADBOLT: B60N	85 PSF
HOPPE	MULTIPOINT: HLS™ ONE (3 pt. Manual Tongue)	85 PSF



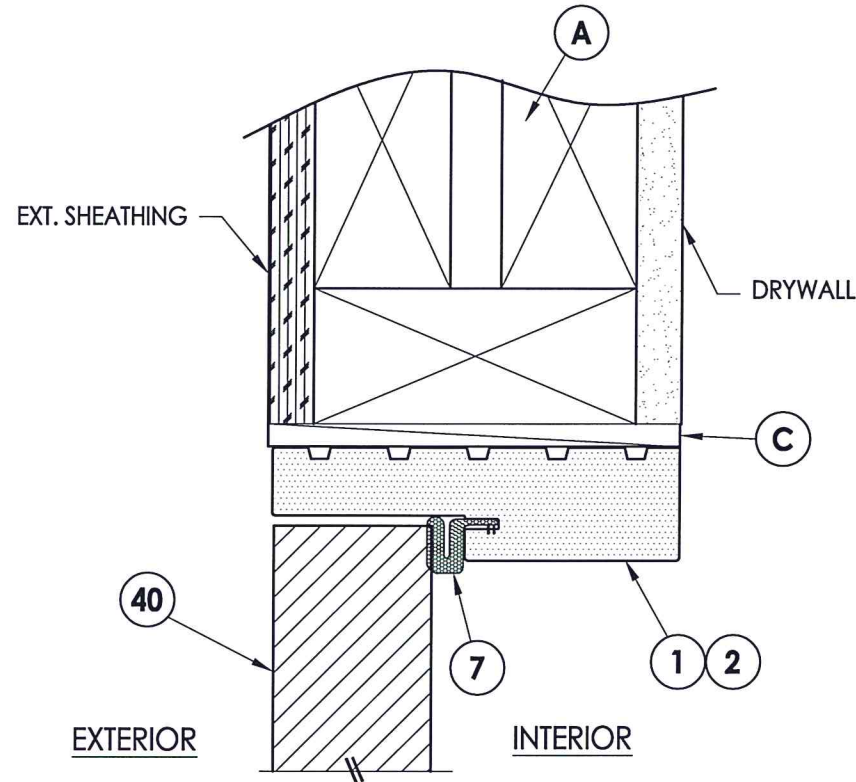
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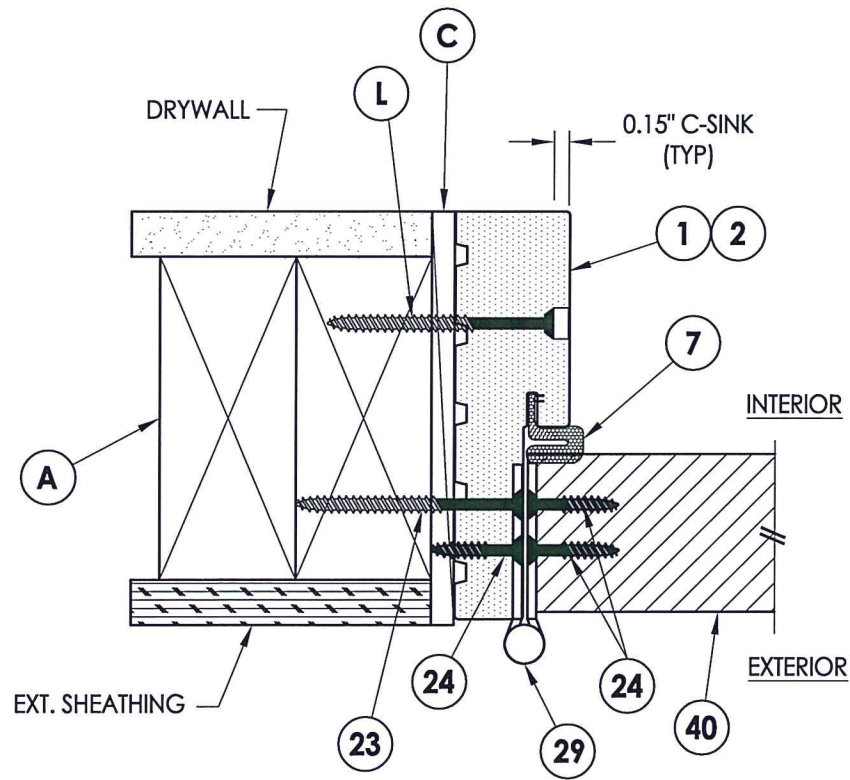
PRODUCT: MASTERGRAIN FIBERGLASS DOOR
PART OR ASSEMBLY: ELEVATION

REVISIONS	
NO.	DATE
1	3/05/20
	UPDATE TO 2018 IBC/IRC CODE
	LFS BY

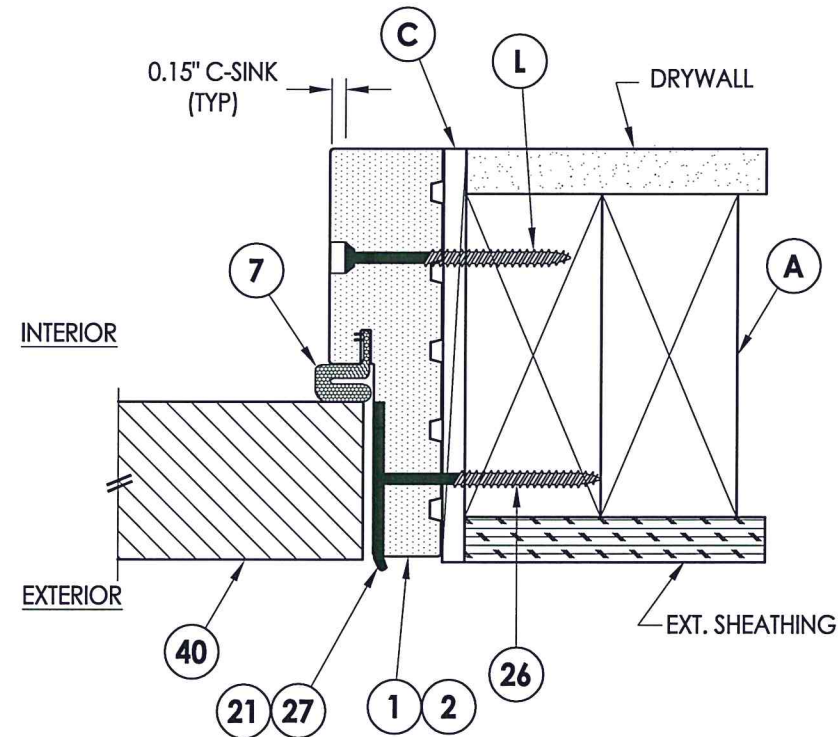
DATE: 8/29/18
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4879
SHEET 4 of 10



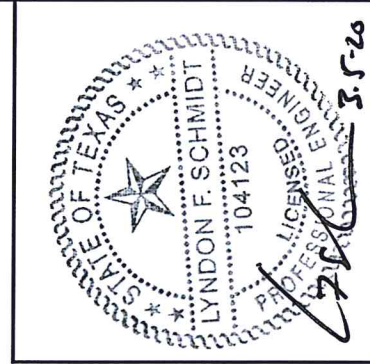
1 VERTICAL CROSS SECTION
5 Shown w/ 2X Buck
 Outswing shown (Inswing similar)



2 HORIZONTAL CROSS SECTION
5 Shown w/ 2X Buck
 Outswing shown (Inswing similar)



3 HORIZONTAL CROSS SECTION
5 Shown w/ 2X Buck
 Outswing shown (Inswing similar)



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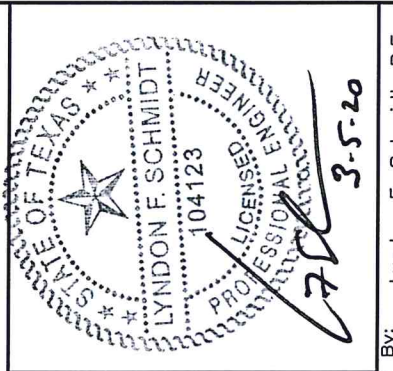
RW BUILDING CONSULTANTS, INC.
 P.O. Box 230 Valrico FL 33595
 Phone No.: 813.659.9197

TEXAS BOARD OF PROFESSIONAL ENGINEERS
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:	MASTERGRAIN FIBERGLASS DOOR
PART OR ASSEMBLY:	HORIZONTAL & VERTICAL CROSS SECTIONS (2X BUCK)

NO.	DATE	DESCRIPTION	BY
1	3/05/20	UPDATE TO 2018 IBC/IRC CODE	LFS

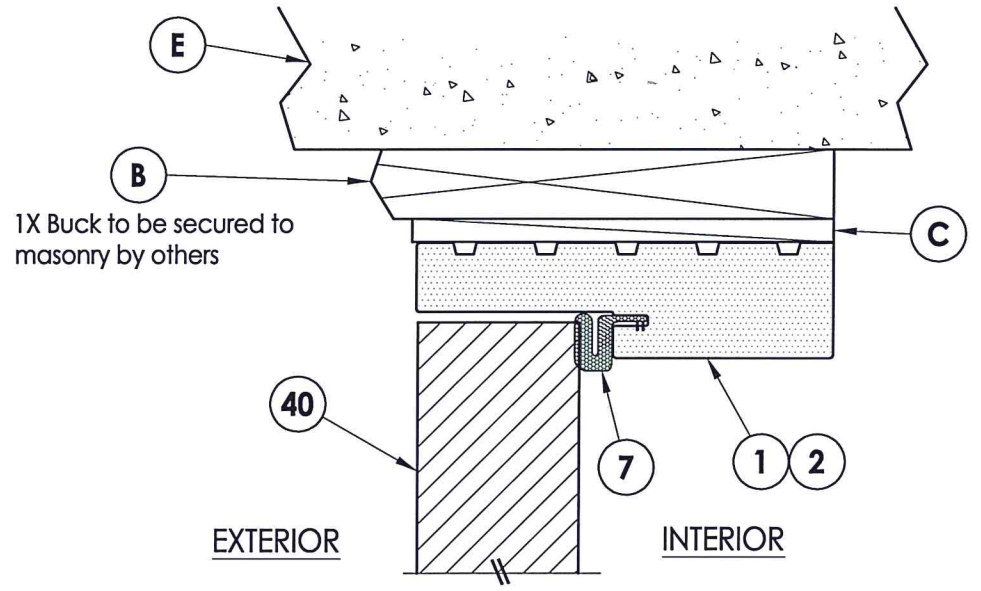
DATE:	8/29/18
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4879
SHEET	5 of 10



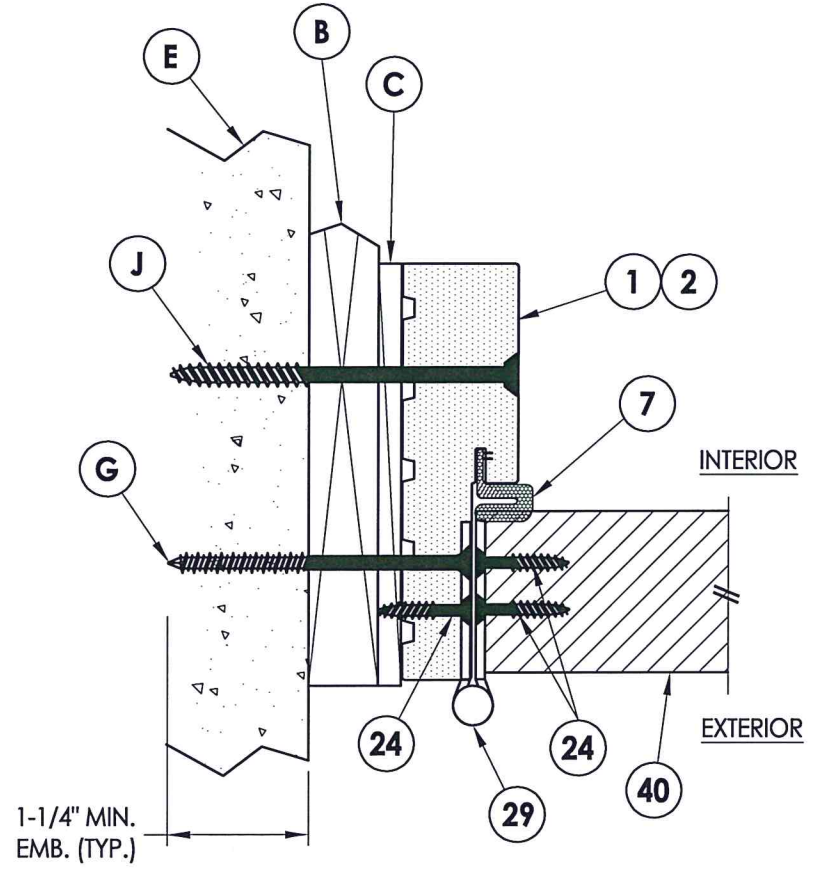
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P.O. Box 230 Valrico FL, 33595
Phone No.: 813.659.9197

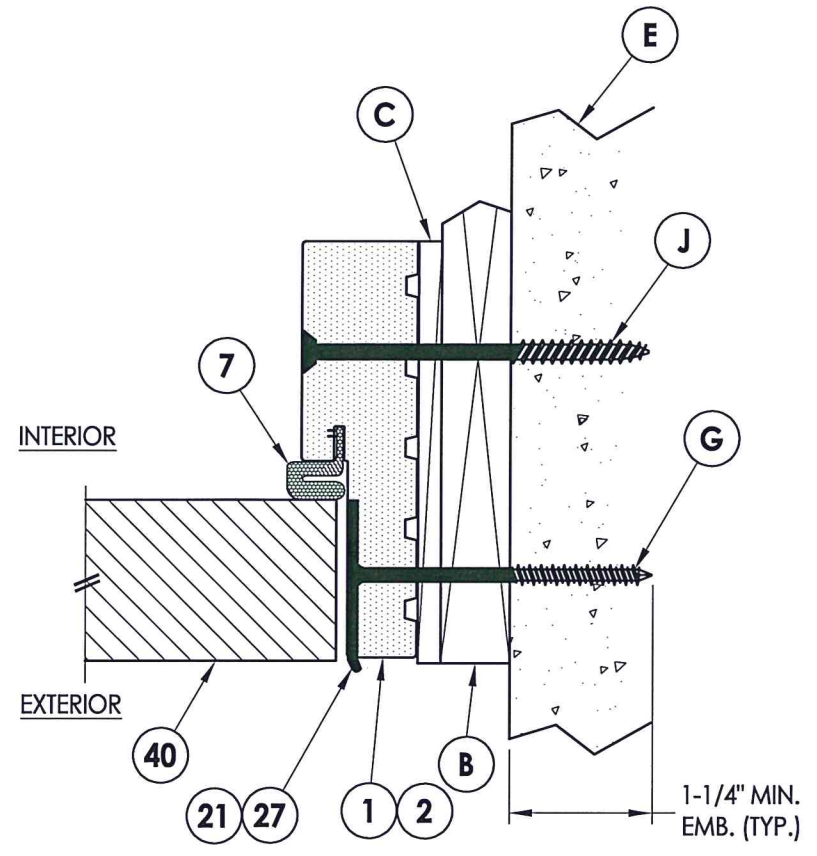
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CERTIFICATE OF REGISTRATION # F-11852



1 **VERTICAL CROSS SECTION**
6 Shown w/ 1X sub-buck
Outswing shown (Inswing similar)

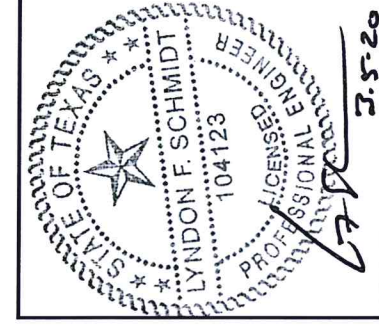
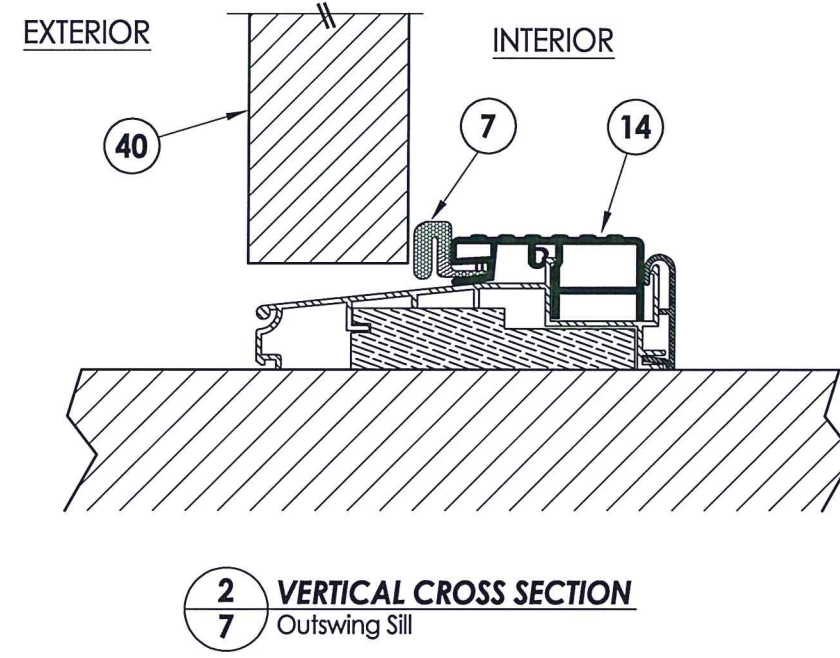
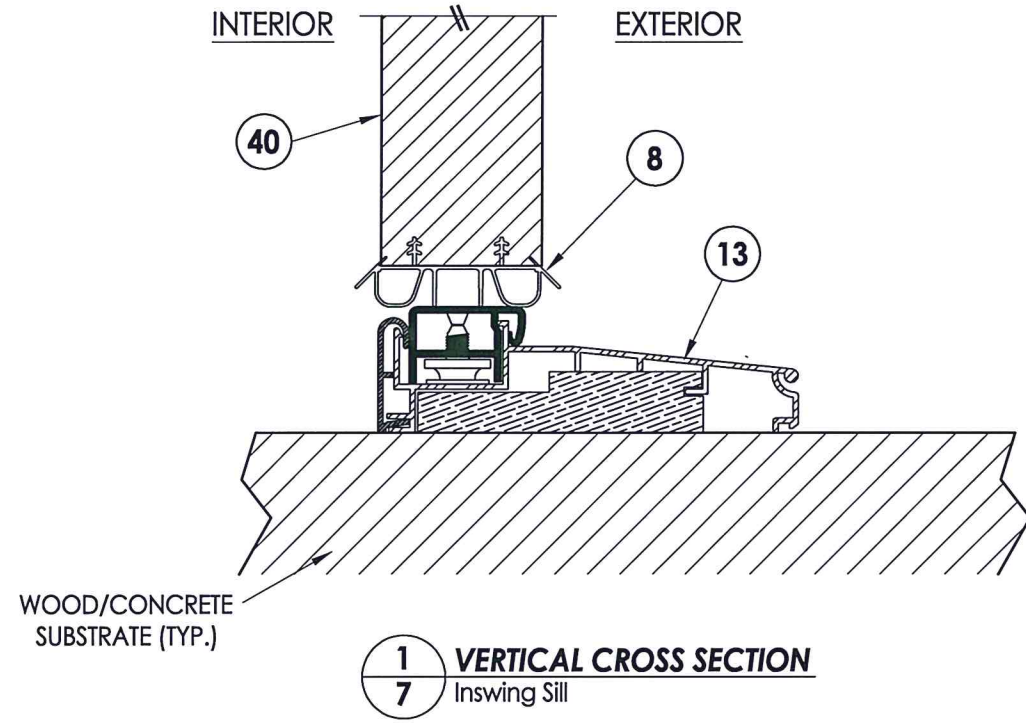


2 **HORIZONTAL CROSS SECTION**
6 Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



3 **HORIZONTAL CROSS SECTION**
6 Shown w/ 1X sub-buck
Outswing shown (Inswing similar)

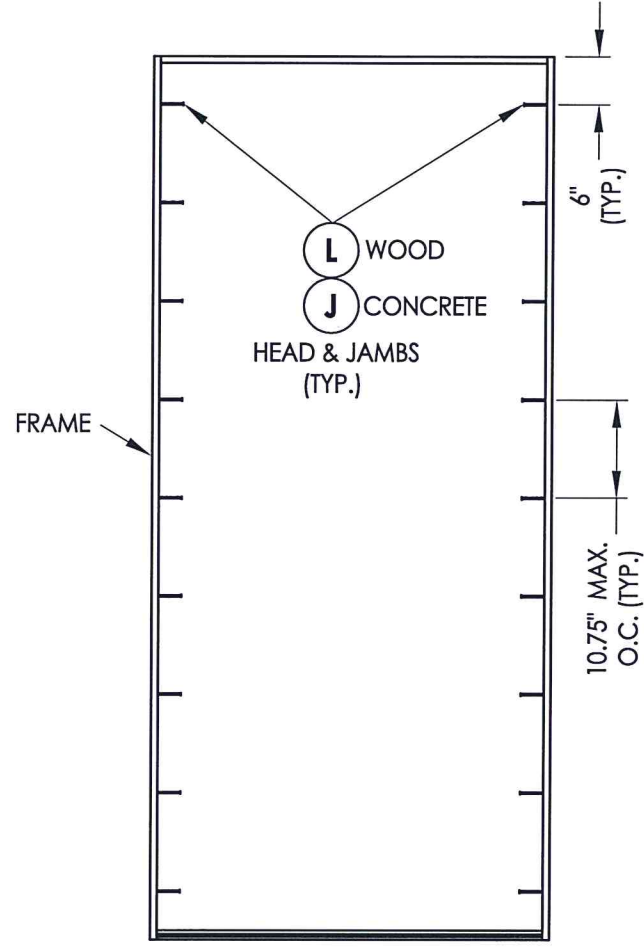
PRODUCT:		MASTERGRAIN FIBERGLASS DOOR	
PART OR ASSEMBLY:		HORIZONTAL & VERTICAL CROSS SECTIONS (1X BUCK)	
NO.	DATE	UPDATE TO 2018 IBC/IRC CODE	BY
1	3/05/20		LFS
REVISIONS			
DATE: 8/29/18			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4879			
SHEET 6 OF 10			



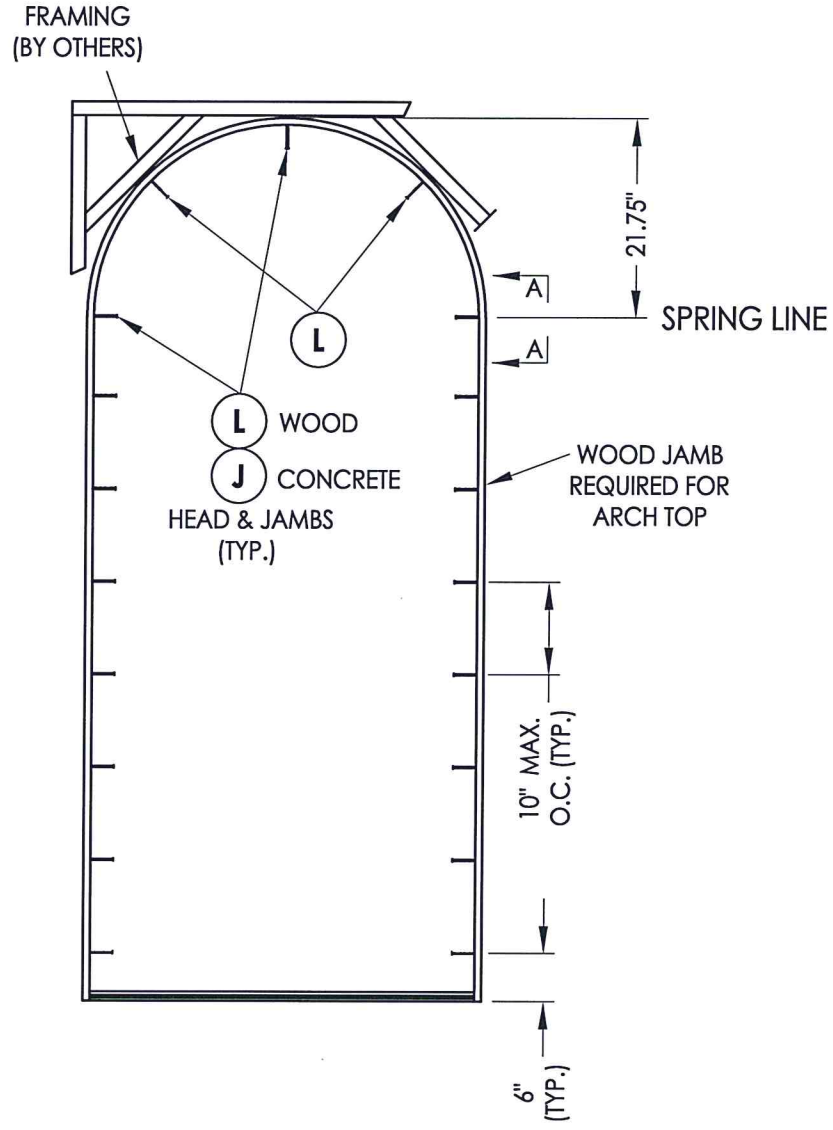
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CERTIFICATE OF REGISTRATION # F-11852

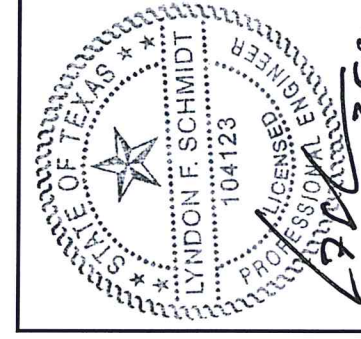
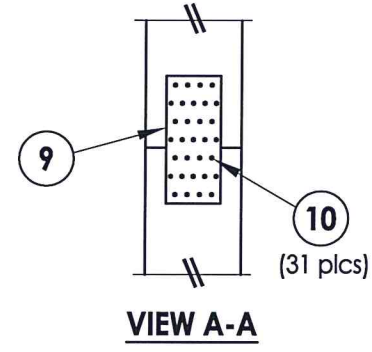
PRODUCT: MASTERGRAIN FIBERGLASS DOOR	
PART OR ASSEMBLY: VERTICAL CROSS SECTIONS (THRESHOLDS)	
NO.	REVISIONS
1	3/05/20 UPDATE TO 2018 IBC/IRC CODE
	DATE
	LFS
	BY
DATE: 8/29/18	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: TX-4879	
SHEET 7 OF 10	



FRAME ANCHORING



FRAME ANCHORING

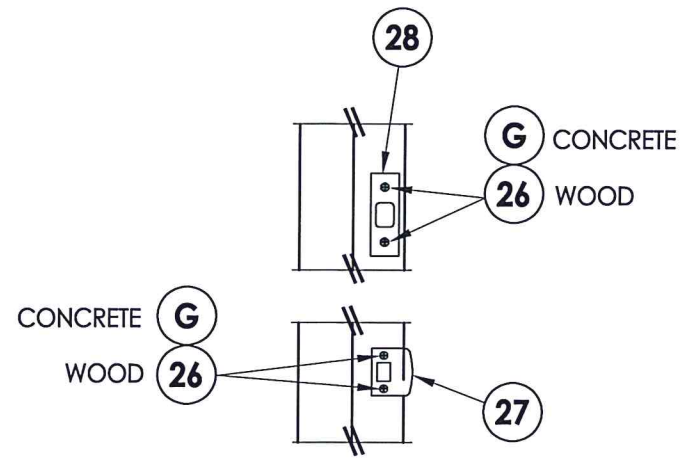


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TEXAS P.E. #104123

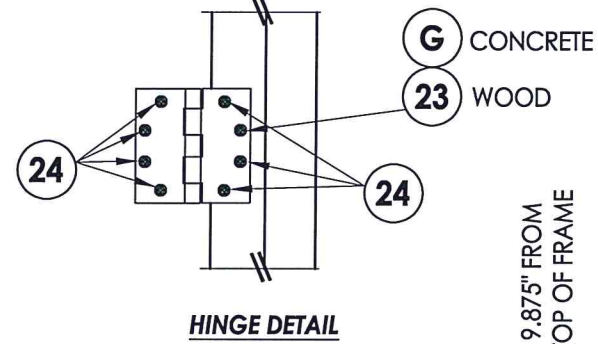
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P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197

TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

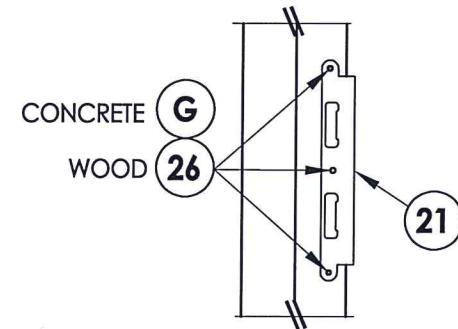
PRODUCT:		MASTERGRAIN FIBERGLASS DOOR	
PART OR ASSEMBLY:		FRAME ANCHORING	
NO.	DATE	IBC/IRC CODE	BY
1	3/05/20	UPDATE TO 2018	LFS
REVISIONS			
DATE: 8/29/18			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4879			
SHEET 8 OF 10			



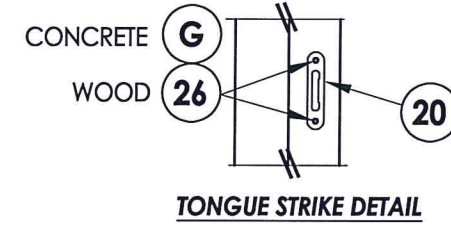
LATCH & DEADBOLT DETAIL



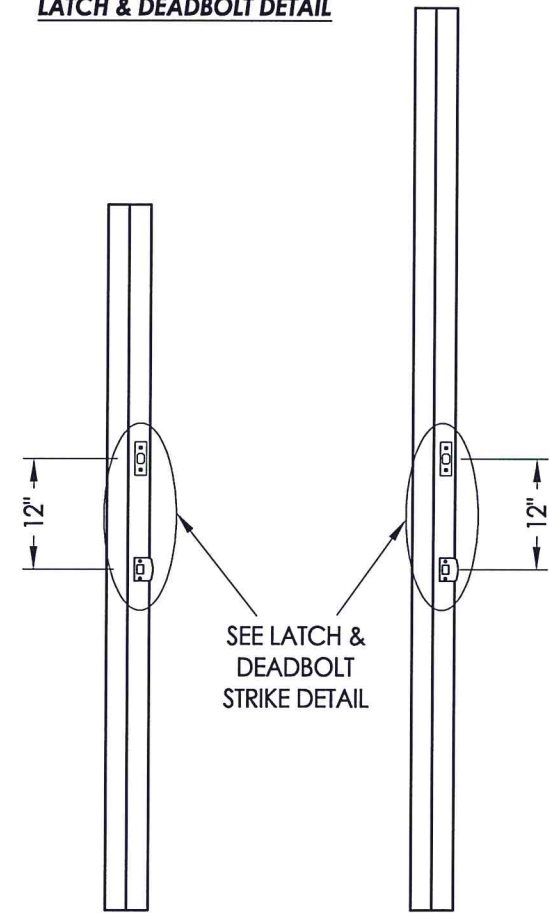
HINGE DETAIL



MULTIPOINT LATCH & DEADBOLT STRIKE DETAIL

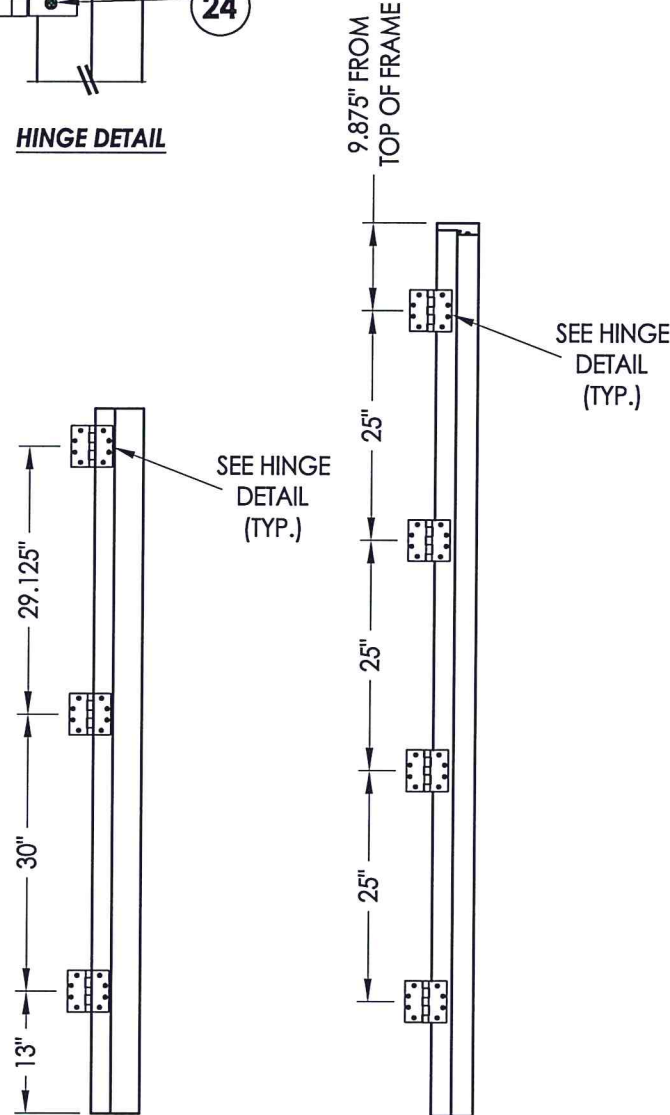


TONGUE STRIKE DETAIL



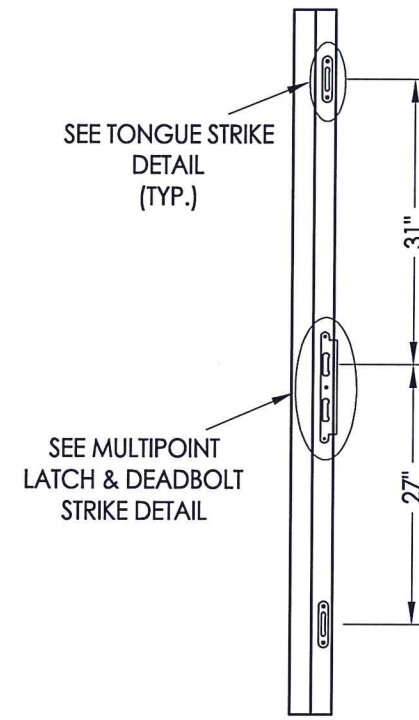
STRIKE JAMB
Latch and Deadbolt
Arch Top Door

STRIKE JAMB
Latch and Deadbolt

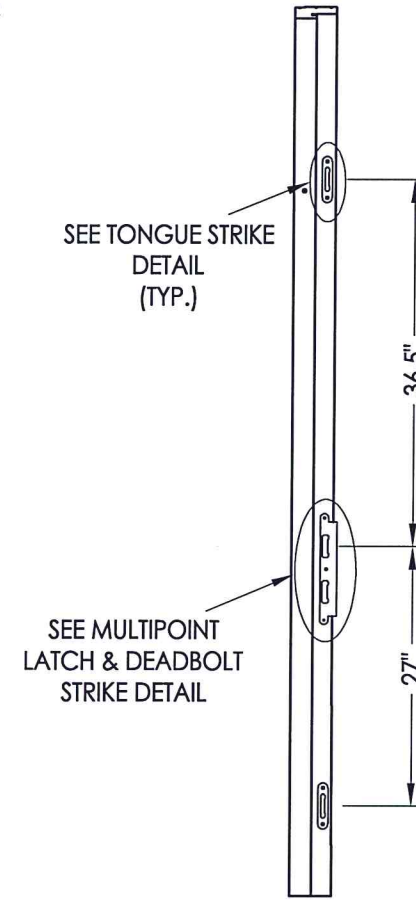


HINGE JAMB
Arch top Door

HINGE JAMB



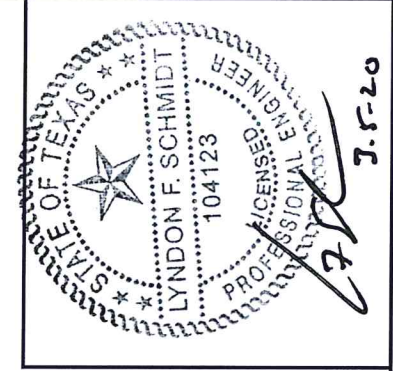
STRIKE JAMB
Multipoint Lock
Arch top Door



STRIKE JAMB
Multipoint Lock

LATCH & DEADBOLT HARDWARE DETAILS

MULTIPOINT LOCK HARDWARE DETAILS



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TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:	MASTERGRAIN FIBERGLASS DOOR	
PART OR ASSEMBLY:	HARDWARE DETAILS	
NO.	DATE	BY
1	3/05/20	LFS
UPDATE TO 2018 IBC/IRC CODE		
REVISIONS		

DATE: 8/29/18
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4879
SHEET 9 OF 10

BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
A	2X FRAMING (SG >= 0.42)	WOOD
B	1X BUCK (SG >= 0.42)	WOOD
C	1/4" MAX. SHIM SPACE	-
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
G	3/16" X 3-1/4" PFH ITW CONCRETE SCREW	STEEL
J	1/4" X 3-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
L	#10 X 2-1/2" PFH WOOD SCREW (1.15" MIN. EMBEDMENT)	STEEL
1	COMPOSITE JAMB	COMP
2	WOOD JAMB	WOOD
7	WEATHERSTRIP	FOAM
8	SWEEP	VINYL
9	20 GA. SPLICE PLATE (USP NP37)	STEEL
10	#6 X 1/2" PPH WOOD SCREW	STEEL
13	INSWING ADJUSTABLE THRESHOLD	ALUM/COMP
14	OUTSWING BUMP THRESHOLD	ALUM/COMP
20	MULTIPOINT TONGUE STRIKE PLATE	STEEL
21	MULTIPOINT LATCH & DEADBOLT STRIKE PLATE	STEEL
23	#12 X 2-1/2" PFH WOOD SCREW	STEEL
24	#12 x 1" PFH WOOD SCREW	STEEL
26	#8 X 2-1/2" PFH WOOD SCREW	STEEL
27	LATCH STRIKE PLATE	STEEL
28	DEADBOLT STRIKE PLATE	STEEL
29	4.5" X 4.5" HINGE	STEEL
40	DOOR PANEL	-
41	DOOR PANEL	-

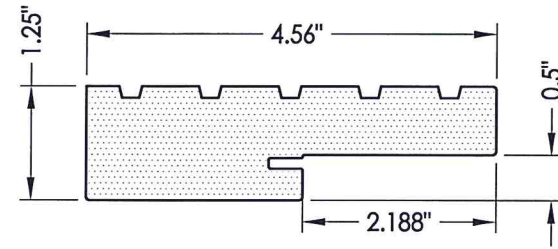
CONCRETE ANCHOR NOTES:

- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

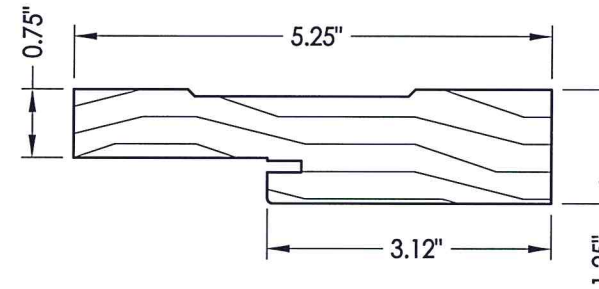
ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	2-1/2"	4"
ITW TAPCON®	3/16"	1-1/4"	3"	1-1/2"

WOOD SCREW INSTALLATION NOTES:

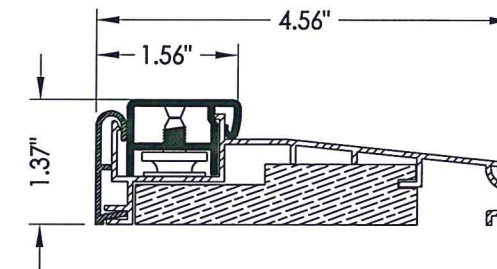
- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.



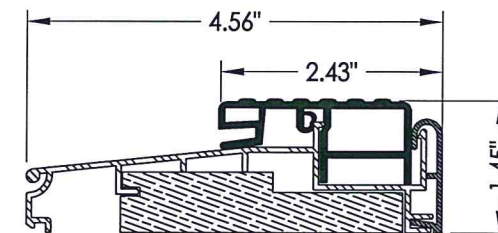
1 COMPOSITE JAMB
WORLDWIDE



2 WOOD JAMB (ARCH TOP)
Sipo (Utille) Wood (S.G. = 0.53)



13 INSWING THRESHOLD
WORLDWIDE



14 OUTSWING THRESHOLD
WORLDWIDE



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PRODUCT: MASTERGRAIN
FIBERGLASS DOOR

PART OR ASSEMBLY:
BILL OF MATERIALS
& COMPONENTS

NO.	DATE	DESCRIPTION	BY
1	3/05/20	UPDATE TO 2018 IBC/IRC CODE	LFS

DATE: 8/29/18

SCALE: N.T.S.

DWG. BY: JK

CHK. BY: LFS

DRAWING NO.:

TX-4879

SHEET 10 OF 10