



Eastern
Engineering Group

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6100 W Suburban Dr Eastern Engineering Group

Job. No: 25-0997

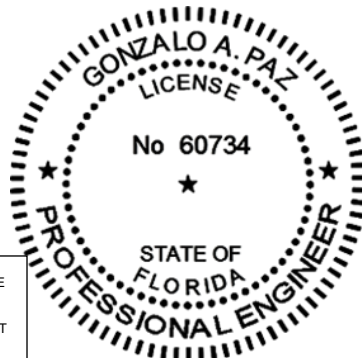
WINDOWS & DOORS SHOP DRAWINGS

6100 W Suburban Dr, Pinecrest,
FL 33156, EE. UU.

STRUCTURAL CALCULATION

THIS ITEM HAS BEEN DIGITALLY SIGNED AND
SEALED BY **GONZALO A. PAZ, PE** ON THE DATE
ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT
CONSIDERED SIGNED AND SEALED AND THE
SIGNATURE MUST BE VERIFIED ON ANY
ELECTRONIC COPIES.



Prepared By:
☐ Gonzalo Paz , PE
Lic. No. 60734
CAN # 26655

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PRODUCT APPROVAL

FLORIDA DEPARTMENT OF
Business & Professional Regulation



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Product Approval
USER: Public User

[Product Approval Menu](#) > [Product or Application Search](#) > [Application List](#) > **Application Detail**

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FL #	FL26359-R5								
Application Type	Revision								
Code Version	2023								
Application Status	Approved								
Comments									
Archived	☐								
Product Manufacturer	E.S. Windows, Inc.								
Address/Phone/Email	10653 NE Quaybridge Ct. Miami, FL 33138 (305) 638-5151 ssabagh@energiasolarsa.com								
Authorized Signature	Jalal Farooq veronica@afceng.com								
Technical Representative	Samir Sabagh								
Address/Phone/Email	3550 NW 49th St. Miami, FL 33142 (305) 638-5151 ssabagh@energiasolarsa.com								
Quality Assurance Representative									
Address/Phone/Email									
Category	Windows								
Subcategory	Fixed								
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	Jalal Farooq								
Florida License	PE-81223								
Quality Assurance Entity	Keystone Certifications, Inc.								
Quality Assurance Contract Expiration Date	03/19/2035								
Validated By	Abel Carrasco, PE ☒ Validation Checklist - Hardcopy Received								
Certificate of Independence	FL26359_R5_COI_SS - Certificate of Independence 2023.pdf								
Referenced Standard and Year (of Standard)	<table> <thead> <tr> <th>Standard</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>TAS 201</td> <td>1994</td> </tr> <tr> <td>TAS 202</td> <td>1994</td> </tr> <tr> <td>TAS 203</td> <td>1994</td> </tr> </tbody> </table>	Standard	Year	TAS 201	1994	TAS 202	1994	TAS 203	1994
Standard	Year								
TAS 201	1994								
TAS 202	1994								
TAS 203	1994								
Equivalence of Product Standards Certified By									
Sections from the Code									

Product Approval Method

Method 1 Option D

Date Submitted

08/15/2023

Date Validated

08/17/2023

Date Pending FBC Approval

08/19/2023

Date Approved

10/17/2023

Summary of Products

FL #	Model, Number or Name	Description
26359.1	Series ES-P252 Thermal Aluminum Fixed Window	Large missile impact resistant aluminum fixed window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +110/-150 Other: See drawing 18-30F for installation instructions		Installation Instructions FL26359_R5_II_SS - ES-P252 Fixed (LMI) - DWG 18-30F 2023.pdf Verified By: Jalal Farooq PE # 81223 Created by Independent Third Party: Yes Evaluation Reports FL26359_R5_AE_SS - ES-P252 Fixed (LMI)-PAE 2023.pdf Created by Independent Third Party: Yes

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[Next](#)

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

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Product Approval Accepts:



THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT.
SHUTTERS ARE NOT REQUIRED.

ES-P252
THERMAL ALUMINUM FIXED WINDOW

DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER
CHARTS SHOWN ON SHEET 2.

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE
COMBINATIONS OF FIX./FIX. OR FIXED WITH OTHER
WINDOW TYPES IN MODULES OF TWO OR MORE WINDOWS USING
F.B.C. APPROVED MULLIONS IN BETWEEN.
LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION APPROVAL
WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE
REQUIREMENTS OF THE 2020 (7TH EDITION)/2023 (8TH EDITION) FLORIDA
BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE
DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT
LOADS TO THE BUILDING STRUCTURE.

ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS
AND INSTALLED PER MANUF'S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE
MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT
COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE
REQUIREMENTS OF THE 2020/2023 FLORIDA BLDG. CODE & ADOPTED STANDARDS.

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION
FOR A SITE SPECIFIC PROJECT, i.e. LIFE SAFETY OF THIS PRODUCT, ADEQUACY
OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR
WATER INFILTRATION RESISTANCE ETC.
CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY,
AND TO BE REVIEWED BY BUILDING OFFICIAL.

DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION
IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE.
LABELING TO COMPLY WITH SECTION 1709.9.2.

WINDOWS COMPLY WITH REQUIREMENTS OF ANSI Z97.1.

Sealed: 7/19/2023

FL #26359

A- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND
INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION
PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED
ON THIS DOCUMENT.

B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF
ALTERED BY ANY MEANS.

C- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED
ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.)
FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER
USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED
ENGINEER TO THE P.E.D. ENGINEER SHALL SUBMIT TO THIS LATTER THE SITE
SPECIFIC DRAWINGS FOR REVIEW.

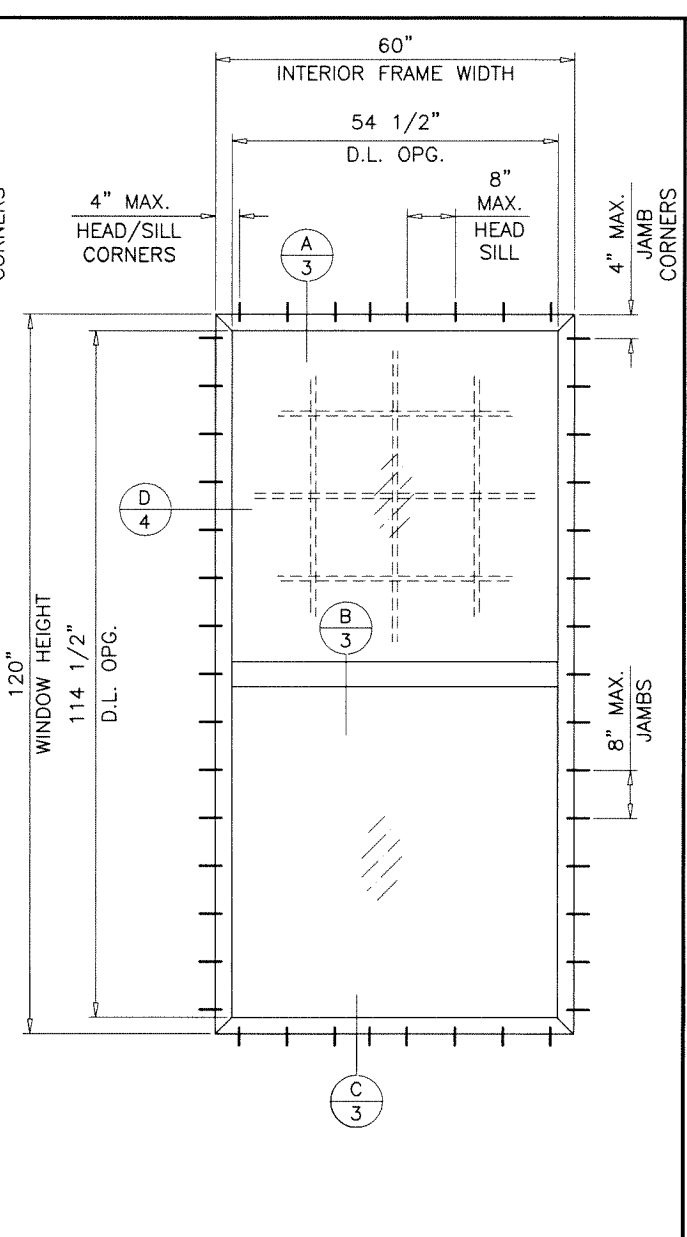
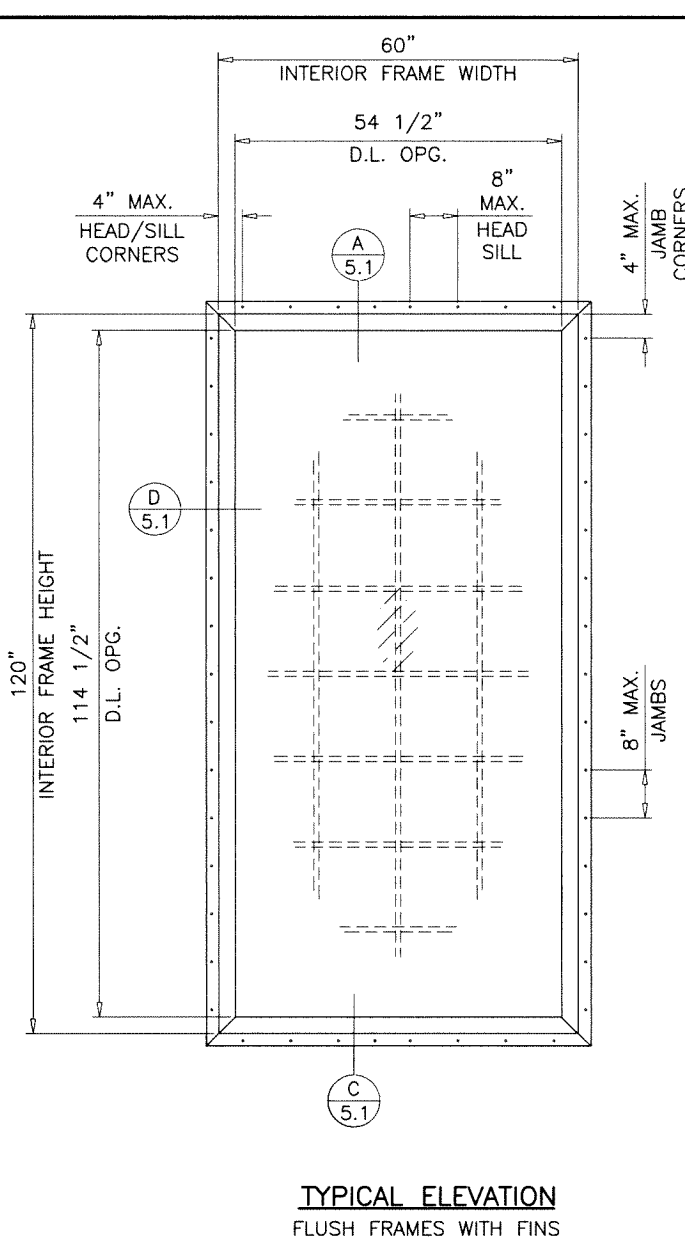
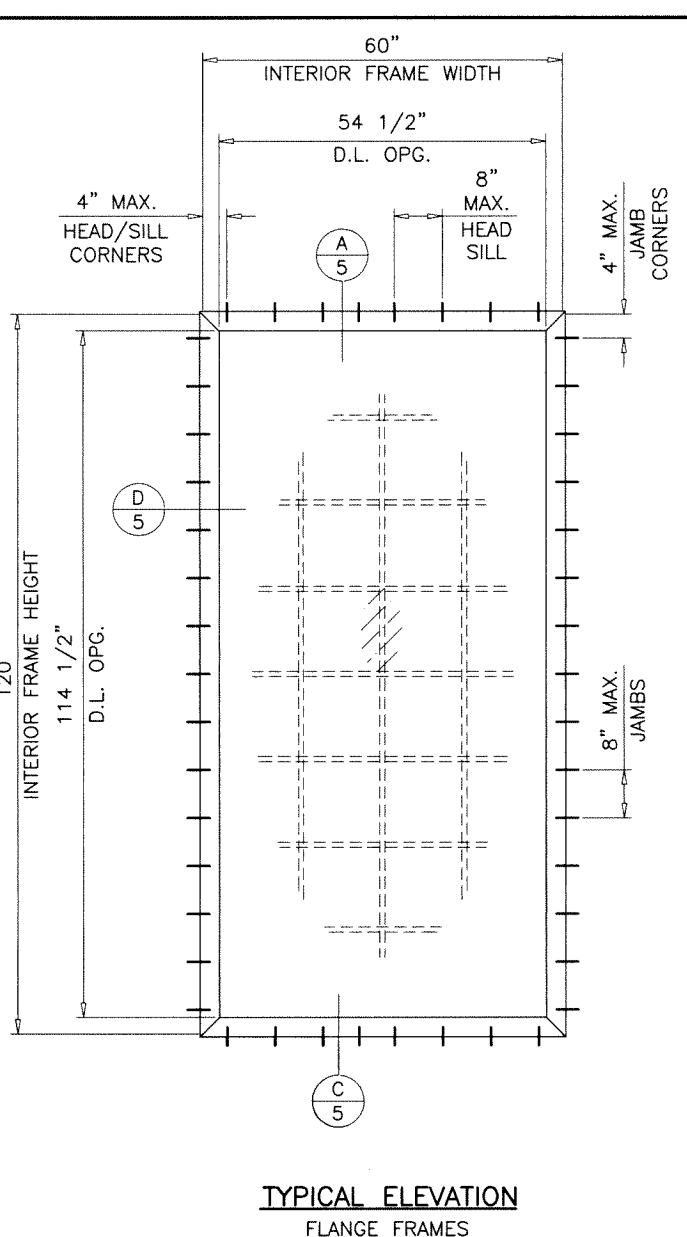
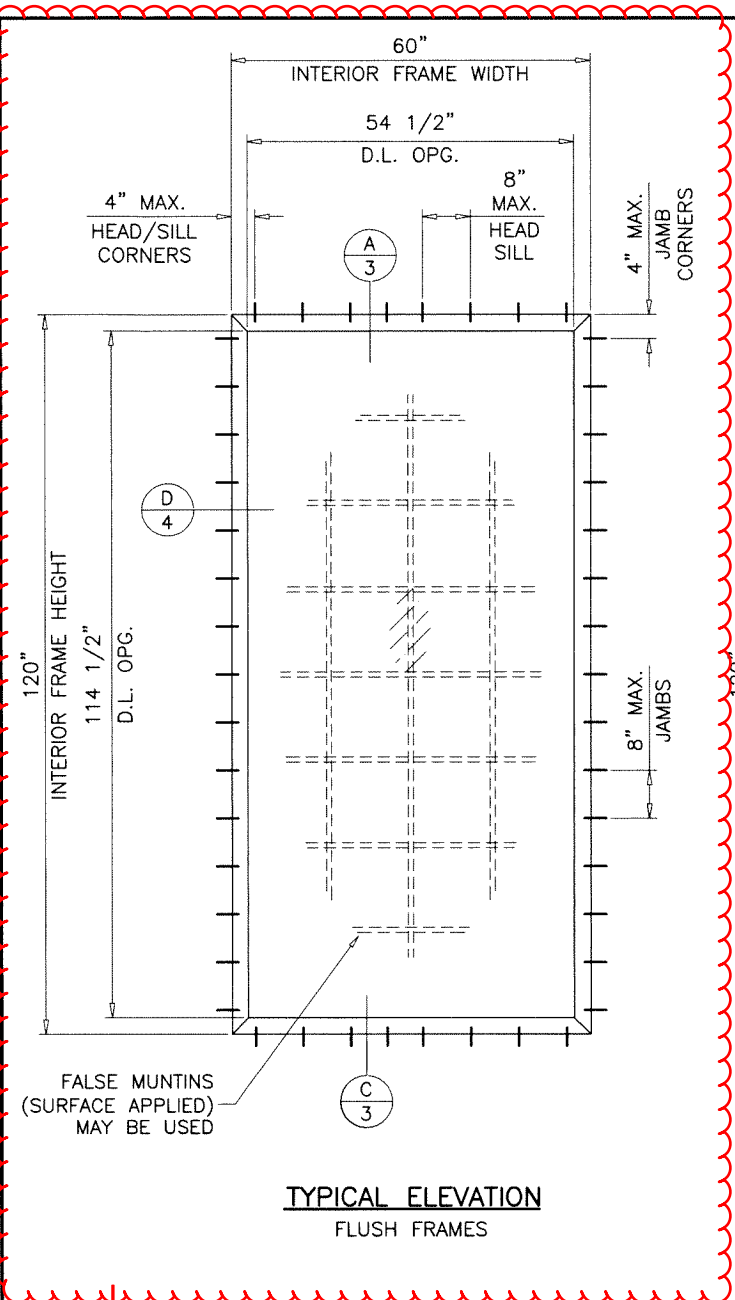
D- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF
THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



revisions:	
no	date
A	10.15.20
B	02.03.21
C	03.31.21
D	04.28.23
E	07.07.23
description	
UPDATED TO 2020 FBC	
LAM. GLASS OPTIONS ADDED	
NAIL FIN ADDED	
NAIL FIN REV.	
UPDATED TO 2023 FBC	
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dr. by:	TARIQ
chk. by:	
drawing no.	18-30F
sheet	1 of 6

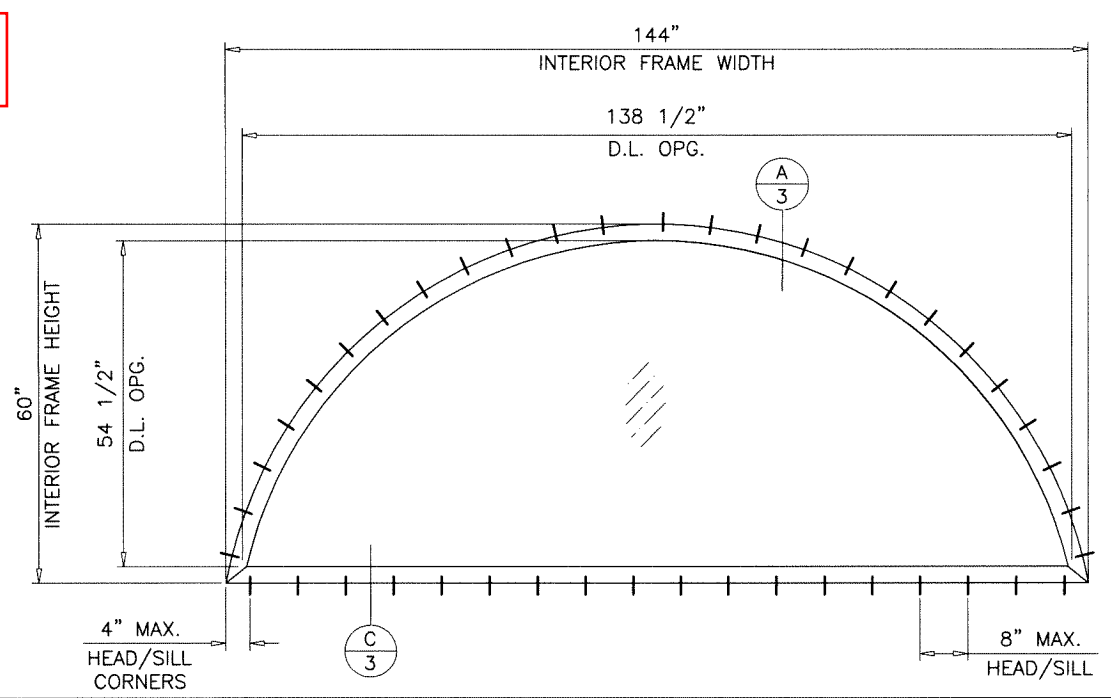
ES-P252 THERMAL ALUMINUM FIXED WDW. (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)
COMP-ANL\18-30F-ES



NOTE:
 FOR FLUSH FRAME WINDOWS WITH NAIL FINIS LIMIT
 MAX. DESIGN LOADS TO +70.0, -75.0 PSF
 MAX. SIZE TO 60" W X 120" HT.
 MAX. INTERIOR FRAME WINDOW AREA TO 50 SQ. FT.

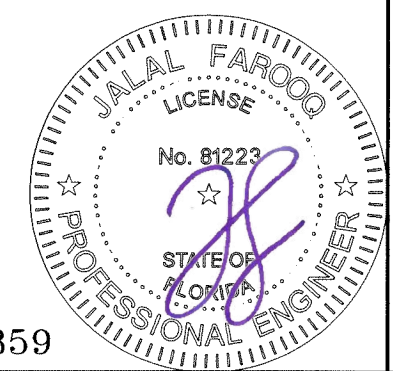
D1
E1E



DAYLITE OPENINGS:
 D.L.O. HEIGHT = WINDOW HEIGHT - 5.50"
 D.L.O. WIDTH = WINDOW WIDTH - 5.50"

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FL #26359



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no	date		

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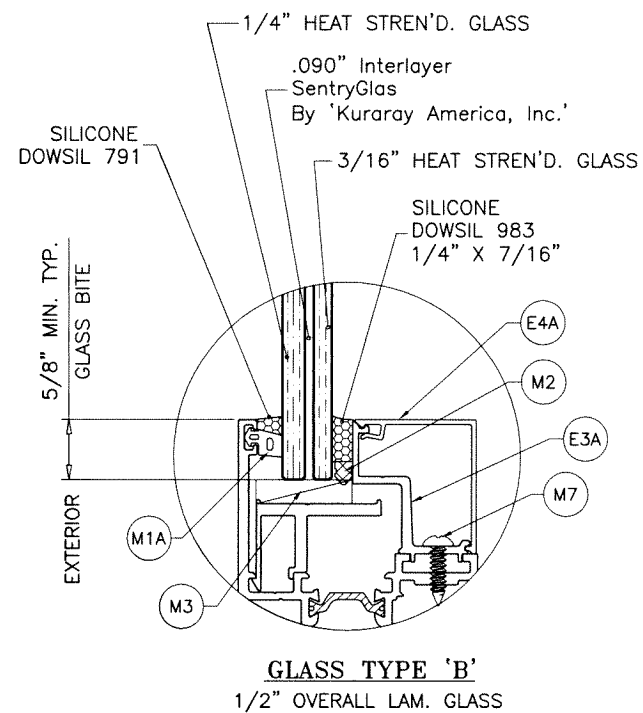
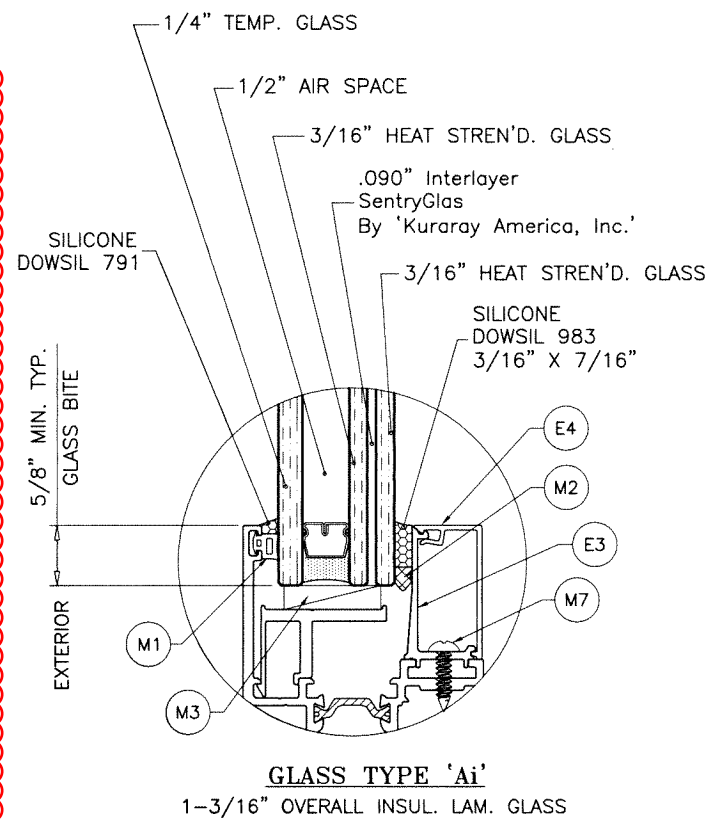
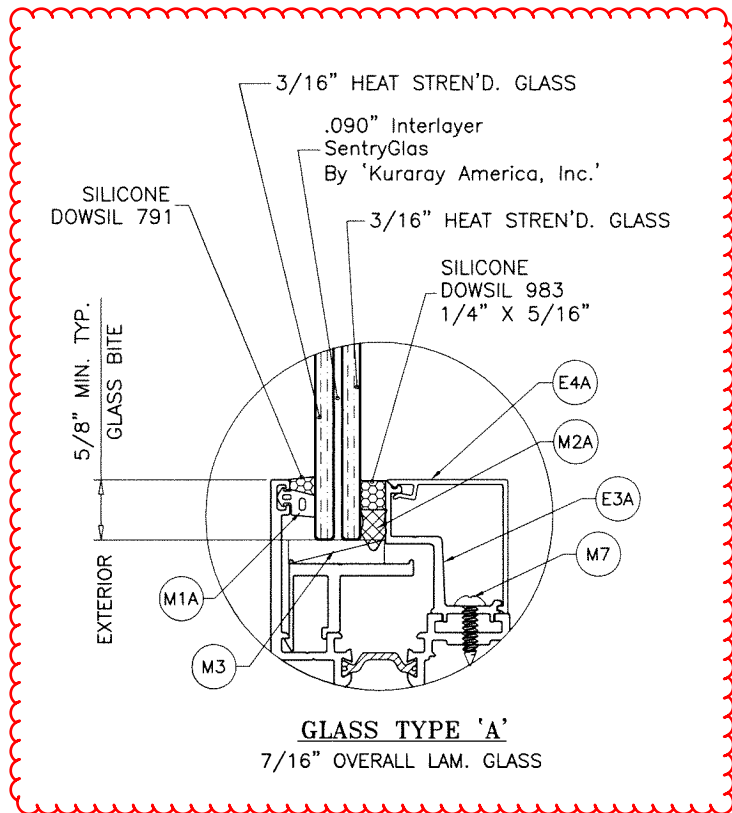
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drawing no.

18-30F

6 de 13

sheet 1.1 of 6



GLAZING OPTIONS

1/2" AIR SPACE CONSISTING OF:

SPACER:

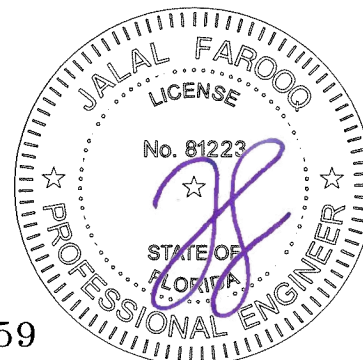
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.

PERIMETER SEALANT:

SILICONE
DOWSIL 791
GE 2000

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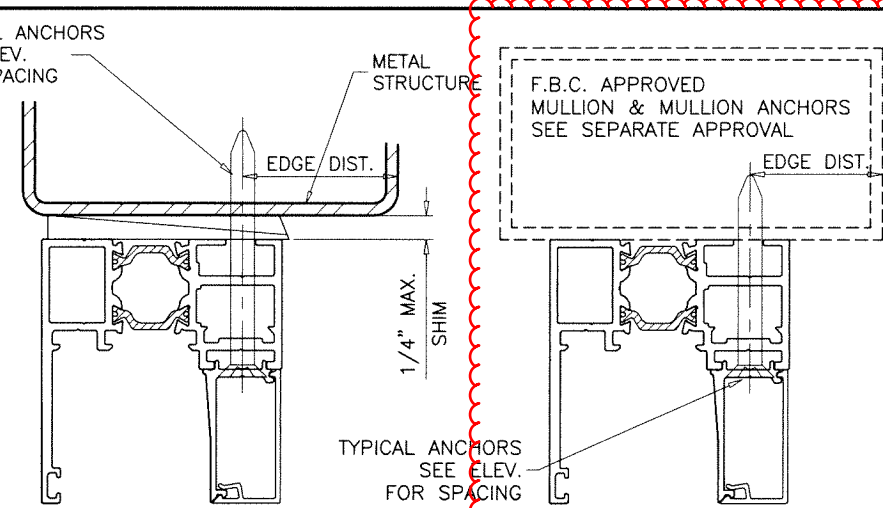
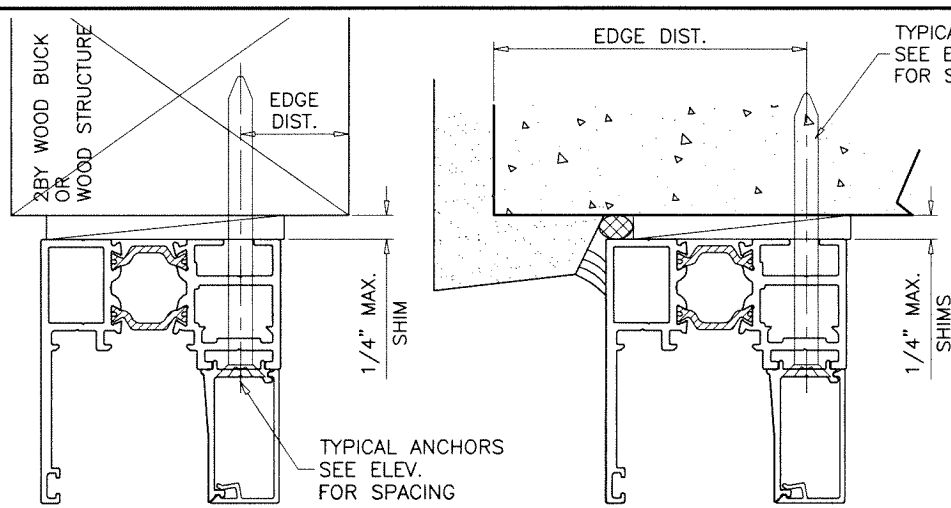
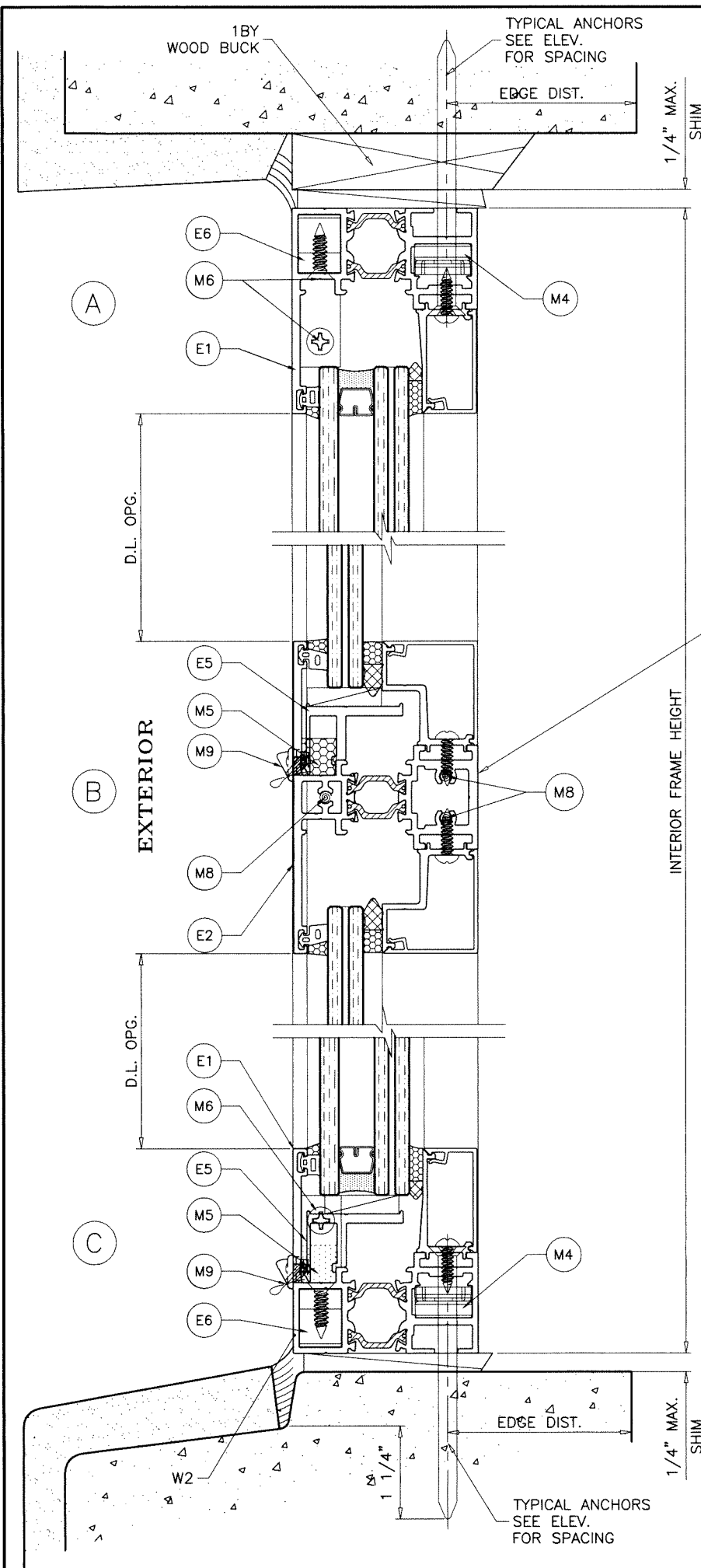
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MIAMI, FL. 33142

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revisions:		no	date	by	description

date: 02-14-18	scale: 1/2" = 1"	dr. by: TARIQ	chk. by:
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drawing no.	18-30F
sheet 1.2 of 6	7 de 13



WOOD BUCKS AND METAL STRUCTURE NOT BY 'E.S. WINDOWS' MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

LIMIT MAX. DESIGN LOADS FOR WINDOWS WITH IMPOST AS FOLLOWS

WINDOW WIDTH MAX.	LOAD CAPACITY - PSF
54"	90.0
60"	75.0

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. ULTRACON+ BY 'DEWALT' ($F_u=164$ KSI, $F_y=148$ KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES

1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

THRU 1BY BUCKS INTO CONC. OR BLOCKS

1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

DIRECTLY INTO CONCRETE OR BLOCKS

1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

1-3/4" MIN. EMBED INTO GROUT-FILLED BLOCKS (JAMBS)

#14 SMS OR SELF-DRILLING SCREWS (GRADE 2 CRS)

INTO F.B.C. APPROVED MULLIONS

OR

INTO METAL STRUCTURES (HEAD/SILL/JAMBS)

(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS

ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)

STEEL: 1/8" THK. MIN. ($F_y = 36$ KSI MIN.)

(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

CRITICAL EDGE DISTANCE

INTO CONCRETE AND BLOCKS = 2-1/2" MIN.

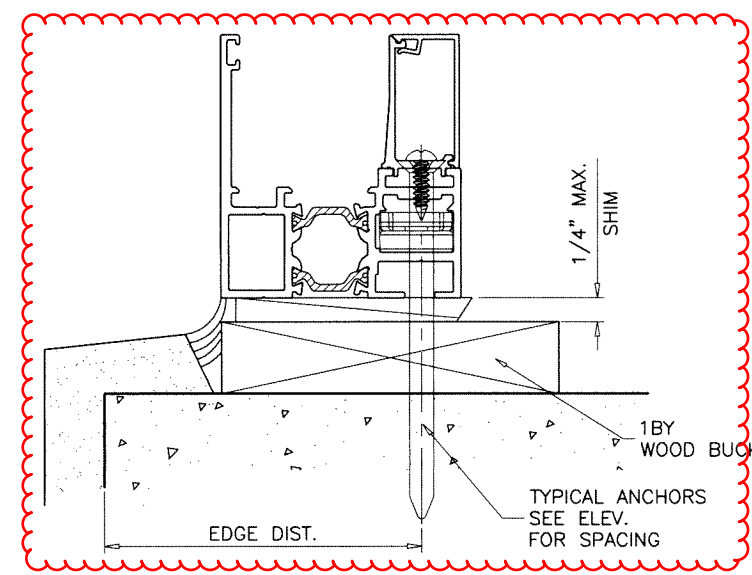
INTO WOOD STRUCTURE = 1" MIN.

INTO METAL STRUCTURE = 3/4" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.

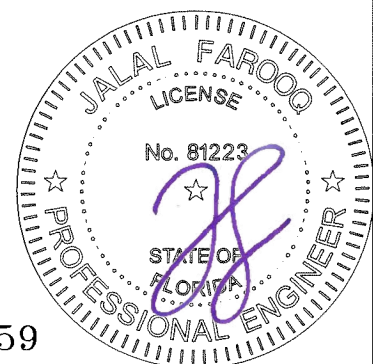
CONCRETE AT HEAD, SILL OR JAMBS $f'_c = 3000$ PSI MIN.

C-90 HOLLOW/FILLED BLOCK AT JAMBS $f'_m = 2000$ PSI MIN.



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revisions:

no	date	by	description

date: 02-14-18

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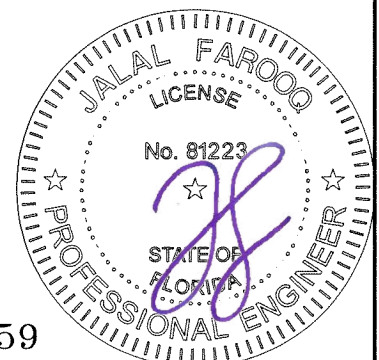
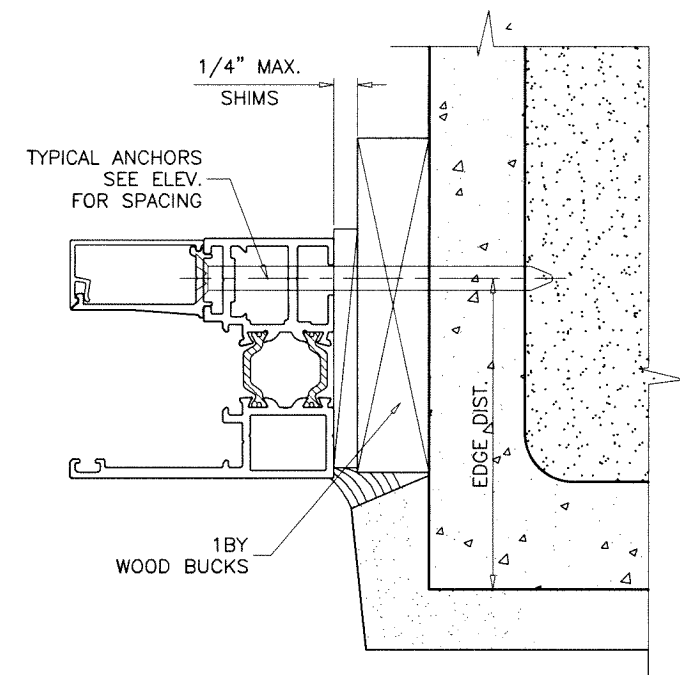
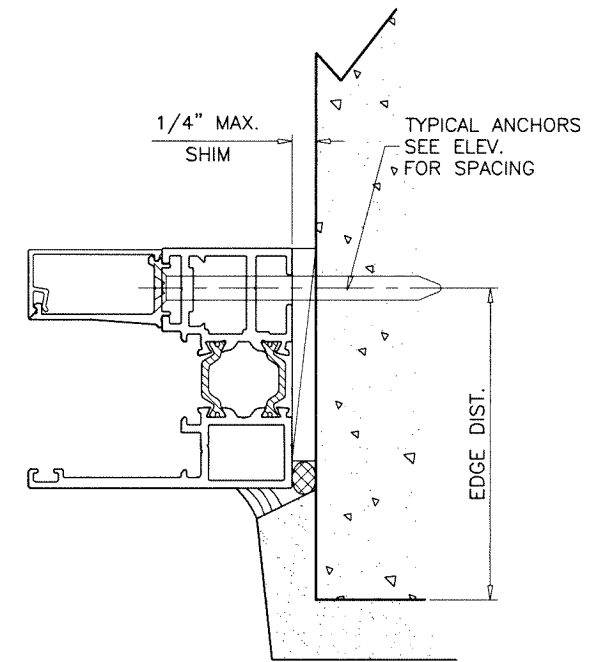
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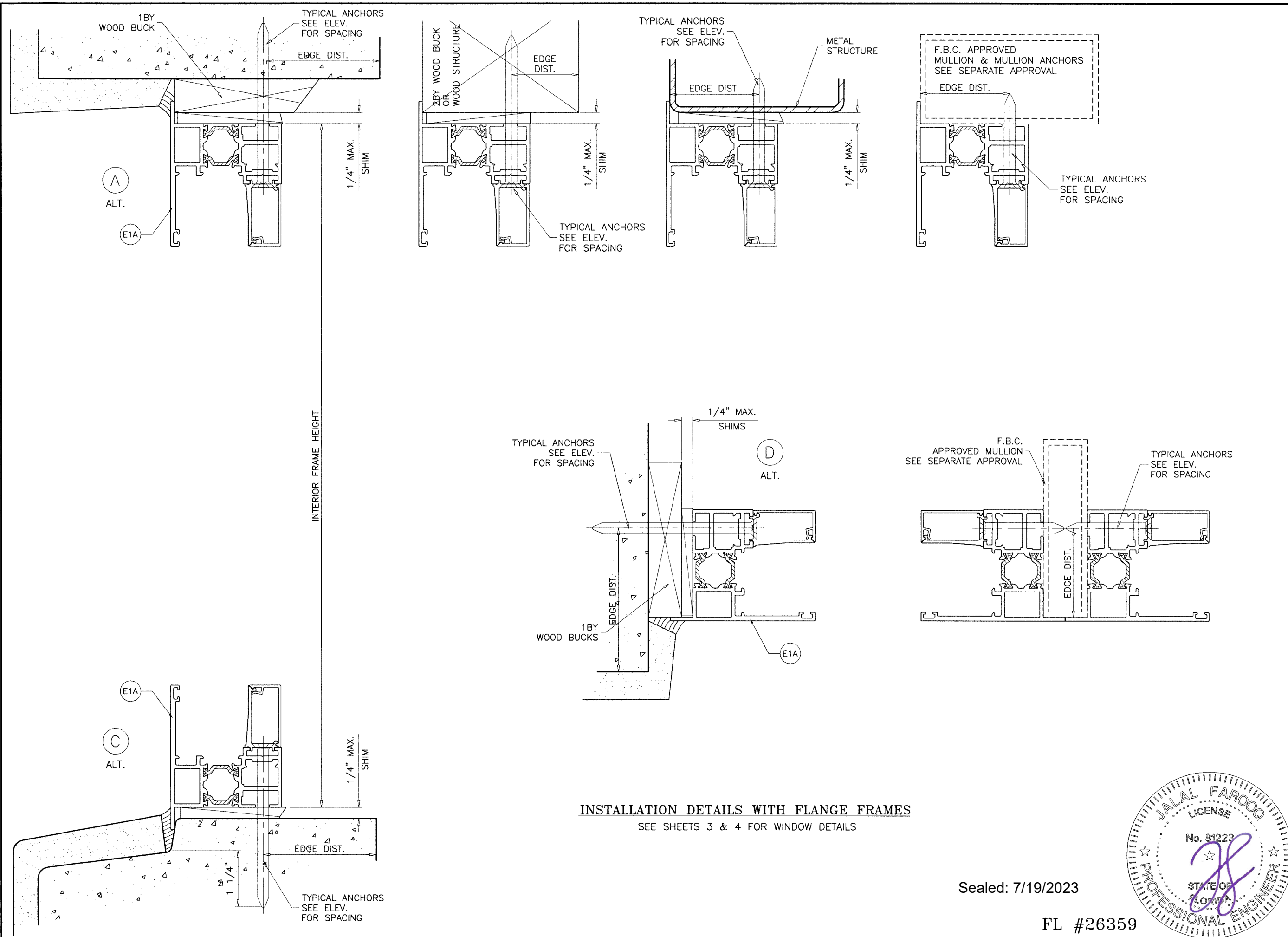
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sheet 3 of 6



FL #26359

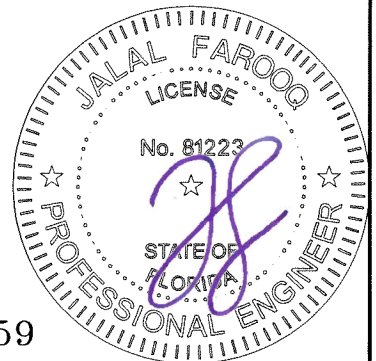
drawing no.
18-30F
10 de 13
sheet 4 of 6



INSTALLATION DETAILS WITH FLANGE FRAMES
SEE SHEETS 3 & 4 FOR WINDOW DETAILS

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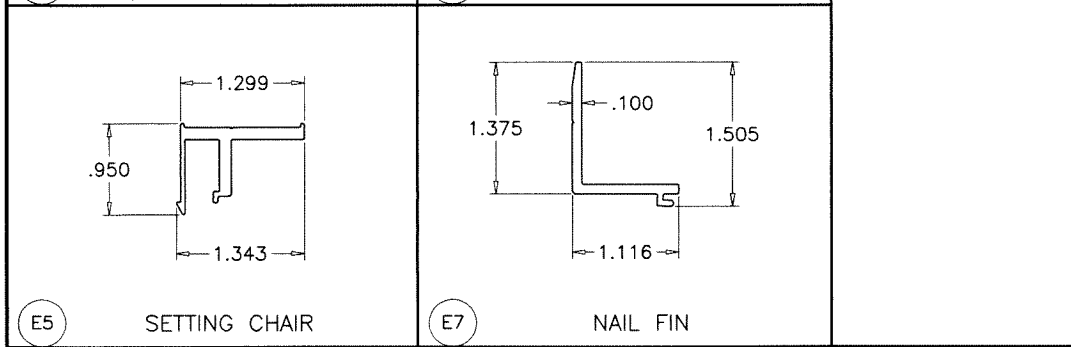
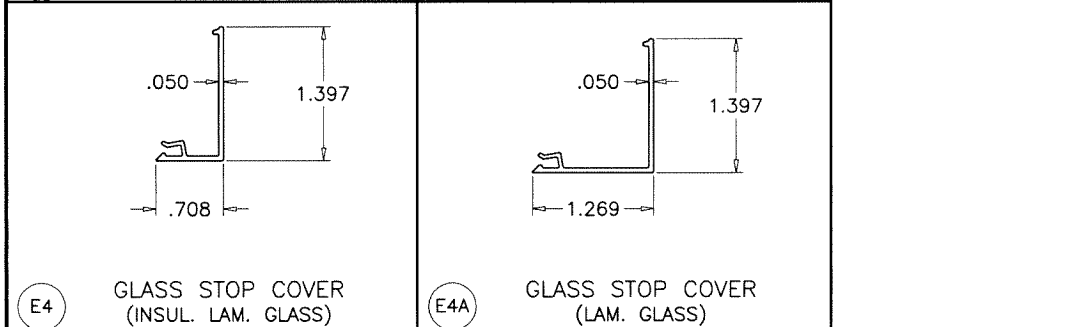
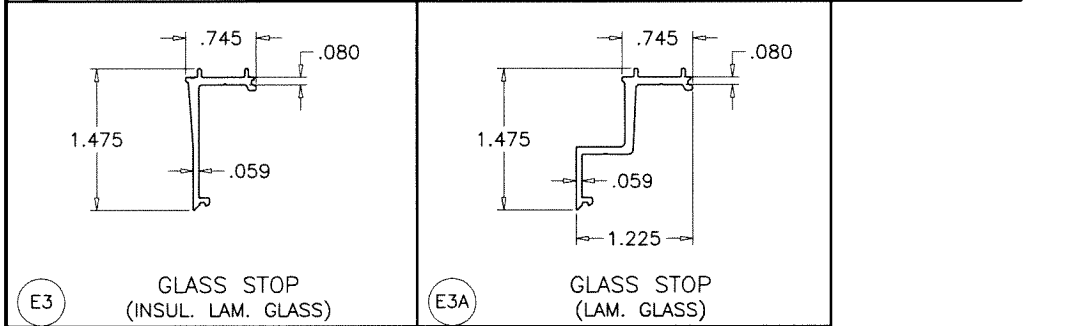
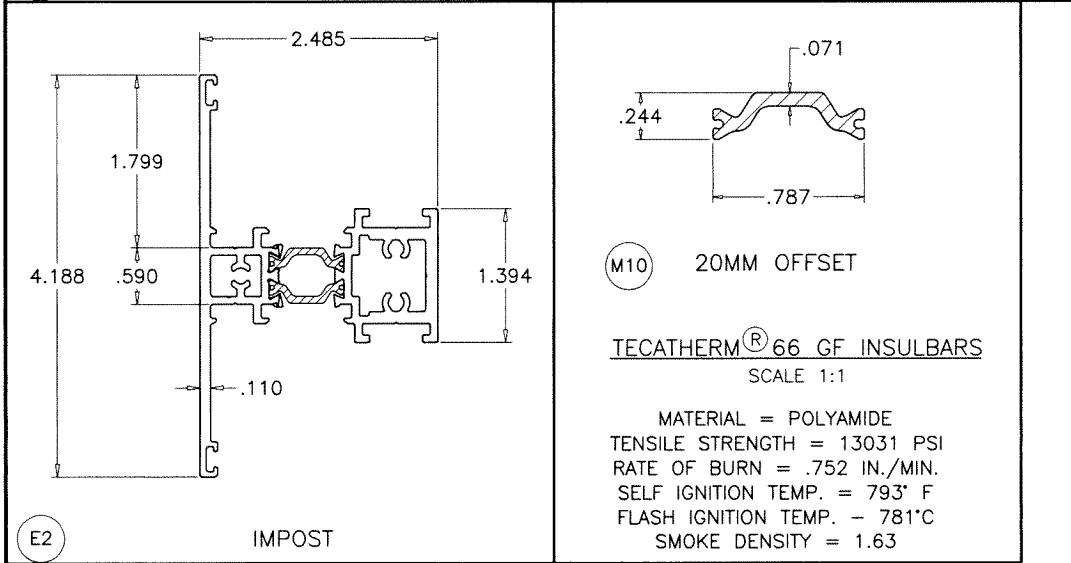
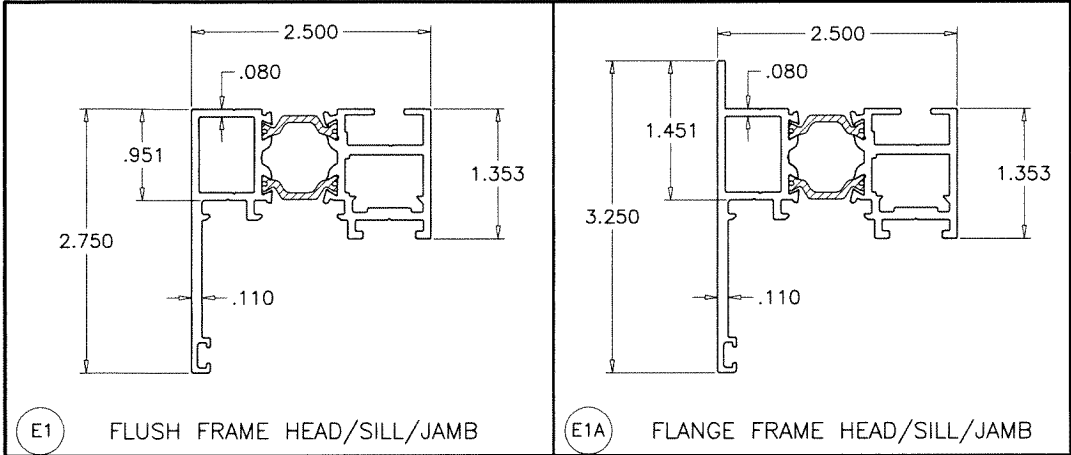
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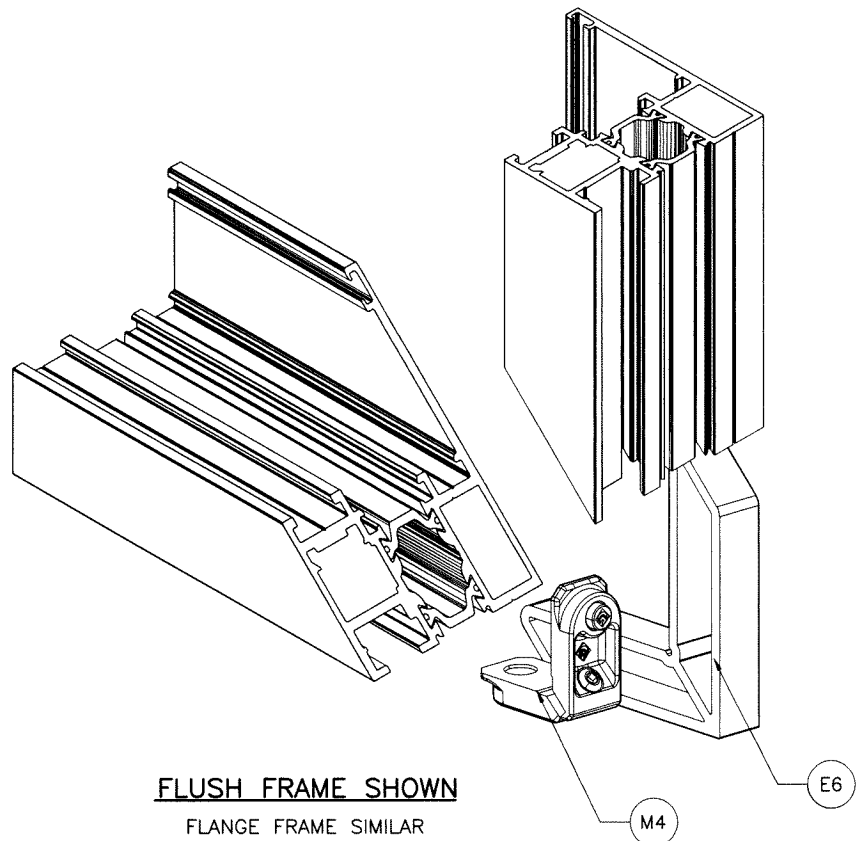
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date: 02-14-18
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

drawing no.
18-30F
11 de 13
sheet 5 of 6



ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-P252-501	4	FLUSH FRAME HEAD/SILL/JAMB	6063-T6	-
E1A	-	4	FLANGE FRAME HEAD/SILL/JAMB	6063-T6	-
E2	ES-P251-513	AS REQD.	IMPOST	6063-T6	-
E3	ES-P252-005	4	GLASS STOP (INSUL. LAM. GLASS)	6063-T5	-
E3A	ES-P252-031	4	GLASS STOP (LAM. GLASS)	6063-T5	-
E4	ES-P252-006	1	GLASS STOP COVER (INSUL. LAM. GLASS)	6063-T6	-
E4A	ES-P252-032	1	GLASS STOP COVER (LAM. GLASS)	6063-T6	-
E5	ES-P251-007	2/ LITE	SETTING CHAIR, 4" LONG	6063-T5	-
E6	ES-P251-018	AS REQD.	CORNER KEY	6005-T5	-
E7	TBA-002	AS REQD.	NAIL FIN	6063-T6	-
M1	ES-P251-G02	AS REQD.	GLAZING GASKET (EXTERIOR)	EPDM	TREMCO TR-19619SW, DUROMETER 70±5 SHORE A
M1A	ES-UN625-G02	AS REQD.	GLAZING GASKET (EXTERIOR)	SILICONE	DUROMETER 70±5 SHORE A
M2	ES-SD451-G04	AS REQD.	GLAZING GASKET (INTERIOR)	EPDM	TREMCO TR-3234E, DUROMETER 70±5 SHORE A
M2A	ES-H340-G02	AS REQD.	GLAZING GASKET (INTERIOR)	SILICONE	DUROMETER 60±5 SHORE A
M3	ES-21-B04A	2/ LITE	SETTING BLOCK, 4" LONG, AT 1/4 POINTS	EPDM	SOLUCIONESENCAUCHO, DUROMETER 80±5 SHORE A
M4	0337	1/ CORNER	CORNER JOINT	CAST ALUMINUM	MASTER
M5	WPSA-N1	-	3/4" X 3/4" X 2" RETICULATED FOAM 30PPI	-	-
M6	#10 X 3/4"	AS REQD.	ANGLE FASTENERS	ST. STEEL	FH SMS
M7	#8 X 5/8"	AS REQD.	GLASS STOP FASTENERS	ST. STEEL	PH SMS
M8	#10 X 1-1/4"	AS REQD.	ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M9	WA2L	2	WEEP COVER	PLASTIC	-
M10	2479	AS REQD.	INSULBAR 20MM OFFSET	POLYAMIDE	ENSINGER
M11	791	-	GLAZING COMPOUND	SILICONE	DOWSIL
M12	#12 X 3/4"	-	NAIL FIN FASTENERS AT 3" FROM ENDS & 12" O.C.	ST. STEEL	FH SMS



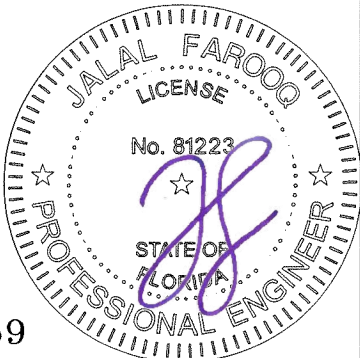
FLUSH FRAME SHOWN
FLANGE FRAME SIMILAR

SEALANT:

ALL JOINTS AND FRAME CONNECTIONS SEALED WITH WHITE/ALUMINUM COLORED SILICONE.

Sealed: 7/19/2023

FL #26359



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\18-30F-ES

ES-P252 THERMAL ALUMINUM FIXED WDW. (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	no	date	by	description

date: 02-14-18
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

drawing no.
18-30F
13 de 13
sheet 6 of 6