# **Business & Professional Regulation**



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Product Approval Menu > Product or Application Search > Application List > Application Detail

FL# FL18429-R1 Application Type Revision Code Version 2017 **Application Status** Approved

Comments

Archived

Product Manufacturer La Finestra, LC Address/Phone/Email 2790 NW 104th Court Miami, FL 33172 (305) 599-8093

brunosalvoni@lafinestra.us

Authorized Signature Bruno Salvoni

brunosalvoni@lafinestra.us

Technical Representative Address/Phone/Email

Quality Assurance Representative

Address/Phone/Email

Category **Exterior Doors** 

Subcategory Swinging Exterior Door Assemblies

Compliance Method Evaluation Report from a Florida Registered Architect or a Licensed

Florida Professional Engineer ☐ Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report

Florida License Quality Assurance Entity

Quality Assurance Contract Expiration Date

Validated By

Frank L. Bennardo, P.E.

PE-0046549

National Accreditation and Management Institute

04/30/2018 Troy Bishop, P.E.

☑ Validation Checklist - Hardcopy Received

FL18429 R1 COI Indep.pdf Certificate of Independence

Referenced Standard and Year (of Standard) **Standard** <u>Year</u>

ASTM E330 2014 TAS 201 1994 **TAS 202** 1994 TAS 203 1994

Equivalence of Product Standards

Certified By

Sections from the Code

Product Approval Method 1 Option D

 Date Submitted
 12/18/2017

 Date Validated
 12/18/2017

 Date Pending FBC Approval
 12/22/2017

 Date Approved
 02/13/2018

#### Summary of Products

FL #	Model, Number or Name	Description				
18429.1 EKU 53 Outswing French Door		EKU 53 Outswing French Door (LMI + SMI)				
Limits of Use Approved for use in H Approved for use out Impact Resistant: Yes Design Pressure: +11 Other:	side HVHZ: Yes	Installation Instructions FL18429 R1 II Dwg.pdf Verified By: Frank L. Bennardo, P.E. PE-0046549 Created by Independent Third Party: Yes Evaluation Reports FL18429 R1 AE Eval.pdf Created by Independent Third Party: Yes				



Contact Us:: 2601 Blair Stone Road, Tallahassee FL 32399 Phone: 850-487-1824

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#### **Product Approval Accepts:**





### **Product Evaluation Report**

December 18, 2017

Application Number: EX Project Number:

FL#18429-R1

15-2824

Product Manufacturer:

La Finestra, LC

Manufacturer Address:

2790 NW 104TH Court.

Doral, FL 33172

Product Name & Description:

Series: EKU 53 Outswing French Door Large Missile Impact Resistant, Level "D"

#### Scope of Evaluation:

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Department of Business and Professional Regulation (Florida Building Commission) Rule Chapter 61G20-3.005, F.A.C., for statewide acceptance per Method 1(d). The product noted above has been tested and/or evaluated as summarized herein to show compliance with the Florida Building Code Sixth Edition (2017) and is, for the purpose intended, at least equivalent to that required by the Code. Re-evaluation of this product shall be required following pertinent Florida Building Code modifications or revisions.

#### Substantiating Data:

#### PRODUCT EVALUATION DOCUMENTS

EX drawing #15-2824 titled "Series: EKU 53 Outswing French Door", sheets 1- 15, prepared by Engineering Express, signed & sealed by Frank L. Bennardo, P.E. is an integral part of this Evaluation Report.

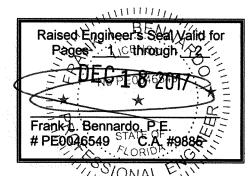
#### • TEST REPORTS

Uniform static structural, large missile impact resistance and cyclic loading performance have been tested in accordance with TAS 201, TAS 202 and 203 test standards per test report(s) HETI-08-2005, HETI-08-2020, HETI-08-2163, HETI-08-2076A, HETI-11-3365, HETI-09-2627, HETI-09-2677, HETI-10-3002, HETI-10-3009, HETI-10-3010 by Hurricane Engineering and Testing, Inc. and signed and sealed by Candido Font, P.E; HETI-17-5018 and HETI-17-5019 by Hurricane Engineering and Testing, Inc. and signed and sealed by Rafael Droz-Seda, P.E; FTL-4531, FTL-3881 by Fenestration Testing Laboratory, Inc. and signed and sealed by Edmundo Largaespada, P.E

#### STRUCTURAL ENGINEERING CALCULATIONS

Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

- 1. Anchor Spacing
- Maximum Allowable Size/Pressure
   Combinations
- 3. Glass Capacity
- 4. Anchor Capacity



160 SW 12TH AVENUE SUITE 106, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 354-0660 - Fax: (954) 354-0443
ENGINEERINGEXPRESS.COM

La Finestra, LLC - Series: EKU 53 Outswing French Door

Page 2 of 2

No 33% increase in allowable stress has been used in the design of each product.

The following are approved for use in the HVHZ as specified in their corresponding NOAs:

- SentryGlas Interlayer by Kuraray America, Inc. (NOA #14-0916.11)
- Trosifol Interlaer by Kuraray America, Inc. (NOA # 16-1117.01)
- Saflex Clear and Color by Eastman Chemical Company (NOA# 17-0712.05)

#### Impact Resistance:

Large and Small Missile Impact Resistance has been demonstrated as evidenced in previously listed test reports, and is accounted for in the engineering design of this product.

#### Wind Load Resistance

Each product has been designed to resist wind loads as indicated in the design schedule(s) on its respective Product Evaluation Document (i.e. engineering drawing).

#### Installation

Each product listed above shall be installed in strict compliance with its respective Product Evaluation Document (i.e. engineering drawing), along with all components noted therein.

Each product component shall be of the material specified in that product's respective Product Evaluation Document (i.e. engineering drawing).

#### Limitations & Conditions of Use:

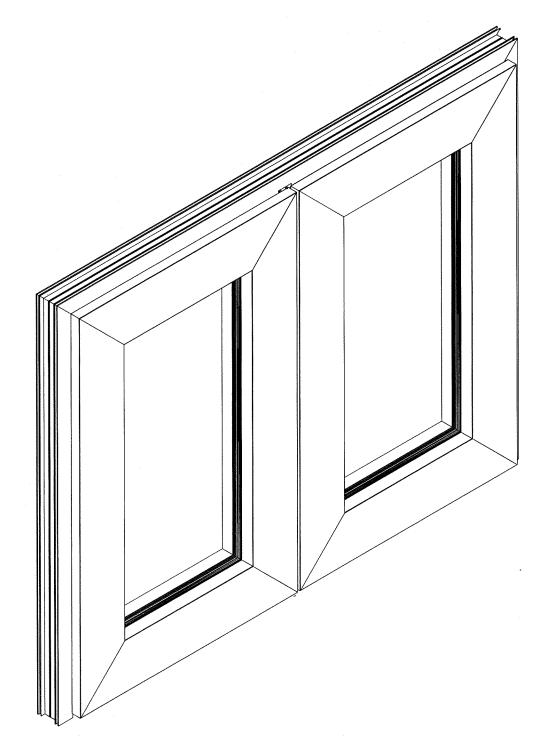
Use of each product shall be in strict accordance with its respective Product Evaluation Document (i.e. engineering drawing) as noted herein.

All supporting host structures shall be designed to resist all superimposed loads and shall be of a material listed in each product's respective anchor schedule. Host structure conditions which are not accounted for in each product's respective anchor schedule shall be designed for on a site-specific basis by a registered professional engineer.

All components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times.

Each product has been designed for use within and outside of the High Velocity Hurricane Zone (HVHZ).

LARGE MISSILE IMPACT RESISTANT - LEVEL D



SHEE	T INDEX
# SHEET	DESCRIPTION
1	COVER SHEET
2	ELEVATIONS
3	ELEVATIONS
4	ANCHORING SECTIONS
5	ANCHORING SECTIONS
6	ANCHORING SECTIONS
7	PROFILE COMBINATIONS
8	PROFILE COMBINATIONS
9	ANTIPANIC DEVICE DETAILS
10	ANTIPANIC DEVICE DETAILS
11	ANTIPANIC DEVICE DETAILS
12	LOADING TABLES
13	FRAME ASSEMBLY
14	EXTRUSIONS
15	BILL OF MATERIALS
15	TOTAL

#### **GENERAL NOTES:**

THIS SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SIXTH EDITION (2017) PER a. TAS 201 / 202 / 203

D. ASIM E330-14
FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE (HVHZ). AS QUALIFIED IN TEST REPORT #HETI-08-2005, HETI-08-2020, HETI-08-2163, HETI-08-2076A, HETI-11-3365, HETI-09-2627, HETI-09-2677, HETI-10-3002, HETI-10-3003, HETI-10-3009, HETI-17-5018 BY HURRICANE ENGINEERING & TESTING, INC. FTL-4531 & TEL 2004 BY ESSIEGET ASTON INCOMPARISON OF TEL 2004 BY ESSIEGET ASTON INCOMPARISON OF THE PROPERTY OF THE PROPE FTL-3881 BY FENESTRATION TESTING LABORATORY, INC.

- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A
- NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR.WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR
- ALL CONCRETE ANCHORS SPECIFIED HEREIN REFER TO 1/4"Ø ELCO ULTRACON OR SIMILAR (UNLESS NOTED OTHERWISE). FASTENED TO 3,000 PSI MIN. NON-CRACKED CONCRETE (BY OTHERS) INSTALL ALL CONCRETE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
- 7. ALL FASTENERS INTO METAL SUBSTRATES TO BE 1/4" (GR 5 OR SIMILAR FY) Ø UNLESS NOTED OTHERWISE. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
- 8. ALL EXTRUSIONS SHALL BE STEEL 6063-T5 ALUMINUM OR BETTER U.N.O.
- GLAZING ILLUSTRATED HEREIN UTILIZES SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC. (NOA# 14-0916.11), TROSIFOL INTERLAYER BY KURARAY AMERICA INC. (NOA# 16-1117.01), & SAFLEX CLEAR AND COLOR BY EASTMAN CHEMICAL COMPANY (NOA# 17-0712.05)
- 10. THE CONTRACTOR IS RESPONSIBLE TO ISOLATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- 11. ENGINEER SEAL AFFIXED HERE TO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
- 12. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
- 13. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
- 14. PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER SYSTEM CONTAINING THE FOLLOWING:

  LA FINESTRA, INC.
  2790 NW 104TH COURT
  DORAL, FL 33172

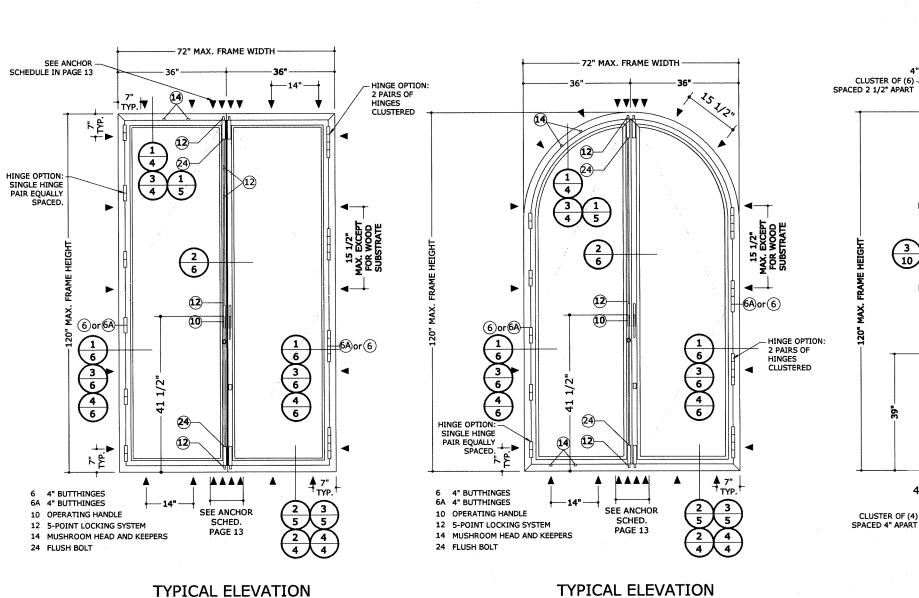
TAS 201/202/203 APPROVED BY FLORIDA BUILDING COMMISSION FLORIDA PRODUCT APPROVAL NUMBER

| FINESTRA, L | 2790 NW 104TH COURT | DORAL, FL | (305) 599-8093

15-2824

SCALE: SEE DETAILS

FL #18429.1-R1



LOOKING FROM OUTSIDE IN

LOOKING FROM OUTSIDE IN

MAXIMUM ALLOWABLE PRESSURE +60 / -65 TYPICAL ELEVATION LOOKING FROM OUTSIDE IN

### ANCHOR SCHEDULE FOR DOOR WITH PANIC DEVICE (ONLY)

-76" MAX. FRAME WIDTH

WW.

 $\nabla \mid \nabla$ 

 $\frac{1}{10}$ 

OPP.

CISA EXIT DEVICE MODEL NO. 59801 / 59811 / 59816 (SEE PRODUCT SPECS) (PART # 32)

Δ

MAX. MAX.

Δ

ANTIPANIC BRAND EXIT DEVICE MODEL NO. 402/T (LOCK MECHANISM PART NO. 450/T)

<sub>5</sub> 3 3/4"

ANTIPANIC BRAND EXIT DEVICE MODEL NO. 402/T (SEE PRODUCT SPECS) (PART # 31)

MAX.

4 9

 $\frac{2}{10}$ 

Δ

CISA EXIT DEVICE MODEL NO. 59801 / 59811 / 59816 CK MECHANISM PART NO. 07083.81)

 $\nabla$ 

 $\begin{pmatrix} 3 \\ 10 \end{pmatrix}$ 

CLUSTER OF (4) -SPACED 4" APART

- $rac{ ext{ANCHOR TYPE: 1/4" ULTRACON BY ELCO WITH 1 <math>rac{1}{2}$ " MIN. EMBEDMENT INTO 3,000 PSI CONCRETE OR 1 3/4" MIN. EMBEDMENT INTO GROUT FILLED MASONRY, 2 1/2" SPACING MIN AND 2 1/2"EDGE DISTANCE FROM EDGE.
- $\triangledown$  ANCHOR TYPE: #14 P.H.S.M.S OR #14 SHEET METAL SCREW INTO 1/8" THICK A36 MEMBER. WITH 1" MIN. EDGE DISTANCE EDGE.
- ANCHOR TYPE: 1/4" ULTRACON BY ELCO WITH 1  $\frac{1}{2}$ " MIN. EMBEDMENT INTO SOUTHERN YELLOW PINE #2 MIN. AND 1" MIN. EDGE DISTANCE FROM ANY WOOD EDGE.

_			
	HINGE OPTION	PER LEAF:	(6) or (6A

- 1. RECTANGULAR DOOR 120' TALL:
- (6) INDIVIDUALS PAIRS OR (4) CLUSTERS OF 2 PAIRS
- 2. ARCH TOP DOOR 120' TALL: (5) INDIVIDUALS PAIRS OR (4) CLUSTERS OF 2 PAIRS 3. RECTANGULAR DOOR 96' TALL:
- (4) INDIVIDUALS PAIRS OR (3) CLUSTERS OF 2 PAIRS 4. ARCH TOP DOOR 120' TALL:
- (4) INDIVIDUALS PAIRS OR (3) CLUSTERS OF 2 PAIRS

FRANK L. BENNARDO, P.E. PE# 0046549 FINES.

15-2824

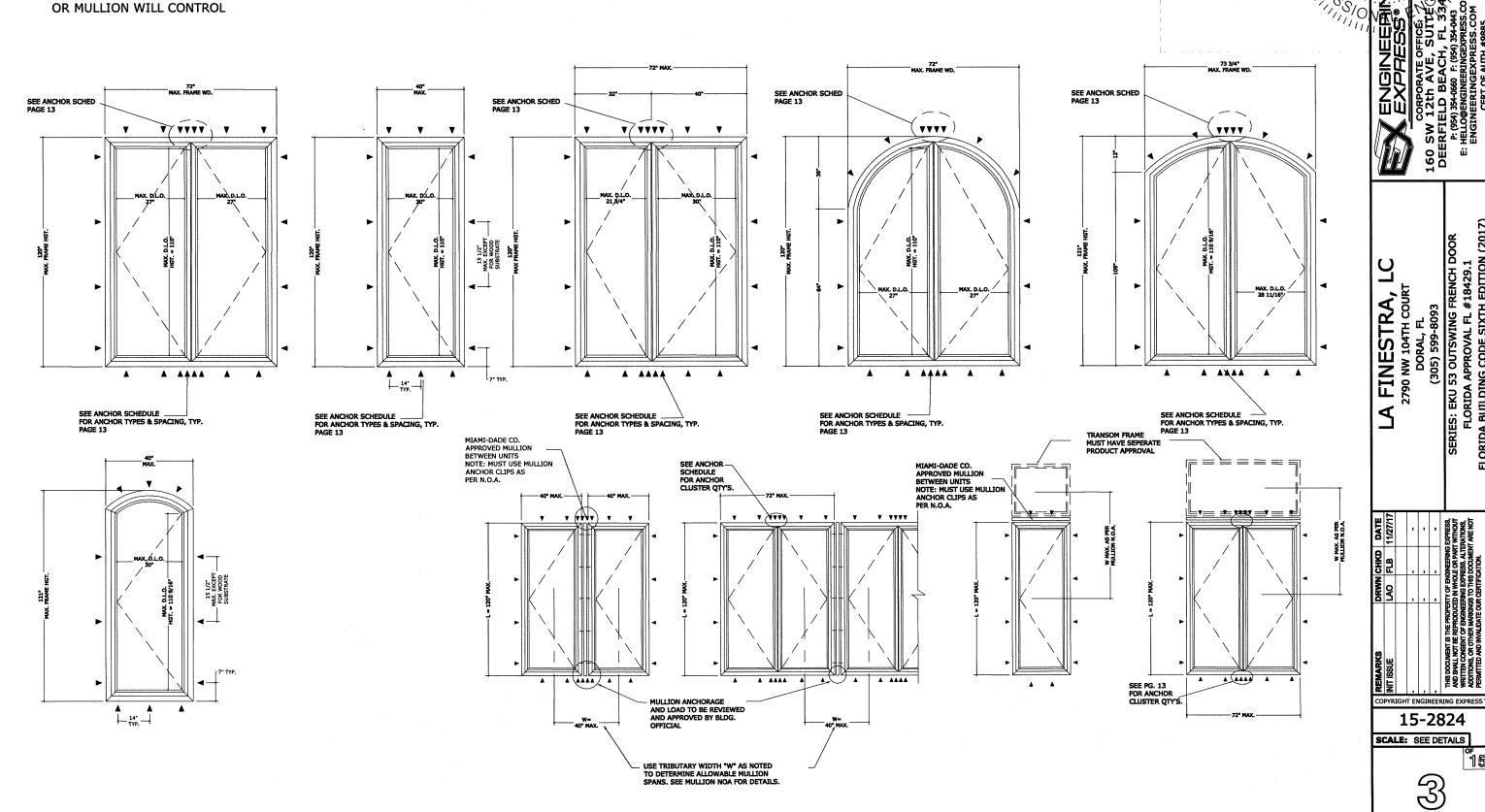
SCALE: SEE DETAILS

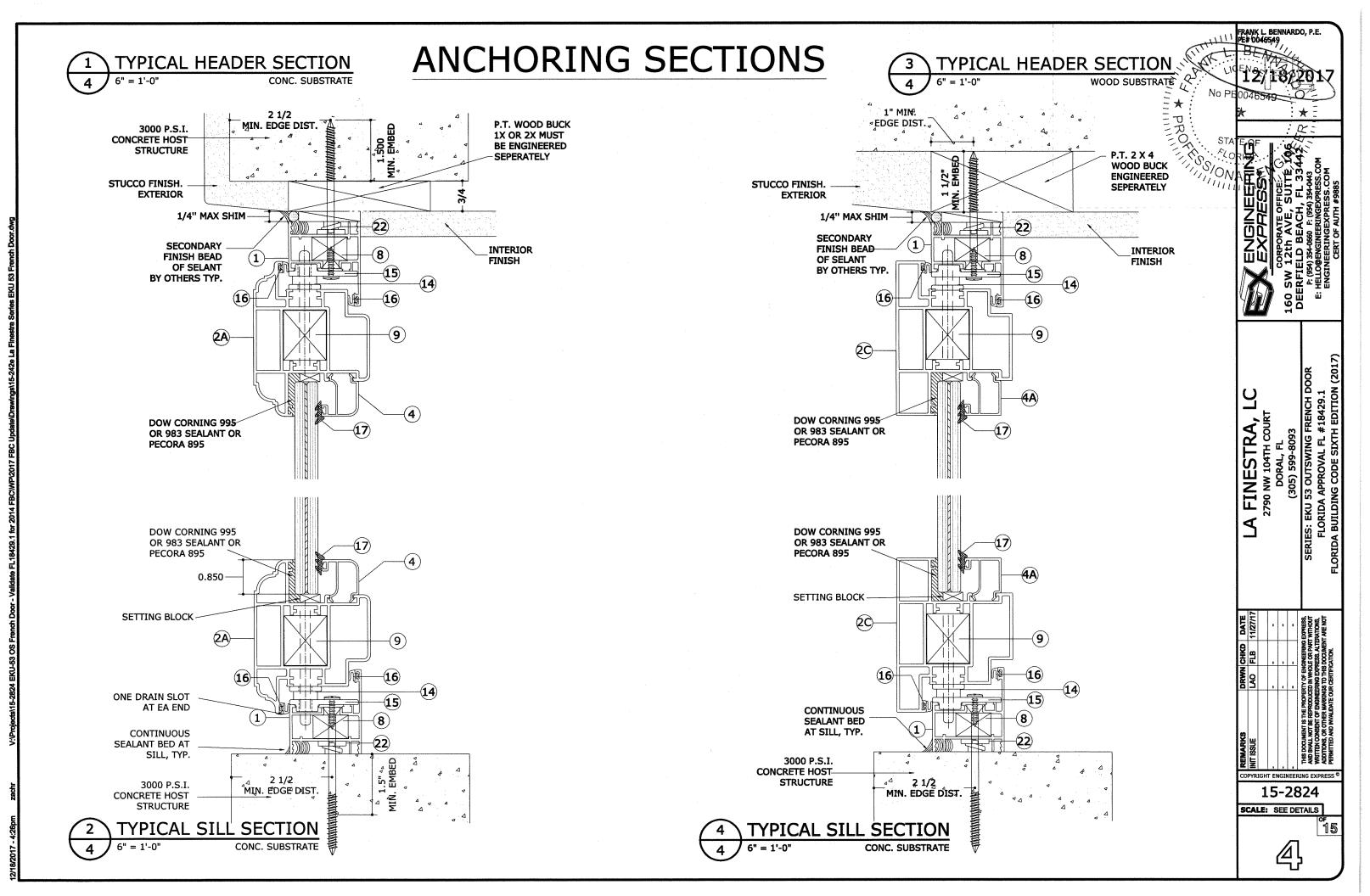
## ALTERNATE CONFIGURATIONS

FRANK L. BENNARDO, P.E. PE# 0046549

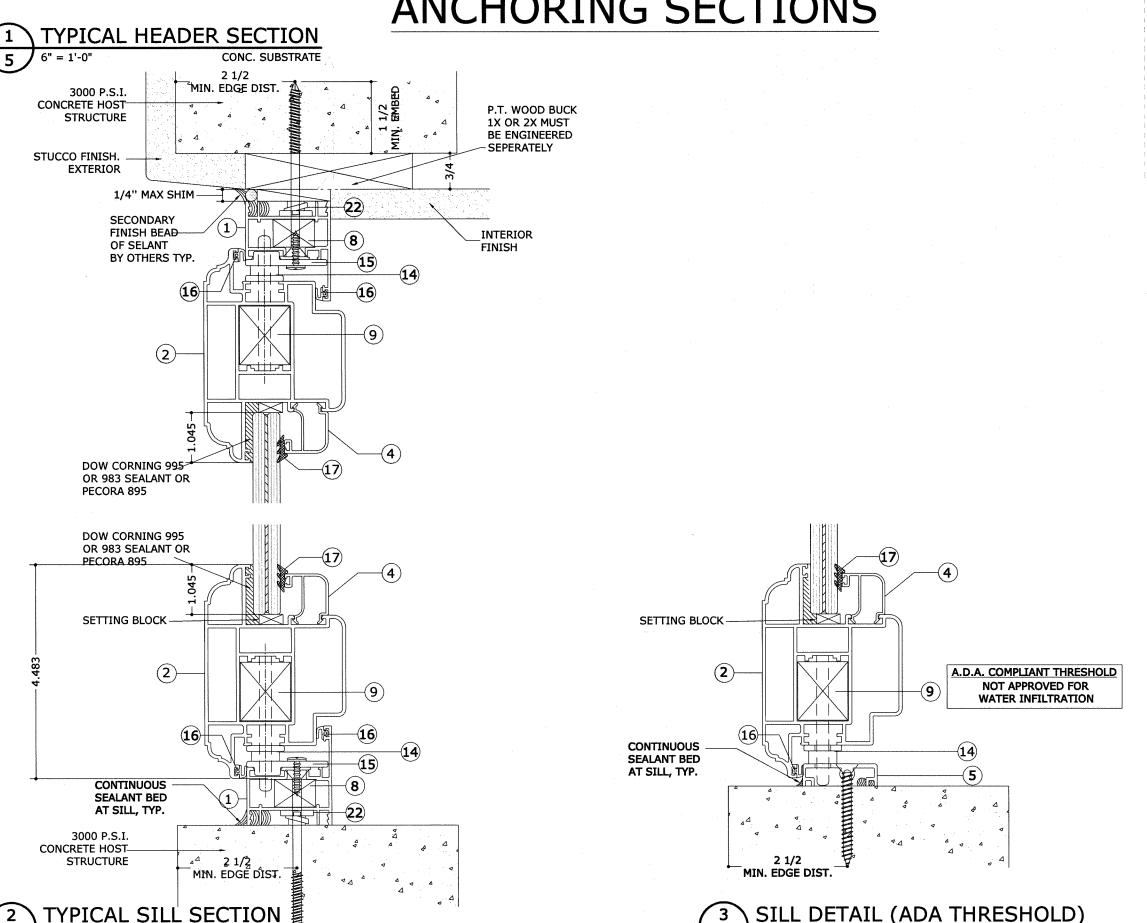
02:

UNITS MAY INSTALLED WITH A
MIAMI-DADE COUNTY APPROVED
MULLION BETWEEN EACH DOOR
AND/OR FRAME. THE LOWEST DESIGN
PRESSURE FOR THE DOOR, TRANSOM
OR MULLION WILL CONTROL

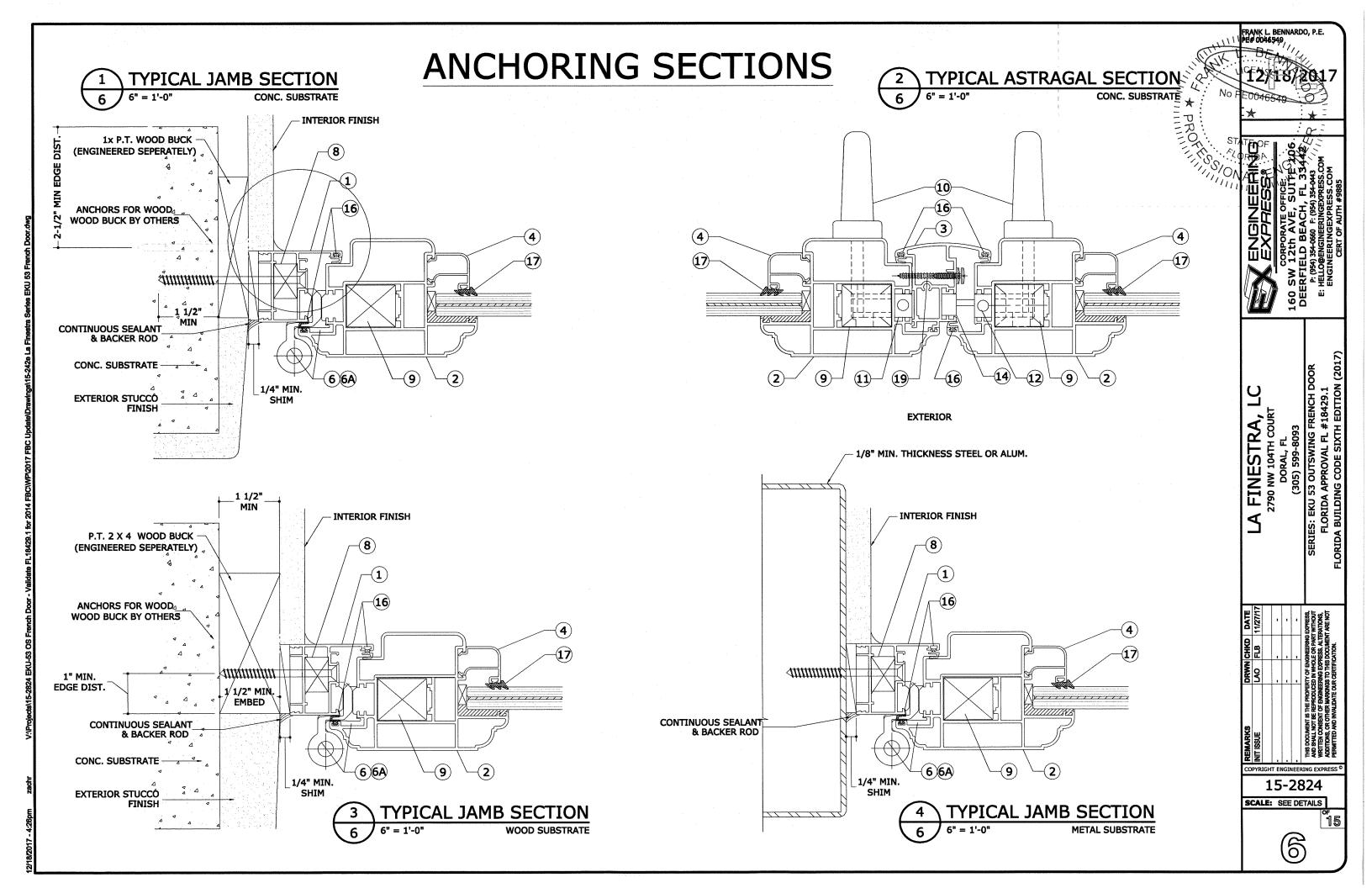


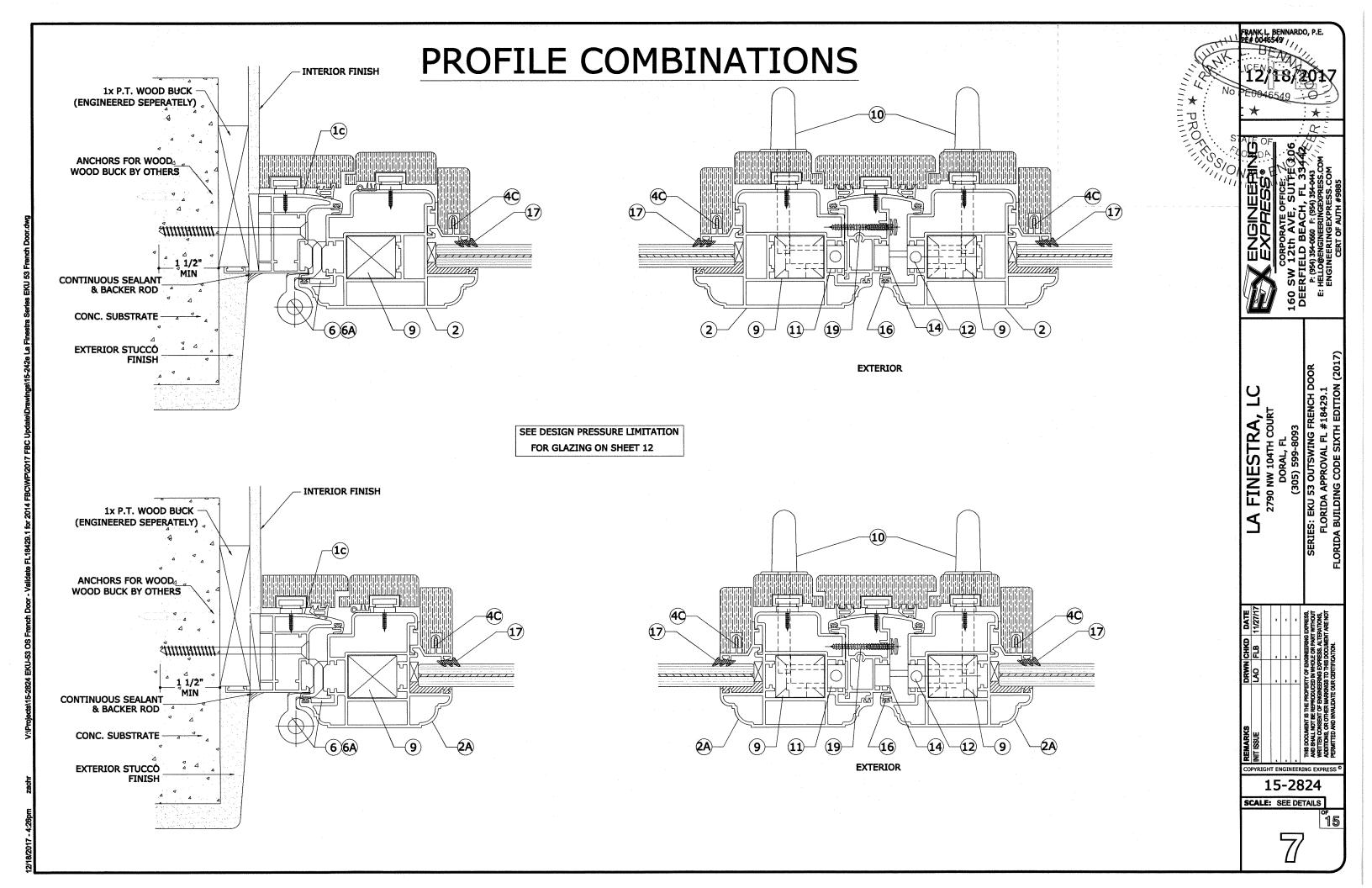


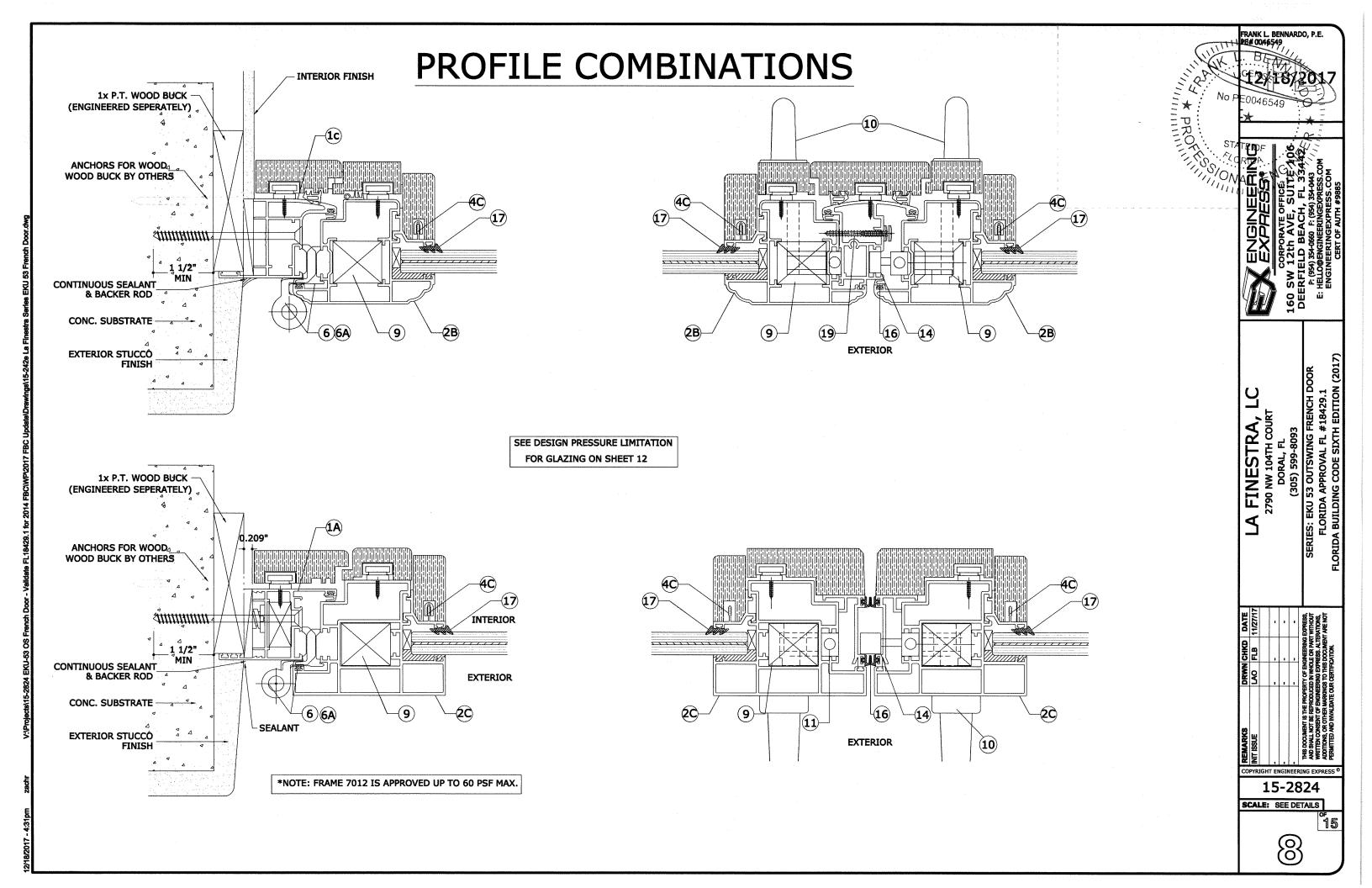
## ANCHORING SECTIONS

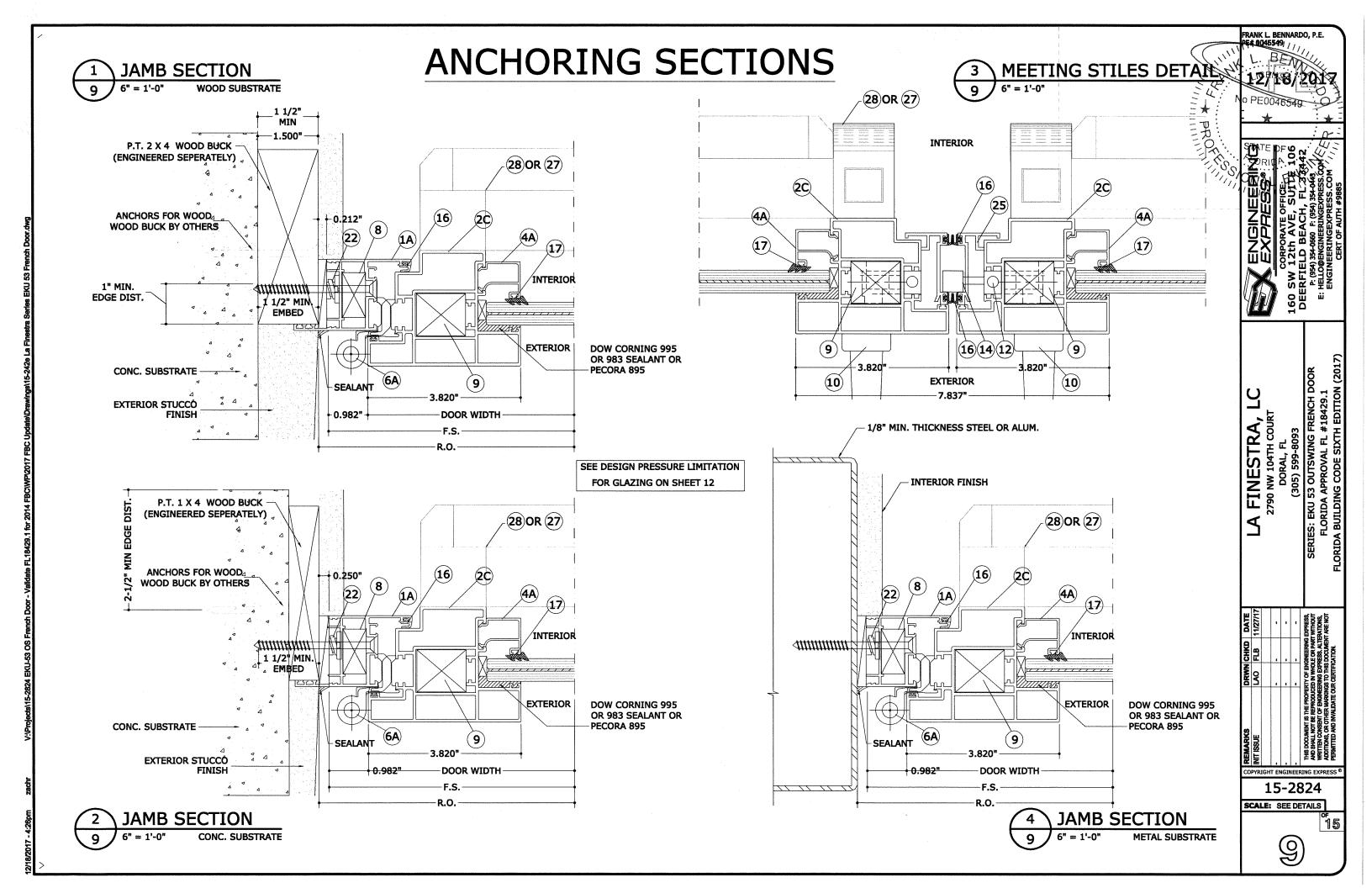


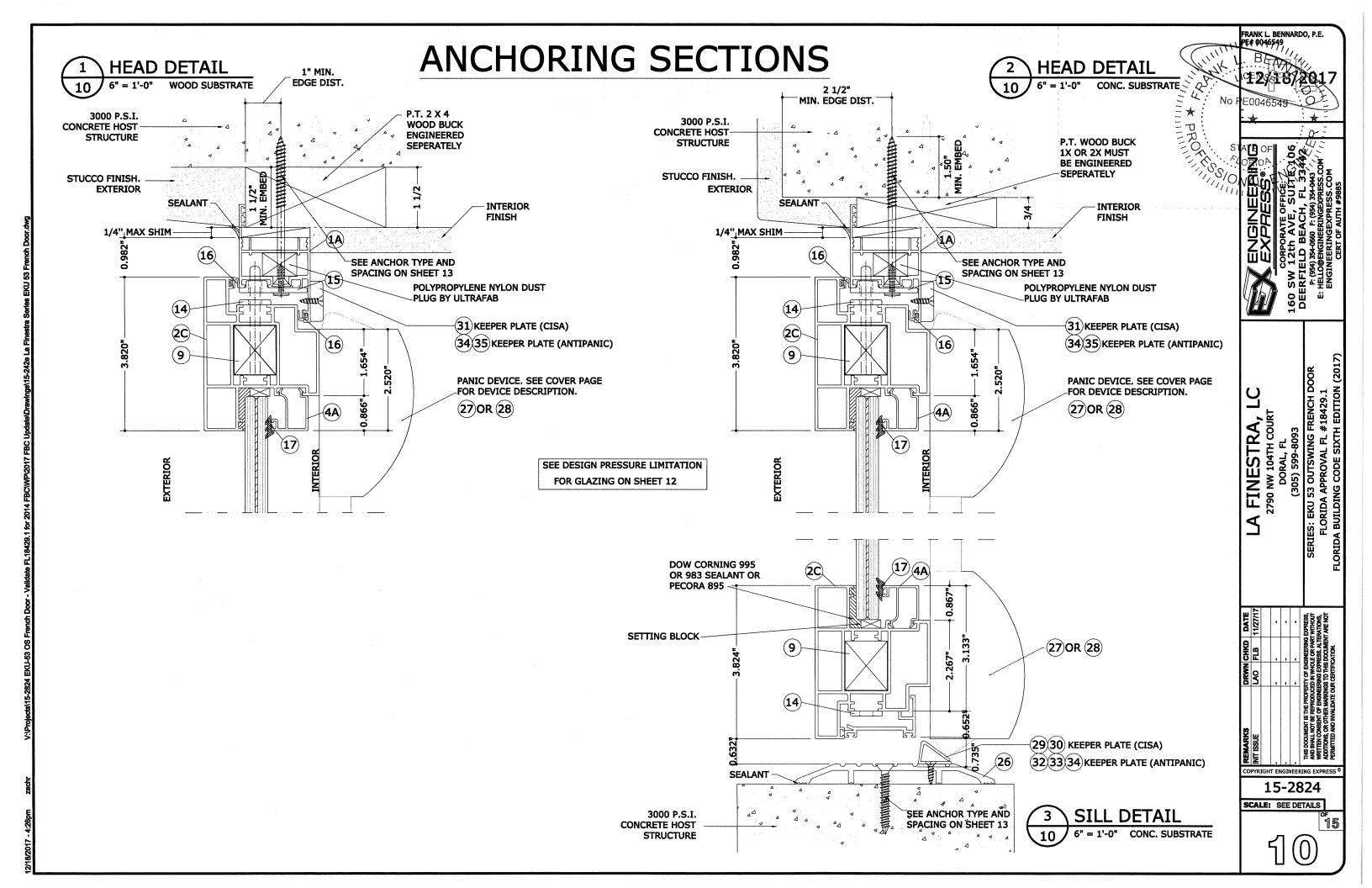
FRANK L., BENNARDO, P.E. PE# 0046549/ 15-2824 SCALE: SEE DETAILS

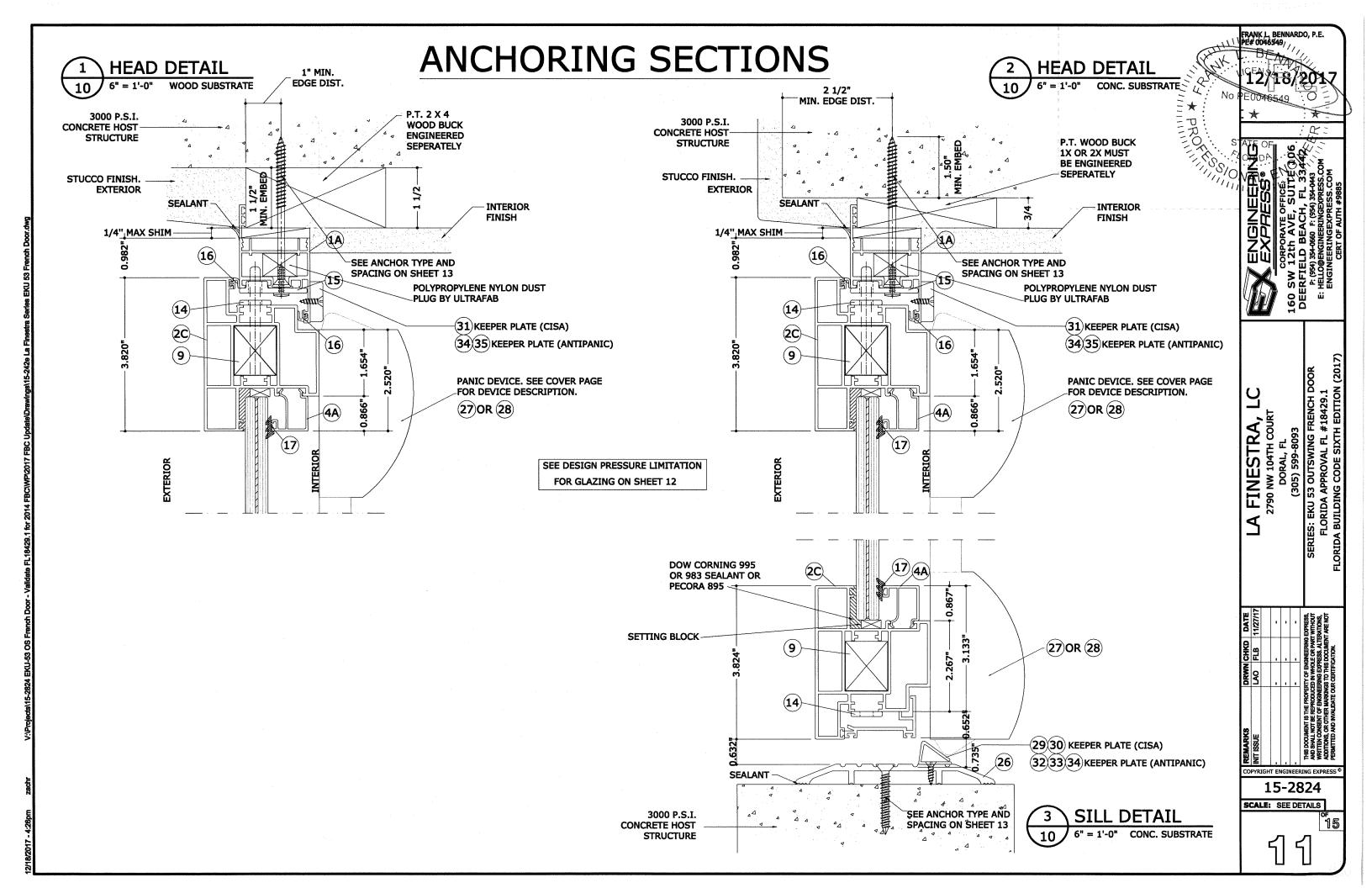












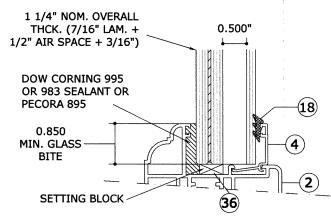
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	25 3/4"	110	110	80	80	110	110	110	110	$\Delta$		110	110	80	80	80	80
	27 1/2"	110	110	80	80	110	110	90	90			110	110	80	80	80	80
70 3/4"	28 15/16"	110	110	80	80			90	90			110	110	80	80	80	80
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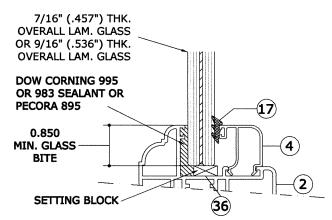
### **GLASS SCHEDULE**

GL-1	7/16" (.458") LAMINATED 3/16" (.182") H.S .090" P.V.B. TROSIFOL BY KURARAY AMERICA INC - 3/16 " H.S.	GL-5	7/16" (.454") LAMINATED 3/16" (.182") ANN .090" P.V.B. TROSIFOL BY KURARAY AMERICA INC - 3/16 " ANN.
GL-2	1-1/4" (1.136") INSULATED/LAMINATED 3/16" (.182") H.S090" P.V.B. TROSIFOL BY KURARAY AMERICA INC - 3/16 " H.S 1/2" AIR SPACE - 3/16" TEMPERED	GL-6	9/16" (.536") LAMINATED 1/4" (.223") H.S .090" P.V.B. TROSIFOL BY KURARAY AMERICA INC - 1/4 " H.S.
GL-3	7/16" (.458") LAMINATED 3/16" (.182") ANN090" P.V.B. SAFLEX BY EASTMAN CHEMICAL COMPANY INTERLAYER - 3/16 " ANN.	GL-7	9/16" (.536") LAMINATED 1/4" (.223") H.S .090" SENTRYGLAS BY KURARAY AMERICA INC - 1/4 " H.S.
GL-4	7/16" (.454") LAMINATED 3/16" (.182") H.S090" P.V.B. SAFLEX BY EASTMAN CHEMICAL COMPANY INTERLAYER - 3/16 " H.S.	GL-8	7/16" (.454") LAMINATED 3/16" (.182") H.S .090" SENTRYGLAS BY KURARAY AMERICA INC - 3/16" H. S.

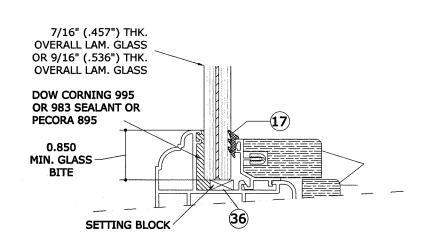
## **GLASS TYPES**

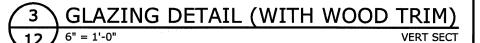


**GLAZING DETAIL (INSULATED)** VERT SECT



GLAZING DETAIL (LAMINATED) **VERT SECT** 





FRANK L BENNARDO, P.E.

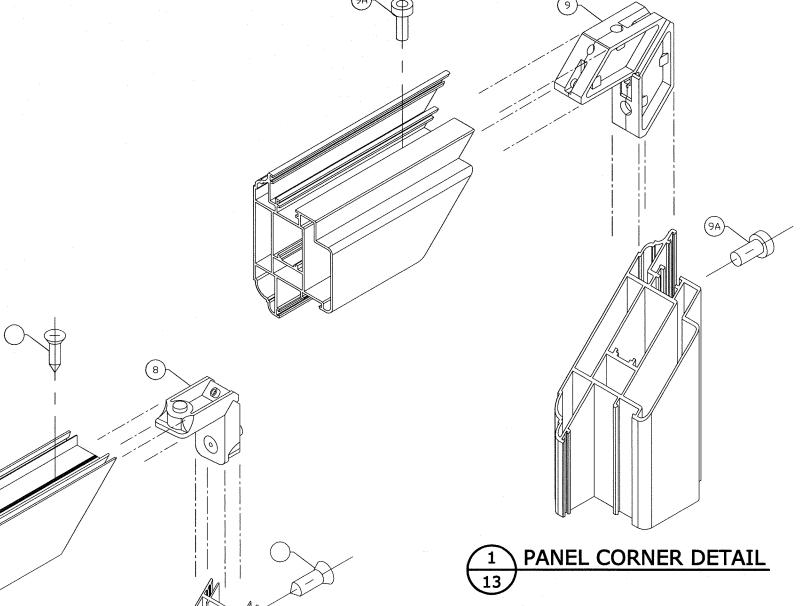
FINESTRA, 2790 NW 104TH COUR

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SCALE: SEE DETAILS

## FRAME ASSEMBLY

FRAME CORNER DETAIL



## **ANCHOR CAPACITY CHARTS**

1/4" DIA. TAPCON EDGE DIST. 2 1/2" MIN.	MAXIMUM ALLOWABLE	ANCHORS AT JAMBS	QTY. ANCHORS AT INTERLOCK		
SPACING 4* MIN.	DESIGN PRESSURE	(W/ ADJUSTABLE SHIM)			
EMBED 1 3/4" MIN. INTO GROUT FILLED MASONRY			UP TO 96"	UP TO 120'	
OR EMBED 1 1/2" MIN. INTO 3000 PSI CONC. START 7" FROM ENDS, BALANCE PER CHART.	< 60 P.S.F.	15-1/2* C/C	2	3	
	< 70 P.S.F.	15-1/2" C/C	2	3	
	< 80 P.S.F.	15-1/2" C/C	3	3	
	≤ 90 P.S.F.	15-1/2" C/C	3	N/A	
	>90-110 P.S.F.	15-1/2" C/C	3	N/A	
			SPACED 2 1/2" APAR		

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#14 P.H.S.M.S. OR	MAXIMUM ALLOWABLE	ANCHORS AT JAMBS		QTY. ANCHORS AT INTERLOCK		
#14 SELF DRILLING	DESIGN PRESSURE	(W/ AD	JUSTABLE SHIM)			
INTO 1/8" THK. ASTM A36			UP TO 96*	UP TO 120°		
START 7* FROM ENDS, BALANCE PER CHART.	≤ 60 P.S.F.	15-1/2" C/C	2	3		
	≤ 70 P.S.F.	15-1/2" C/C	2	3		
	≤ 80 P.S.F.	15-1/2* C/C	3	3		
	< 90 P.S.F.	15-1/2" C/C	3	N/A		
	>90-110 P.S.F.	15-1/2" C/C	3	N/A		
	1		SPACED 2	1/2" APART		

#14 P.H.S.M.S.	MAXIMUM ALLOWABLE	ANCHORS AT JAMBS	NCHORS ERLOCK			
OR #14 WOOD SCREW	DESIGN PRESSURE	(W/ ADJUSTABLE SHIM )				
THREAD PENETRATION 1 1/2" MIN. INTO NO. 2 SYP.			UP TO 96"	UP TO 120		
START 7" FROM ENDS, BALANCE PER CHART.	≤ 60 P.S.F.	12" C/C	4	5		
	< 70 P.S.F.	12" C/C	4	5		
	≤ 80 P.S.F.	12" C/C	5	6		
	≤ 90 P.S.F.	12" C/C	5	N/A		
	>90-110 P.S.F.	12" C/C	6	N/A		
	·	1	SPACED 2 1/2" APA			

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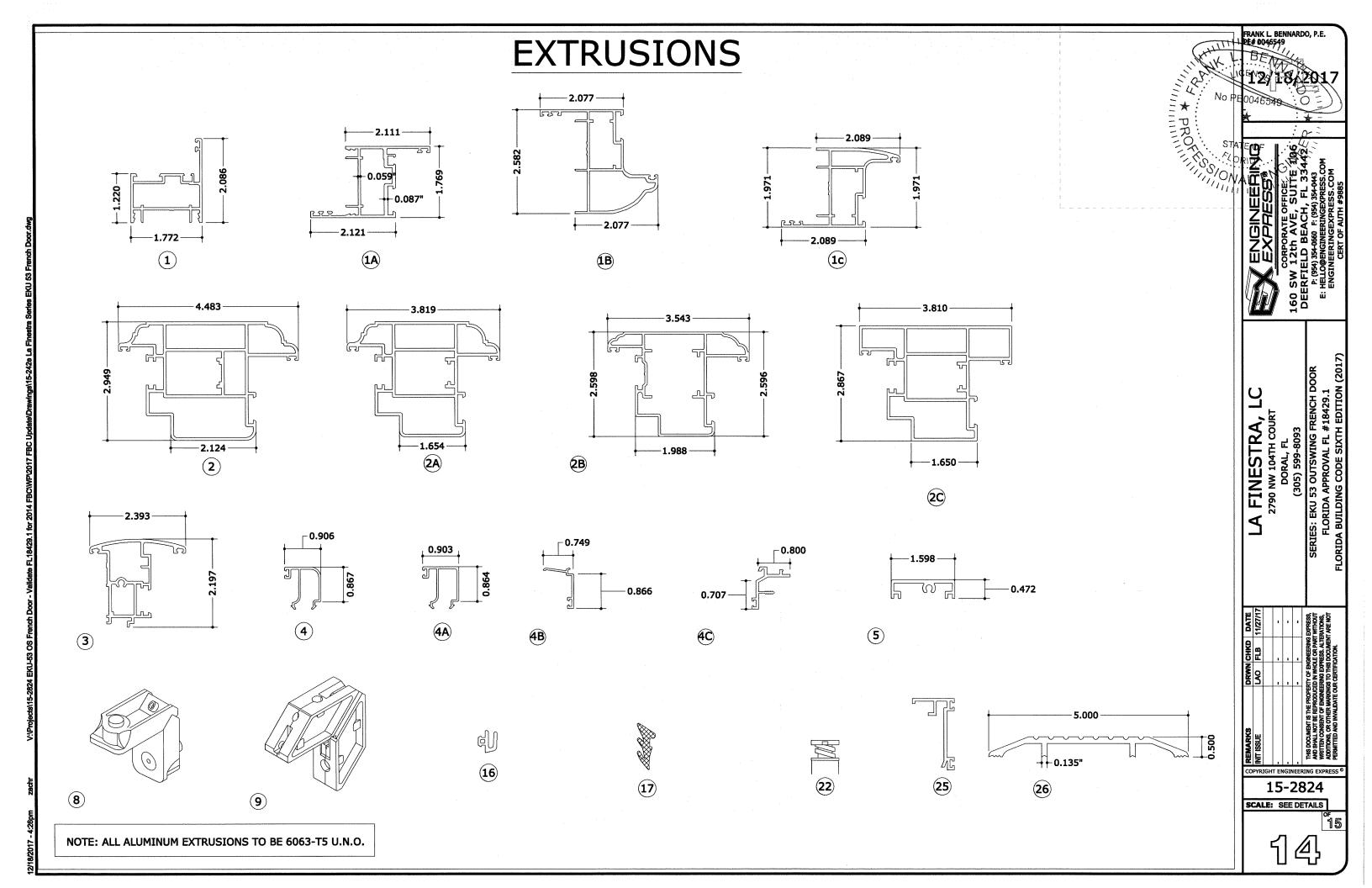
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SCALE: SEE DETAILS

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47 4.08mm

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35 490/5

36 -

**KEEPER PLATE** 

SETTING BLOCK

**BRAND: ANTIPANIC** 

NEOPRENE 70~90 SHORE A DUROMETER HARDNESS AT QUARTER POINTS

FRANK L. BENNARDO, P.E. 12/18/2017

EXPRESSA CORPORATE OFFICE O SW 12th AVE, SUITE EEFFIELD BEACH, FL 334 E. FORM 3-4-043

A FINES I KA, LC 2790 NW 104TH COURT DORAL, FL

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