

FLORIDA DEPARTMENT OF
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Product Approval
USER: Public User

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OFFICE OF THE
SECRETARY

FL #	FL8648-R7
Application Type	Revision
Code Version	2023
Application Status	Approved
Comments	
Archived	<input type="checkbox"/>
Product Manufacturer	Elite Aluminum Corporation
Address/Phone/Email	4650 Lyons Technology Parkway Coconut Creek, FL 33073 (954) 949-3200 bpeacock@elitealuminum.com
Authorized Signature	Frank Bennardo P.E. frank@engineeringexpress.com
Technical Representative	Bruce Peacock
Address/Phone/Email	4650 Lyons Technology Parkway Coconut Creek, FL 33073 (954) 949-3200 bpeacock@elitealuminum.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Exterior Doors
Subcategory	Swinging Exterior Door Assemblies
Compliance Method	Evaluation Report from a Florida Registered Architect Professional Engineer <input type="checkbox"/> Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Frank L. Bennardo, P.E.
Florida License	PE-0046549
Quality Assurance Entity	QAI Laboratories
Quality Assurance Contract Expiration Date	04/30/2025
Validated By	John Henry Kampmann Jr. <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received
Certificate of Independence	FL8648_R7_COI_INDEP.pdf
Referenced Standard and Year (of Standard)	Standard TAS 201 TAS 202

Equivalence of Product Standards
Certified By

Sections from the Code

Product Approval Method

Method 1 Option D

Date Submitted

08/21/2023

Date Validated

09/04/2023

Date Pending FBC Approval

09/07/2023

Date Approved

10/17/2023

Summary of Products

FL #	Model, Number or Name	Description
8648.1	Elite 3000 Aluminum Outswing Prime Entry Door	Large and Small Missile Impact Resista Door
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +75/-75 Other: Large and Small Missile Impact Resistant door for use within and outside the HVHZ		Installation Instructions FL8648 R7 II DOC1.pdf Verified By: Frank L. Bennardo, P.E. PE Created by Independent Third Party: Y Evaluation Reports FL8648 R7 AE EVAL1.pdf Created by Independent Third Party: Y
8648.2	Elite 3000 Aluminum Outswing Prime Entry Door	Non Impact Resistant Aluminum Outsw
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: +75/-75 Other: Non Impact Resistant door for use within and outside the HVHZ		Installation Instructions FL8648 R7 II DOC2.pdf Verified By: Frank L. Bennardo, P.E. PE Created by Independent Third Party: Y Evaluation Reports FL8648 R7 AE EVAL2.pdf Created by Independent Third Party: Y

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Product Approval Accepts:





August 29, 2023

Product Approval Administrator
DBPR Codes and Standards
2601 Blair Stone Road
Tallahassee, FL 32399

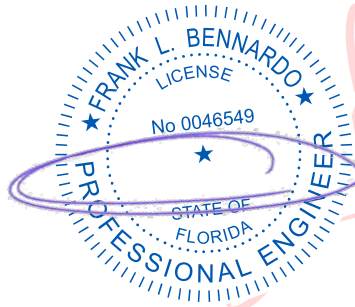
Regarding: Elite Aluminum Corporation
Elite 3000 Aluminum Outswing Prime Entry Door Large/Small Missile
Impact Resistance – FL #8648.1 – EX # 23-59959
Elite 3000 Aluminum Outswing Prime Entry Door Non-Impact – FL
#8648.2 – EX # 23-59960

To Whom It May Concern:

Please be advised that the below-signed engineer does not have nor will acquire a financial interest in the company manufacturing or distributing the product(s) for which an evaluation report or validation certification has been prepared, as referenced above. This engineer is not owned, operated, nor controlled by the manufacturer or distributor noted above and does not have any financial interest in any other entity involved in the approval process of the above-noted product(s).

Note: "EX #" where used above is an abbreviation for "Engineering Express (EX) Project Number".

Respectfully,



Digitally signed
by Frank
Bennardo
Date: 2023.08.29
14:55:21 -04'00'

Frank Bennardo, P.E.
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#PE0046549 | Cert. Auth. 9885

ELITE 3000 ELITE ALUMINUM CORPORATION ALUMINUM OUTSWING PRIME ENTRY DOOR

LARGE/SMALL MISSILE IMPACT RESISTANCE (LEVEL "D" IMPACT RESISTANCE)
VALID FOR USE INSIDE AND OUTSIDE THE HVHZ (SEE LIMITATIONS HEREIN)
NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

DESIGN NOTES:

POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. SITE-SPECIFIC PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7-22 AND THE FLORIDA BUILDING CODE EIGHTH EDITION (2023) SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.

GENERAL NOTES:

- THIS SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2020) PER TAS 201 / 202 / 203 TEST STANDARD FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY 1.5 SAFETY FACTOR
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON ALLOWABLE STRESS DESIGN (ASD).
- PANELS GLAZED WITH 9/16" (0.540") LAMINATED GLASS ARE LARGE/SMALL MISSILE IMPACT RESISTANT AND DO NOT REQUIRE IMPACT RESISTANT SHUTTERS.
- 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 USE IN CONJUNCTION WITH THIS DOCUMENT.
- ALL ALUMINUM EXTRUSION SHALL BE EQUIVALENT TO OR GREATER THAN THE MINIMUM ALLOYS AND TEMPERS AS SPECIFIED IN THE BILL OF MATERIALS. SEE SHEET 3 FOR MORE INFORMATION.
- GLAZING DETAILS ILLUSTRATED HEREIN UTILIZE KURARAY AMERICA INC. - SENTRYGLAS INTERLAYER N.O.A.# 14-0916.11 - 0.090 THK.
NOTE: IF THIS N.O.A.# HAS BEEN SUPERSEDED, USE MOST RECENT N.O.A.# VERSION
- ALL FASTENERS TO BE 5/16"Ø SAE GRADE 5 STEEL UNLESS NOTED OTHERWISE. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION, INC., & ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
- THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- 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.
- EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
- ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
- PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER WINDOW CONTAINING THE FOLLOWING:
ELITE ALUMINUM CORPORATION
4650 LYONS TECHNOLOGY PARKWAY
COCONUT CREEK, FLORIDA 33073
TAS 201/202/203
APPROVED BY FLORIDA BUILDING COMMISSION
FLORIDA PRODUCT APPROVAL NUMBER FL#8648.1
- THE SYSTEM DETAILED HEREIN HAS BEEN TESTED PER THE TEST STANDARD(S) LISTED ABOVE AS REFERENCED IN TEST REPORTS #HETI-09-2509, HETI-06-4070 AND HETI-06-4071 BY HURRICANE ENGINEERING & TESTING, INC (HETI).

DOOR HARDWARE:

HINGES:
(3) MECHANICAL PART NO. 1145/53 SAVIO HINGE
(SEE ELEVATION VIEW FOR HINGE LOCATIONS).

LOCK:
DEAD BOLT LOCK MODEL DB3231 BY TACO WITH
TA555 TACO LOCK CYLINDER

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

AUGUST 29, 2023



NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. THIS PRODUCT EVALUATION IS VALID FOR USE IN **FLORIDA ONLY**. USE OF THIS EVALUATION REQUIRES A REVIEW & CERTIFICATION BY A LOCAL DESIGN PROFESSIONAL WHO SHALL BE RESPONSIBLE FOR THE PROPER ADAPTATION OF THIS GENERAL PERFORMANCE EVALUATION TO ANY SITE-SPECIFIC PROJECT. CONTACT THIS OFFICE AT **ENGINEERINGEXPRESS.COM/QUOTE** FOR ASSISTANCE WITH YOUR PROJECT-SPECIFIC NEEDS & FOR ADAPTATION & CERTIFICATION OF THIS DOCUMENT OUTSIDE OF FLORIDA.

SHEET INDEX

# SHEET	DESCRIPTION
1	COVER SHEET
2	ELEVATIONS
3-6	DETAILS
7-8	ANCHORING SCHEDULE
9	PARTS & PARTS LIST
10	FRAME ASSEMBLY

TERMINOLOGY:

THE FOLLOWING ABBREVIATIONS APPEAR IN THIS APPROVAL: "U.N.O." FOR "UNLESS NOTED OTHERWISE", "FBC" FOR "FLORIDA BUILDING CODE", "CORP." FOR "CORPORATION", "ALUM" FOR "ALUMINUM", "ASD" FOR "ALLOWABLE STRESS DESIGN", "ASTM" FOR "AMERICAN SOCIETY FOR TESTING AND MATERIALS", "CS" FOR "CARBON STEEL", "CONN" FOR "CONNECTION", "EMBED" FOR "EMBEDMENT", "DIST." FOR "DISTANCE", "GA" FOR "GAUGE", "HVHZ" FOR "HIGH-VELOCITY HURRICANE ZONE", "LB" FOR "POUND", "MAX" FOR "MAXIMUM", "N.T.S." FOR "NOT TO SCALE", "PSF" FOR "POUNDS PER SQUARE FOOT (lb/ft²)", "KSI" FOR "KILOPOUNDS PER SQUARE INCH (klb/in²)", "SPECS" FOR "SPECIFICATIONS", "&" FOR "AND", "MAX" FOR "MAXIMUM", "W/" FOR "WITH", "EXIST." FOR "EXISTING", "STRUCT." FOR "STRUCTURE", "SHT" FOR "SHEET", "REF" FOR "REFERENCE", "D.L.O" FOR "DAYLIGHT OPENING". CONTACT ENGINEERING EXPRESS FOR ADDITIONAL ABBREVIATION/TERMINOLOGY CLARIFICATIONS.

VISIT [ECALC.IO/59959](https://ecalculator.com/59959)

FOR SITE-SPECIFIC DEVIATIONS
& MORE INFORMATION ABOUT THIS DOCUMENT
OR SCAN THIS QR CODE

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FOR ADDITIONAL PLANS, REPORTS & RESOURCES



FL 8648.1

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Elite Aluminum
Corporation

4650 Lyons Technology Parkway
Coconut Creek, FL 33073

Elite 3000 Outswing Prime Entry Door
Large/Small Missile Impact Resistance
FBC 8TH ED. (2023) | FLORIDA STATEWIDE APPROVAL

REMARKS	DATE	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-20080)	01/18/21	JEM	AJP	01/18/21
2023 FBC UPDATE	08/16/23	MRT	RWN	08/16/23

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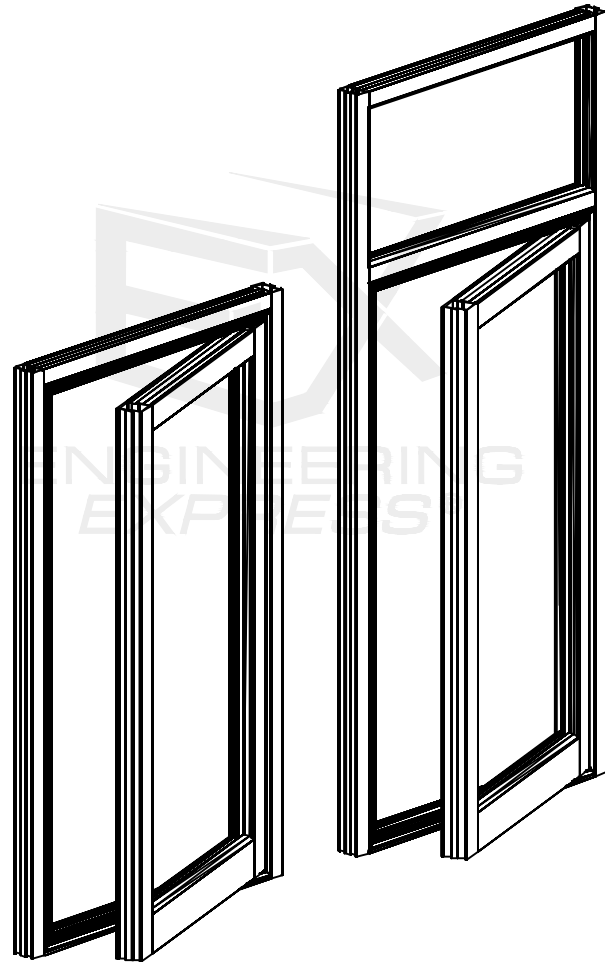
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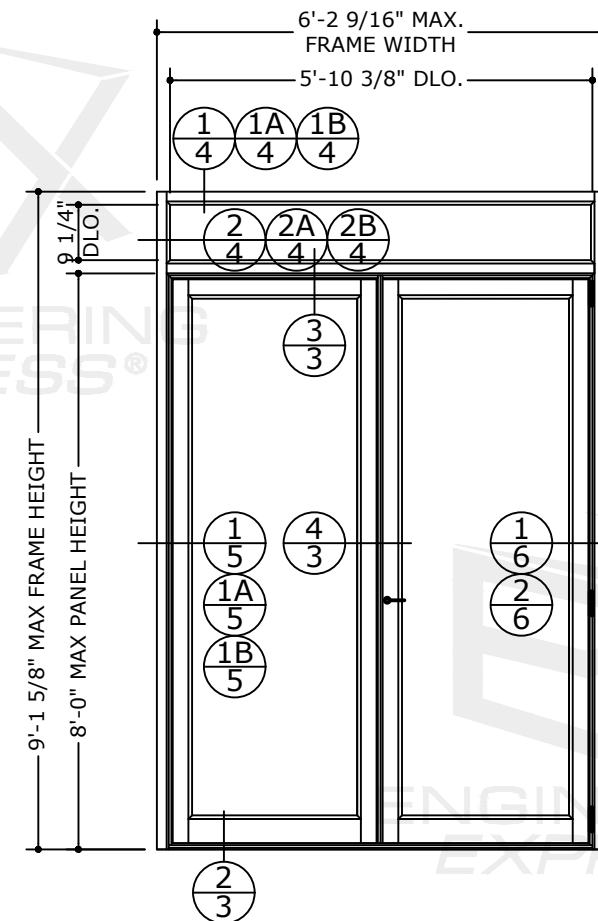
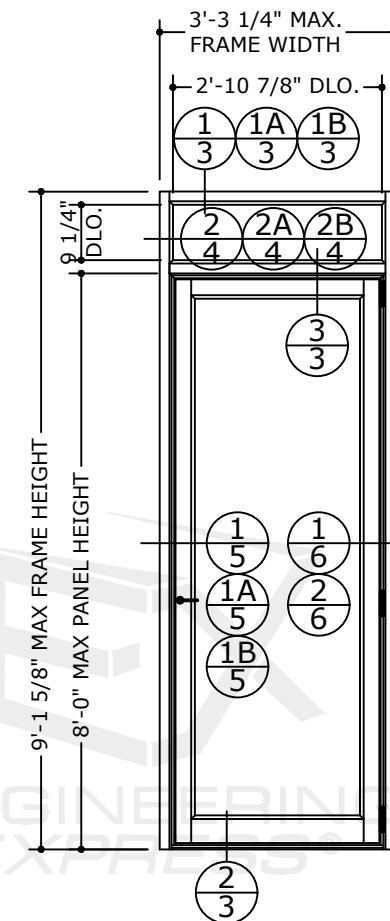
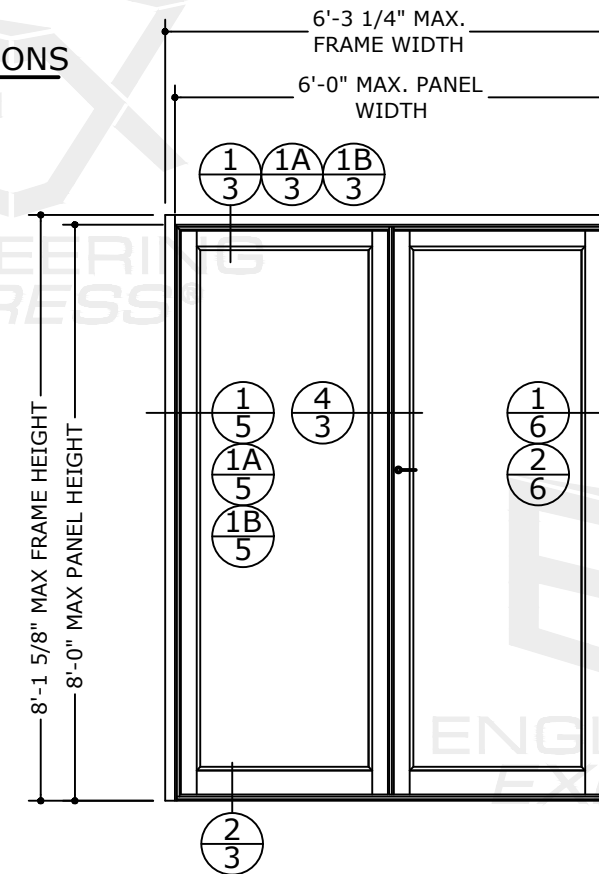
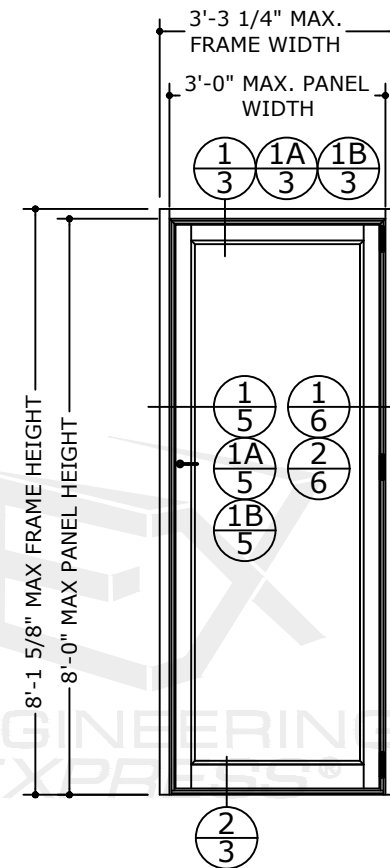
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N.T.S.	VERT SECT
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ELITE SYSTEM
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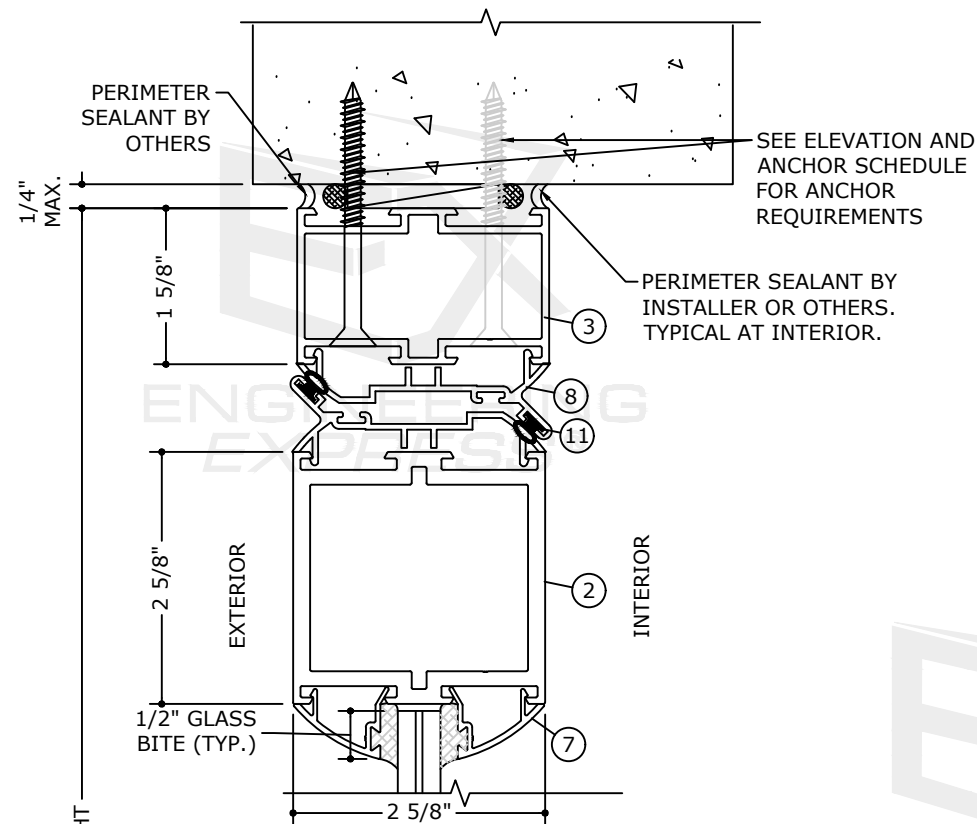
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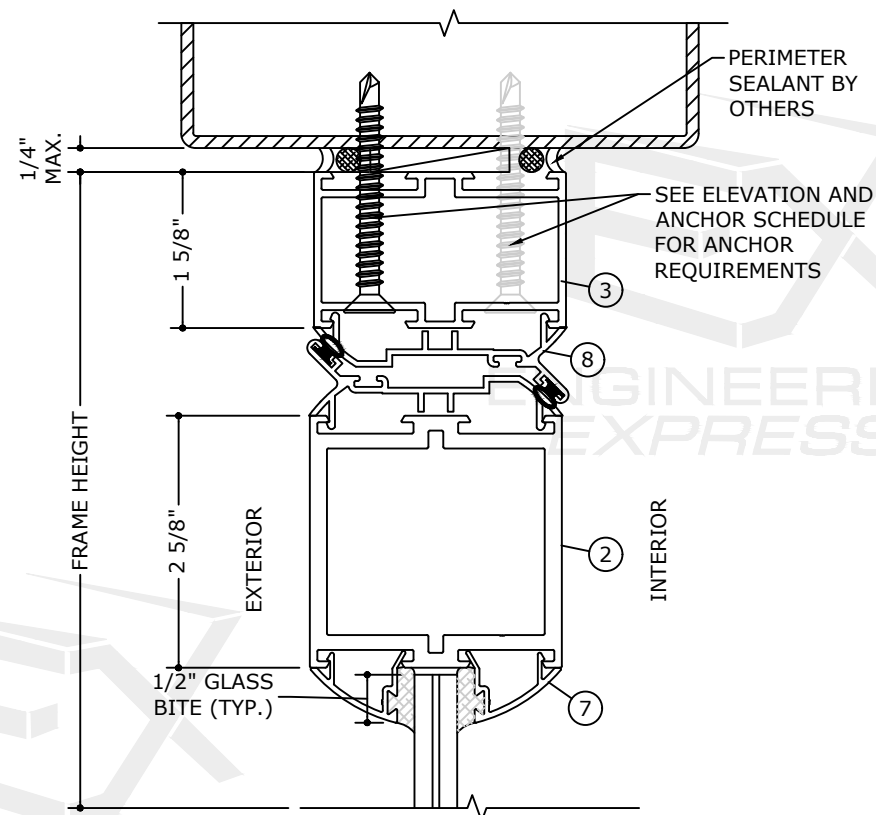
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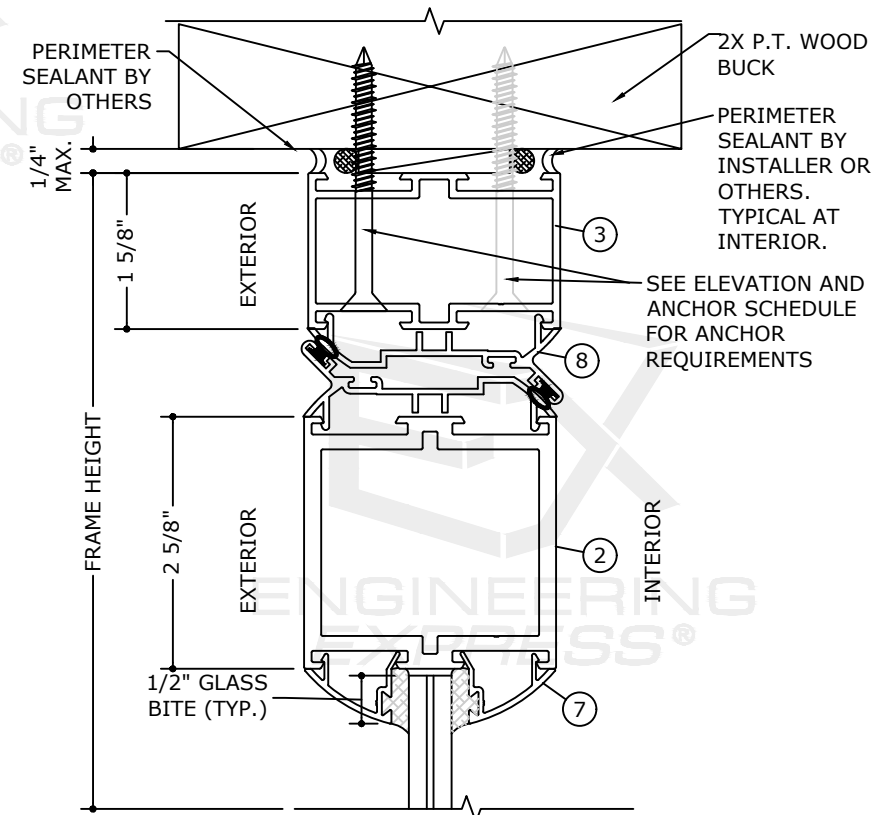
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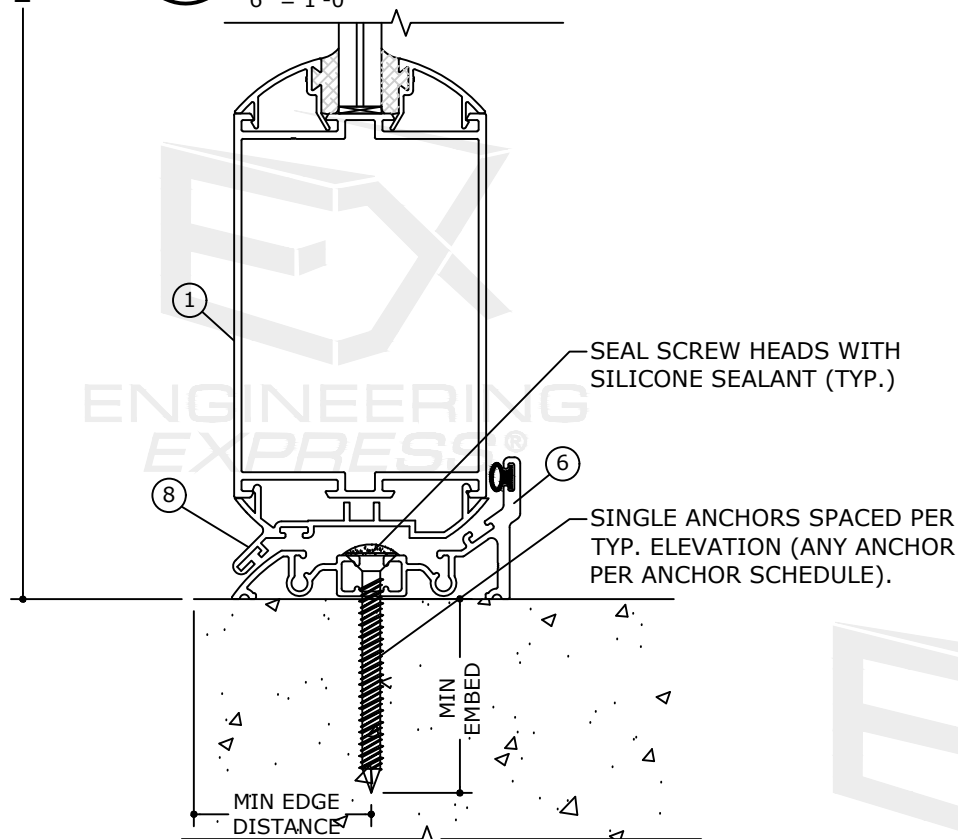
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3 HEAD DETAIL
INTO METAL STRUCTURES
6" = 1'-0"



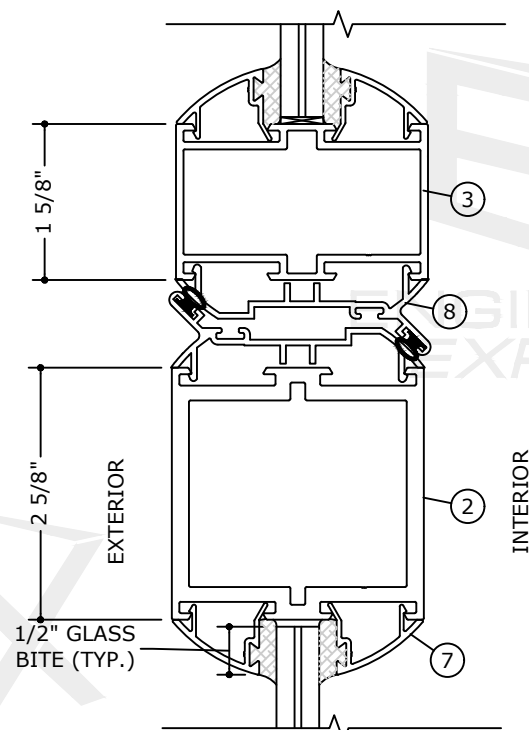
1A
3 HEAD DETAIL
INTO METAL STRUCTURES
6" = 1'-0"



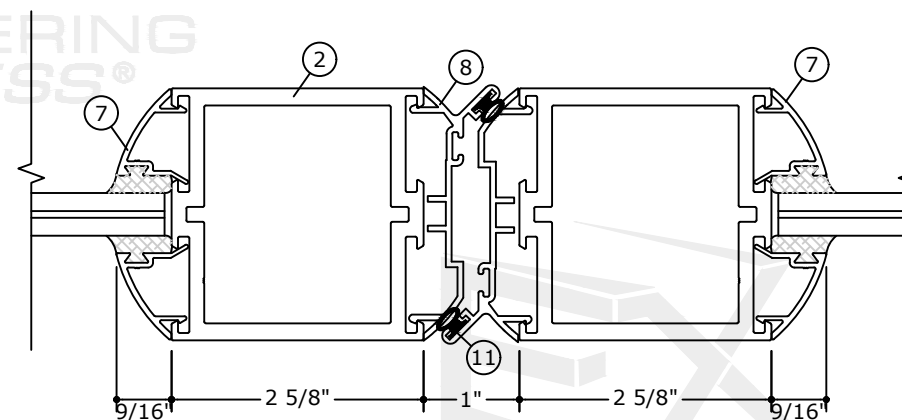
1B
3 HEAD DETAIL
INTO WOOD STRUCTURES
6" = 1'-0"



2
3 TYPICAL SECTION AT HEAD/SILL
INTO CONCRETE
6" = 1'-0"



3
3 HEAD DETAIL
INTO METAL STRUCTURES
6" = 1'-0"



4
3 MEETING STILES DETAIL
6" = 1'-0"

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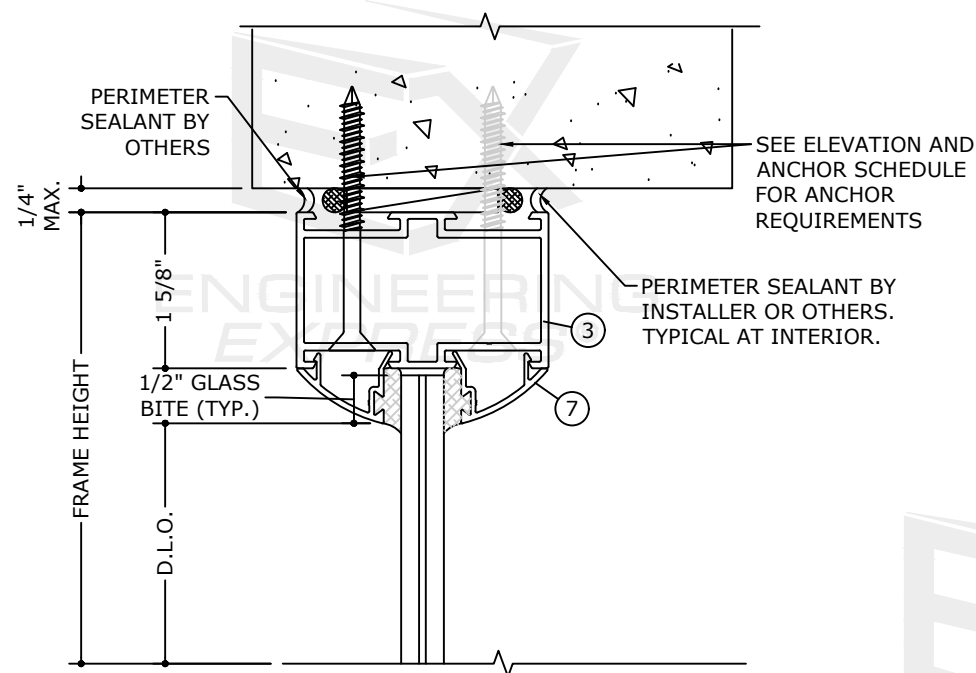
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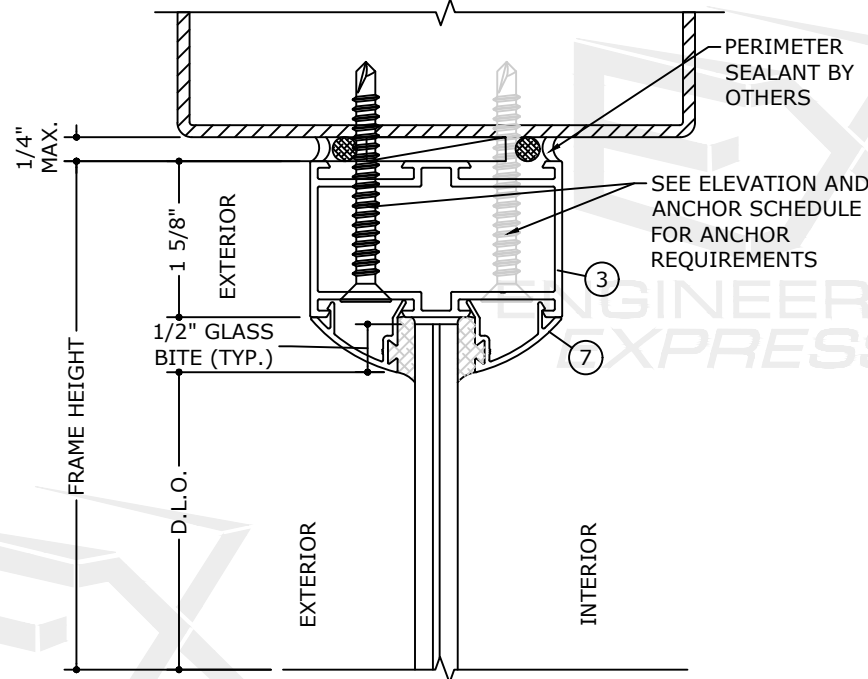
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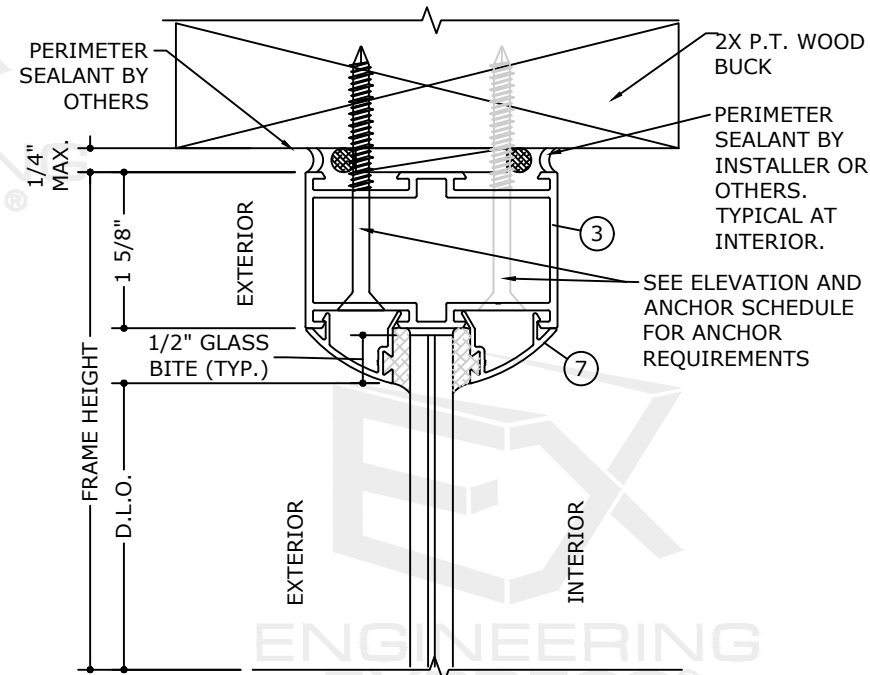
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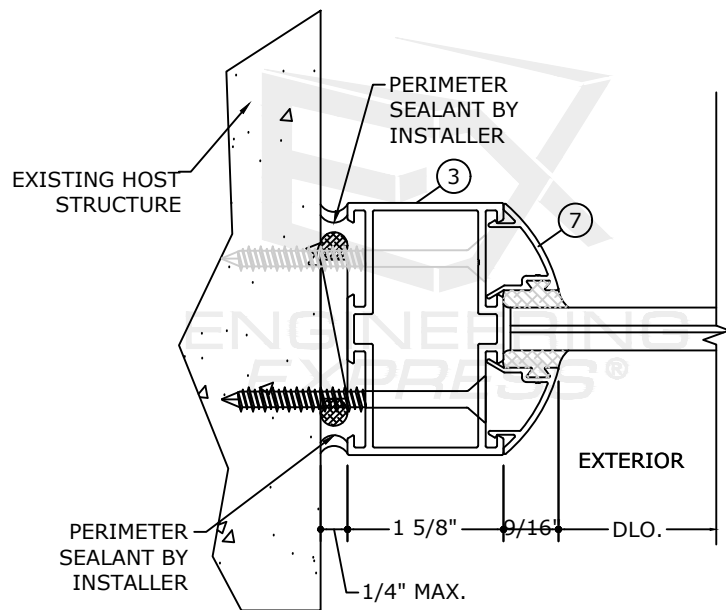
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4 HEAD DETAIL
INTO CONCRETE
6" = 1'-0"



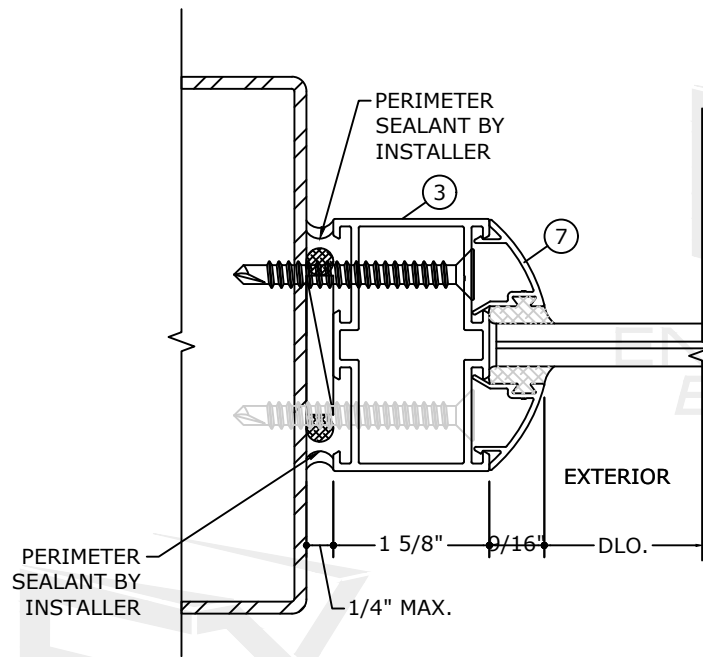
1A
4 HEAD DETAIL
INTO METAL STRUCTURES
6" = 1'-0"



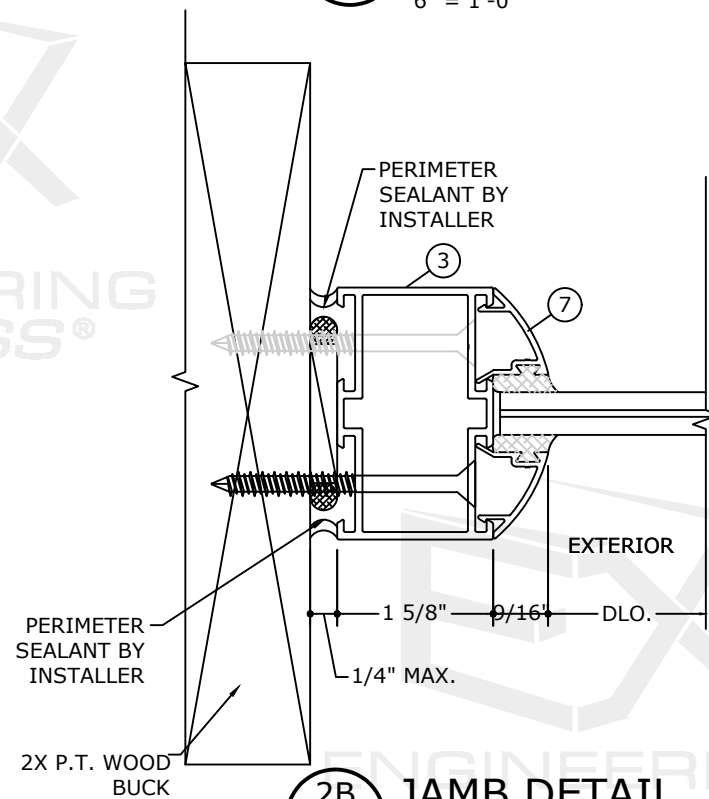
1B
4 HEAD DETAIL
INTO WOOD STRUCTURES
6" = 1'-0"



2
4 JAMB DETAIL
6" = 1'-0"



2A
4 JAMB DETAIL
6" = 1'-0"



2B
4 JAMB DETAIL
6" = 1'-0"

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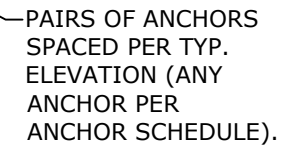
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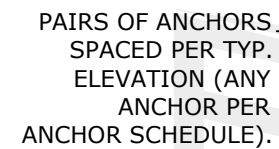
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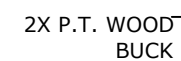
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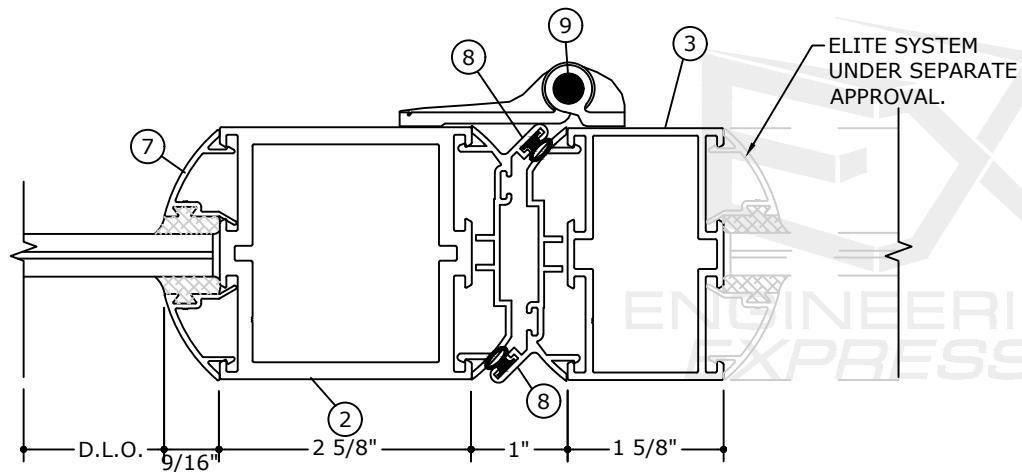
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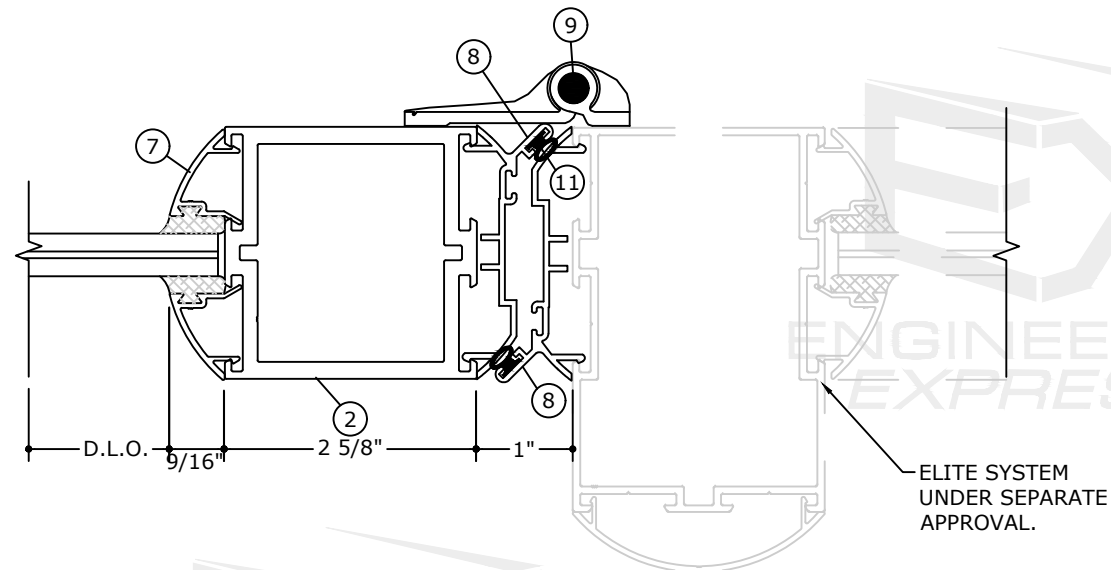
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1 DOOR JAMB AT SIDELITE
6 N.T.S.



2 DOOR JAMB AT SIDELITE
6 N.T.S.



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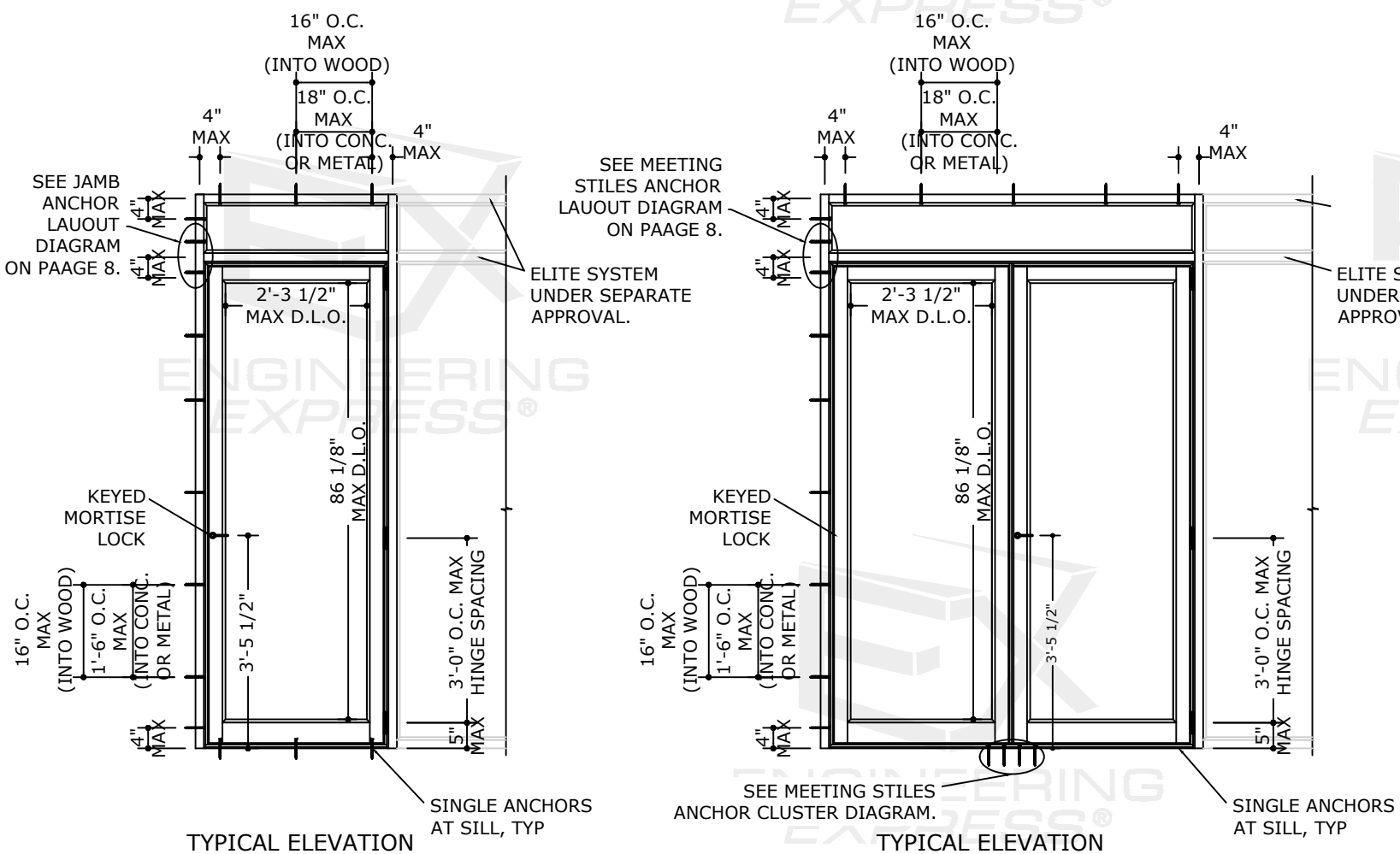
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TYPE 'A'	
CONCRETE	<p><u>DIRECTLY INTO CONCRETE</u> OR GROUT FILLED BLOCK (3000 PSI. MIN. / f'm=2000 Psi MIN.)</p> <p>5/16" DIA. ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)</p> <p>1-1/2" MIN. EMBEDMENT</p>
TYPE 'B'	
WOOD	<p><u>INTO 2BY WOOD BUCKS OR WOOD STRUCTURES</u> (SYP#2 G=0.55 MIN. 1 1/2" MIN. THICKNESS)</p> <p>5/16" DIA. ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)</p> <p>1-1/2" MIN. PENETRATION</p>
TYPE 'C'	
METAL	<p><u>INTO METAL STRUCTURES</u> (3 PINCHES PASS THE THREAD PLANE MIN.) STEEL: 1/8" THK MIN. (Fy=36 KSI MIN)</p> <p>ALUMINUM: 1/8" THK MIN. (6063-T5 MIN)</p> <p>5/16-24 DIA. DRIL-FLEX BY 'DEWALT' (GRADE 5 MIN)</p> <p>(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)</p>
<p><u>TYPICAL EDGE DISTANCE</u></p> <p>INTO CONCRETE/HOLLOW BLOCK/GROUT FILLED BLOCK= 2-1/2" MIN.</p> <p>INTO WOOD STRUCTURE = 1" MIN.</p> <p>INTO METAL STRUCTURE = 3/4" MIN.</p>	

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7 10

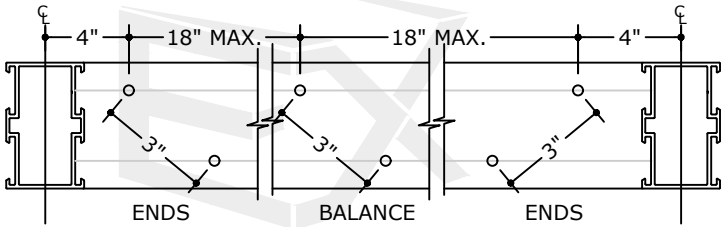
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8/29/2023 11:37 AM MILTON

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

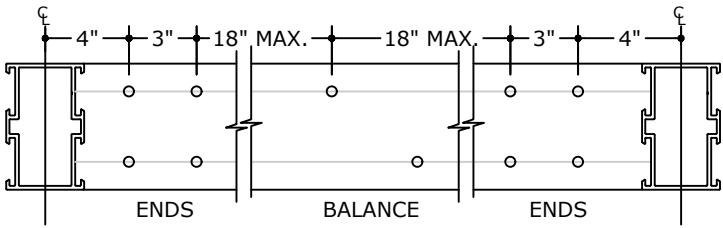
AUGUST 29, 2023

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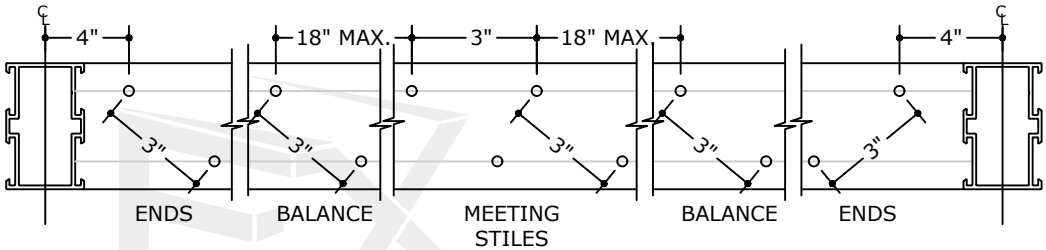
ANCHOR LAYOUT DIAGRAMS



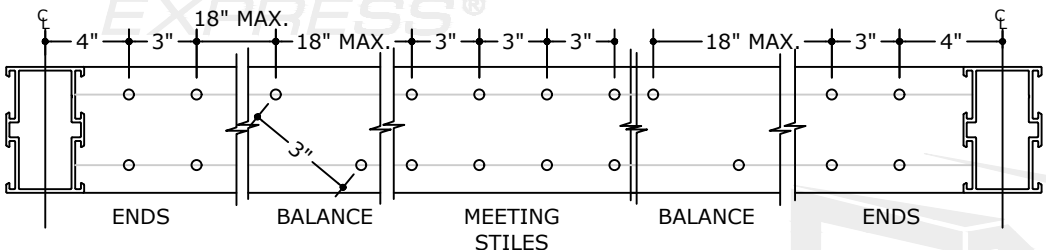
SINGLE DOOR HEAD ANCHOR LAYOUT
(INTO CONCRETE OR METAL)



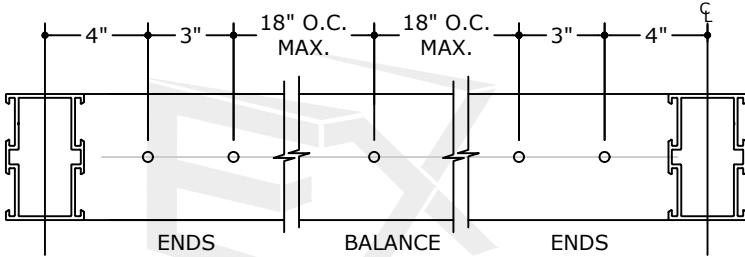
SINGLE DOOR HEAD ANCHOR LAYOUT
(INTO WOOD)



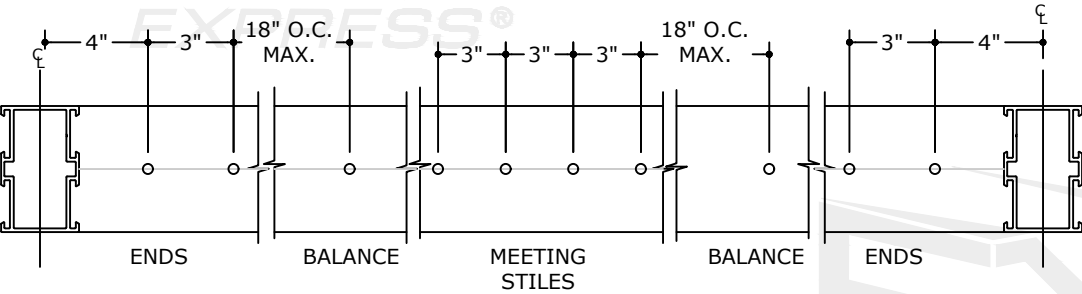
DOUBLE DOOR HEAD ANCHOR LAYOUT
(INTO CONCRETE OR METAL)



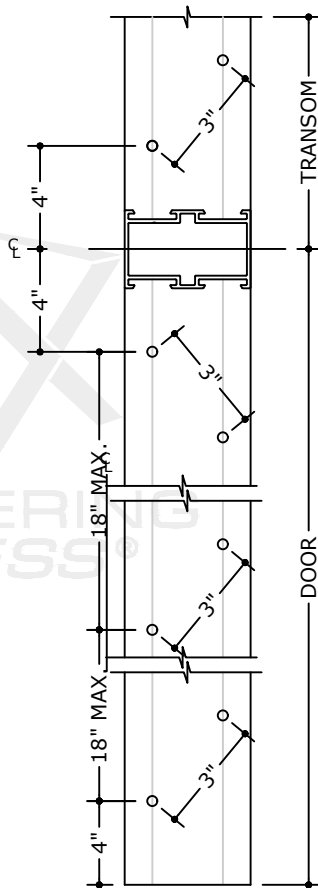
DOUBLE DOOR HEAD ANCHOR LAYOUT
(INTO WOOD)



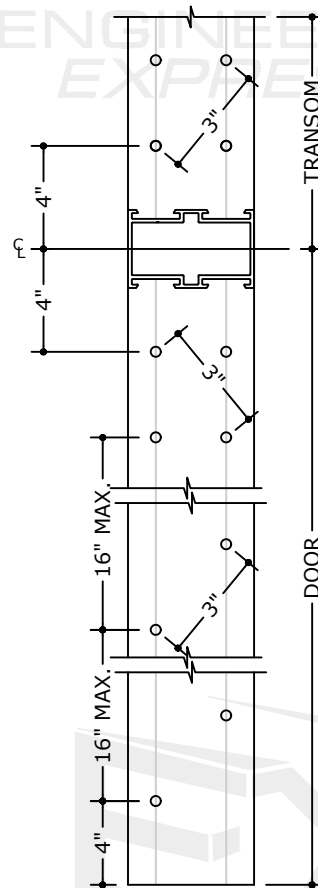
SINGLE DOOR THRESHOLD ANCHOR LAYOUT
(INTO CONCRETE)



DOUBLE DOOR THRESHOLD ANCHOR LAYOUT
(INTO CONCRETE)



JAMB ANCHOR LAYOUT
(INTO CONCRETE OR METAL)



JAMB ANCHOR LAYOUT
(INTO WOOD)

FL 8648.1

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**Elite Aluminum
Corporation**
4650 Lyons Technology Parkway
Coconut Creek, FL 33073

Elite 3000 Outswing Prime Entry Door
Large/Small Missile Impact Resistance
FBC 8TH ED. (2023) | FLORIDA STATEWIDE APPROVAL

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-28080)	JEM	AJP	01/18/21
2023 FBC UPDATE	MRT	RWN	08/16/23

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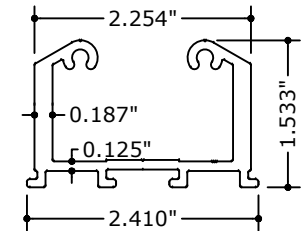
4650 Lyons Technology Parkway
Coconut Creek, FL 33073

Elite 3000 Outswing Prime Entry Door
Large/Small Missile Impact Resistance

FBC 8TH ED. (2023) | FLORIDA STATEWIDE APPROVAL

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23-59959

SCALE: NTS UNLESS NOTED

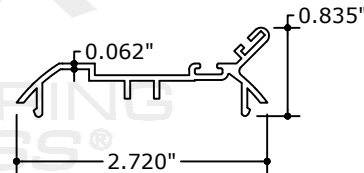
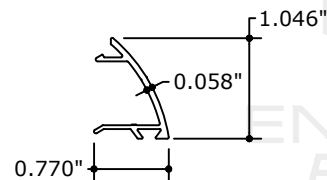
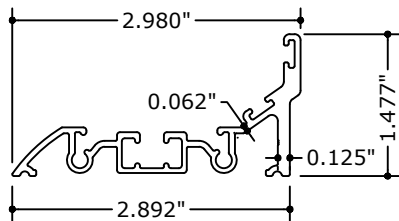
1 **BOTTOM RAIL**
N.T.S. 6063-T6

2 VENT STILES/RAILS
N.T.S. 6063-T5

3 FRAME HEAD/JAMB
N.T.S. 6063-T5

4 FRAME CORNER BRACKET
N.T.S. 6063-T5

5 VENT
CORNER BRACKET
N.T.S. 6063-T6



6 SILL
N.T.S. 6063-T5

7 PANEL CLIP
N.T.S. 6063-T6

8 DOOR SNAP
N.T.S. 6063-T6

Bill of Materials

	PART #	DESCRIPTION	MATERIAL	REMARKS
1	46743	BOTTOM RAIL	6063-T6	-
2	46742	VENT STILES/RAILS	6063-T5	-
3	44579	FRAME HEAD/JAMB	6063-T5	-
4	44549	FRAME CORNER KEY	6063-T5	-
5	46740	VENT CORNER KEY	6063-T5	-
6	45806	SILL	6063-T5	-
7	44566	PANEL CLIP	6063-T6	-
8	45785	DOOR SNAP	6063-T6	-
9	1145/53	MECHANICA HINGES	-	BY SAVIO
10	DB3231	DEAD BOLT LOCK	-	BY TACO
11	QEZ345	Q-LON WEATHER SEAL	-	SCHLEGEL
12	-----	WOOL PILE WITH FIN	-	-
13	-----	0.22" DIAMETER BULB GASKET	VINYL	-

FL

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Large/Small Missile Impact Resistance

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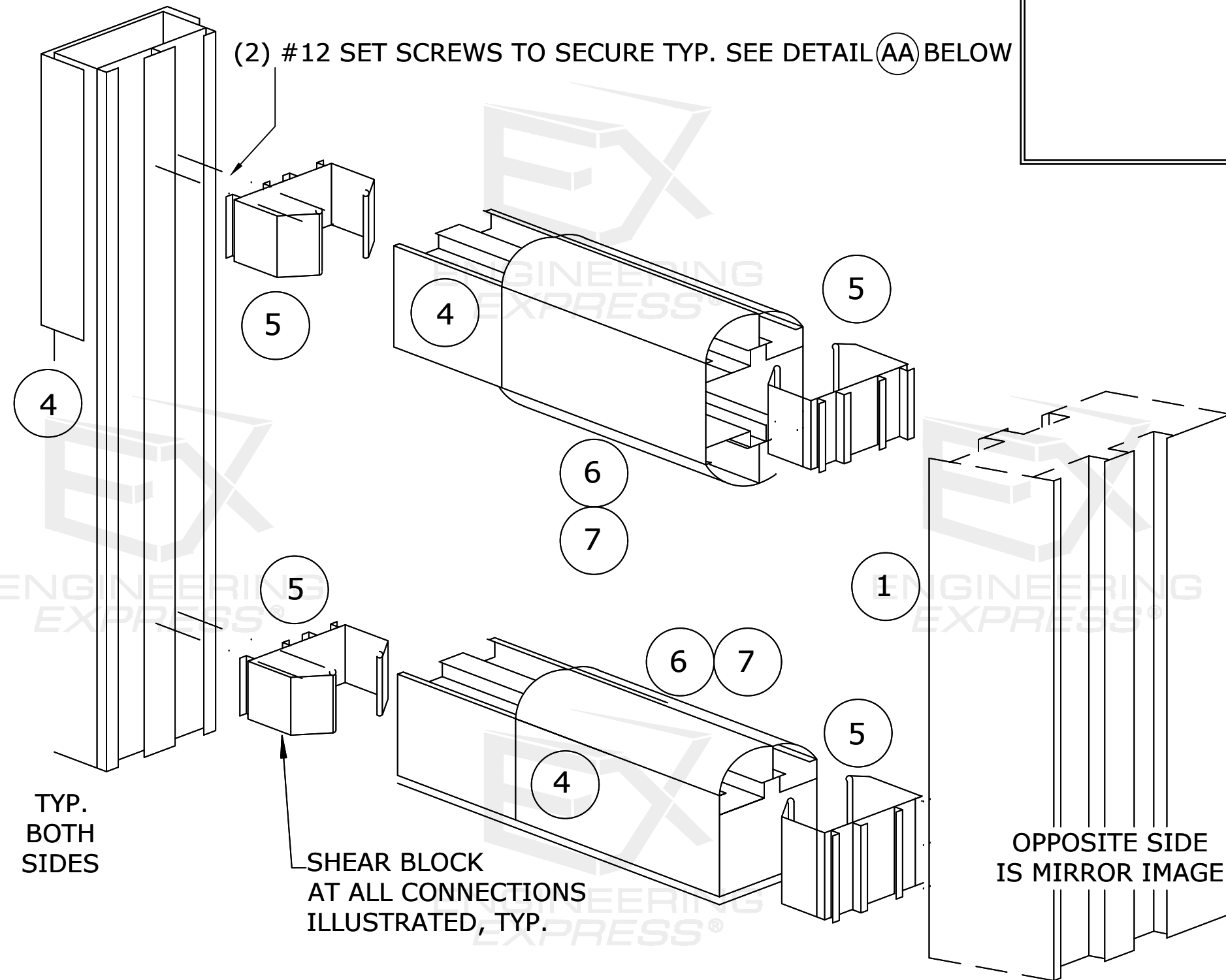
REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-28060)	JEM	AJP	01/18/21
2023 FBC UPDATE	MRT	RWN	08/16/23
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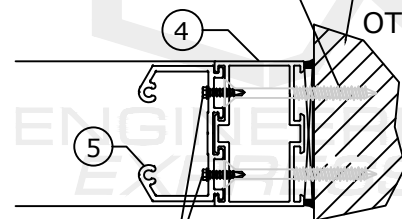
10



FRAME ASSEMBLY DETAIL

**SEAL ALL CORNERS WITH
DOWSIL 795 SILICONE OR
C.R. LAURENCE SJ88
NARROW JOINT SEALER.**

EXISTING HOST
STRUCTURE BY
OTHERS, TYP.



(2) #12 SMS PER
CONNECTION
BRACKET TO
PERIMETER
EXTRUSION

CONNECTION BRACKET DETAIL

N.T.S.

SECTION

ENGINEERING EXPRESS® (EX) PRODUCT EVALUATION REPORT

August 29, 2023

Application Number: FL 8648.1
EX Project Number: 23-59959

Product Manufacturer: Elite Aluminum Corporation
Manufacturer Address: 4650 Lyons Technology Parkway
Coconut Creek, FL 33073

Product Name & Description: Elite 3000 Aluminum Outswing Prime Entry Door
Large/Small Missile Impact Resistance

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 standard ASCE 7-22 (ASD) and the Florida Building Code Eighth Edition (2023) and is, for the purpose intended, at least equivalent to that required by the Standard and Code. Re-evaluation of this product shall be required following pertinent Florida Building Code or ASCE Standard modifications or revisions.

Substantiating Data:

- **PRODUCT EVALUATION DOCUMENTS**

EX Performance Evaluation document # 23-59959 titled "Elite 3000 Aluminum Outswing Prime Entry Door Large/Small Missile Impact Resistance", prepared by Engineering Express, Inc., signed & sealed by Frank Bennardo, P.E. is an integral part of this Evaluation Report, pages 1 through 10.

- **TEST REPORTS**

The product has been tested per the following:

Uniform static structural performance has been tested in accordance with TAS 202 test standards per test report(s) #HETI-06-4070 by Hurricane Engineering & Testing, Inc (HETI), Signed by Rafael E. Droz-Seda, P.E. and report #HETI-09-2509A signed by Candido F. Font, PE.

Large missile impact resistance and cyclic loading performance have been tested in accordance with TAS 201 & 203 test standards per test report(s) #HETI-06-4071 by Hurricane Engineering & Testing, Inc (HETI), Signed by Rafael E. Droz-Seda, P.E. and report #HETI-09-2509B signed by Candido F. Font, PE.

Elite Aluminum Corporation – Elite 3000 Aluminum Outswing Prime Entry Door Large/Small
Missile Impact Resistance

- **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
2. Maximum Allowable Size/Pressure Combinations

The following are approved for use in the HVHZ as specified in their corresponding NOA:
Sentryglas Interlayer by Kuraray America (NOA # 20-0915.19)

Impact Resistance:

Large/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:

This product has been designed to resist wind loads as indicated on its respective Performance Evaluation document (i.e. engineering document).

Installation:

The product listed above shall be installed in strict compliance with the Performance Evaluation document (i.e. engineering document), along with all components noted therein.

The product components shall be of the material specified in the Performance Evaluation document (i.e. engineering document).

Limitations & Conditions of Use:

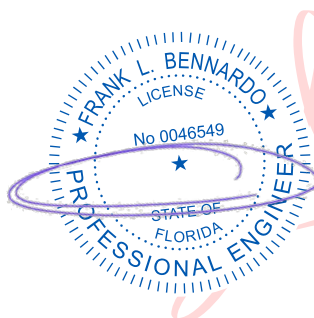
Use of each product shall be in strict accordance with its respective Performance Evaluation document (i.e. engineering document) as noted herein.

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. Any alteration to the respective Performance Evaluation document will invalidate it. This product has been designed for use inside and outside of the High Velocity Hurricane Zone (HVHZ & NON-HVHZ).

Respectfully,

Frank Bennardo, P.E.
ENGINEERING EXPRESS®
#PE0046549 | Cert. Auth. 9885



Digitally signed
by Frank
Bennardo
Date: 2023.08.29
14:56:13 -04'00'