



Product Approval
USER: Public User

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

OFFICE OF THE
SECRETARY

FL #

Application Type

Code Version

Application Status

FL26359-R5

Revision

2023

Approved

Comments

Archived



Product Manufacturer

Address/Phone/Email

E.S. Windows, Inc.

10653 NE Quaybridge Ct.

Miami, FL 33138

(305) 624-7775

achamorro@eswllc.com

Authorized Signature

Jalal Farooq

veronica@afceng.com

Technical Representative

Address/Phone/Email

Samir Sabagh

3550 NW 49th St.

Miami, FL 33142

(305) 638-5151

ssabagh@energiasolarsa.com

Quality Assurance Representative

Address/Phone/Email

Category

Subcategory

Windows

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

07/16/2025

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)

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

[Back](#)

[Next](#)

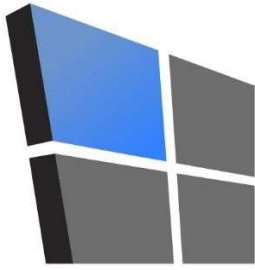
[Contact Us](#) :: [2601 Blair Stone Road, Tallahassee FL 32399](#) Phone: 850-487-1824

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Product Approval Accepts:





AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

January 23, 2023

Product Approval Administrator
Building Codes & Standards Section
Department of Business & Professional Regulations
1940 North Monroe Street, Suite 90
Tallahassee, FL 32399-2100

To whom it may concern,

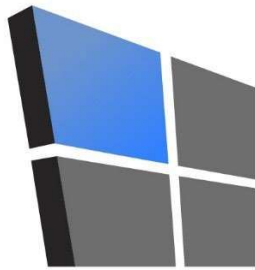
As the design engineer retained to prepare the product approval(s) associated with this letter as shown below on this same web page, I do hereby declare that I do not have and will not have any financial interest in any company manufacturing or distributing the referenced product(s), nor do I have or will have any financial interest with any other entity involved in the approval process of the referenced product(s).

Sincerely,



Jalal Farooq, P.E.
CFO

Sealed: 1/23/2023



AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

PRODUCT APPROVAL EVALUATION RULE CHAPTER #61G20-3 • METHOD 1 OPTION D

FL 26359

Date: 07/19/2023

Detailed Product Description:

Manufacturer: E.S. WINDOWS, LLC.

Manufacturer Address: 3550 N.W. 49 STREET – MIAMI, FL. 33142

Model Name: SERIES “ES-P252” THERMAL ALUMINUM FIXED WINDOW

Maximum Load: +110 PSF, -150 PSF (Large Missile Impact)

Installation Drawings # 18-30F

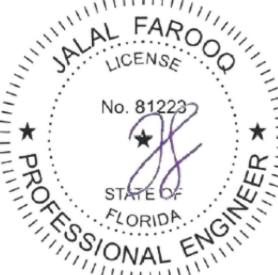
This product complies with the High Velocity Hurricane Zone (HVHZ) testing requirements.

For maximum sizes, combination of span vs loads and anchor type refer to installation drawings.

Comparative analysis used ☒ Yes ☐ No

Mandatory Tests (Tested in accordance with AAMA 101/I.S.2/NAFS/TAS-202)

TEST	DESCRIPTION	TEST LOCATION	TEST REPORT DATE	TEST REPORT #	Test Sealed by
ASTM E283	Air Infiltration Leakage	Blackwater Testing Inc. Fenestration Testing Laboratory, Inc	12/05/2017 12/14/2018 02/05/2021 04/06/2021	BT-ESW-17-022 BT-ESW-17-022B FTL-12278 FTL-12502	Constantin Bortes, PE Idalmis Ortega, P.E.
ASTM E331 OR ASTM 547 & TAS 202	Water Penetration	Blackwater Testing Inc. Fenestration Testing Laboratory, Inc	12/05/2017 12/14/2018 02/05/2021 04/06/2021	BT-ESW-17-022 BT-ESW-17-022B FTL-12278 FTL-12502	Constantin Bortes, PE Idalmis Ortega, P.E.
ASTM E330 & TAS 202	Uniform Static Air Press.	Blackwater Testing Inc. Fenestration Testing Laboratory, Inc	12/05/2017 12/14/2018 02/05/2021 04/06/2021	BT-ESW-17-022 BT-ESW-17-022B FTL-12278 FTL-12502	Constantin Bortes, PE Idalmis Ortega, P.E.
ASTM F588	Forced Entry	Fenestration Testing Laboratory, Inc	04/06/2021	FTL-12502	Idalmis Ortega, P.E.

Supplemental Tests (Tested in accordance with TAS-201 and TAS-203)					
TEST	DESCRIPTION	TEST LOCATION	TEST REPORT DATE	TEST REPORT #	Test Sealed by
FBC 1626.2 TAS 201 & 203 ASTM 1886/1996 ANSI Z97.1	Large Missile Impact & Cyclic	Blackwater Testing Inc. Fenestration Testing Laboratory, Inc	12/05/2017 12/14/2018 02/05/2021 04/06/2021	BT-ESW-17-022 BT-ESW-17-022B FTL-12278 FTL-12502	Constantin Bortes, PE Idalmis Ortega, P.E.
Under the limitations of the attached installation drawings, to the best of my knowledge and ability, the above product conforms to the requirements of the 2023 Florida Building Code.					
Evaluation Report Engineer: Jalal Farooq Al-Farooq Corporation			 Sealed: 7/19/2023		

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)'.

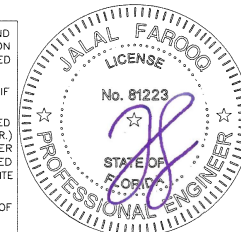
MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION
IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE.
LABELING TO COMPLY WITH SECTION 1709.9.2.

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.



af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3536)
TEL (305) 264-8100 FAX (305) 262-6978
COMP-ANL\18-30F-ES

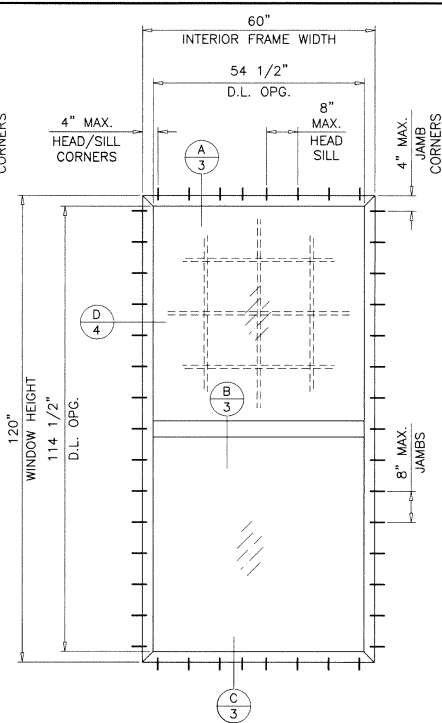
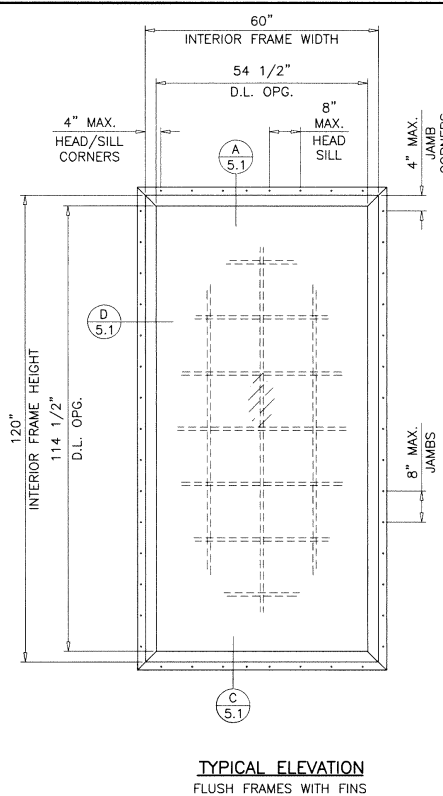
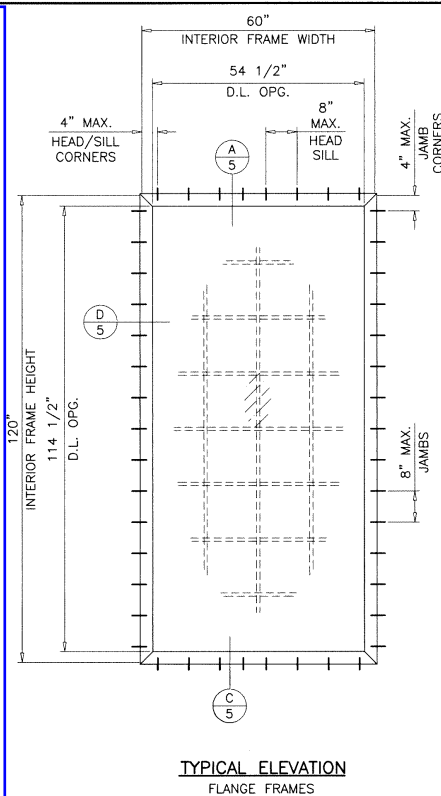
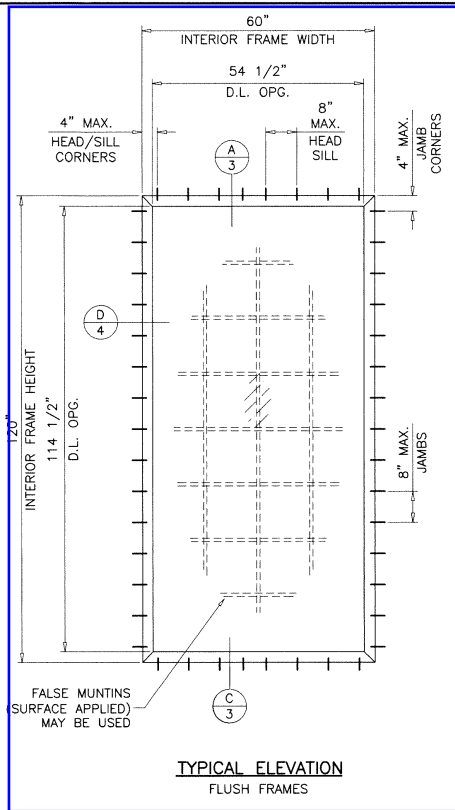
ES-P252 THERMAL ALUMINUM FIXED WDW. (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL (305) 638-5151 FAX (305) 638-5158

revisions:	date	no	date	by	description
A	10/15/20	1	10/15/20	UPD	UPDATED TO 2020 FBC
B	02/03/21	2	02/03/21	LAM.	GLASS OPTIONS ADDED
C	03/31/21	3	03/31/21	NAIL	FIN ADDED
D	04/28/23	4	04/28/23	NAIL	FIN REV.
E	07/07/23	5	07/07/23	UPD	UPDATED TO 2023 FBC

date: 02-14-18
scale: 3/8"=1'-0"
dr. by: JARQ
chk. by:

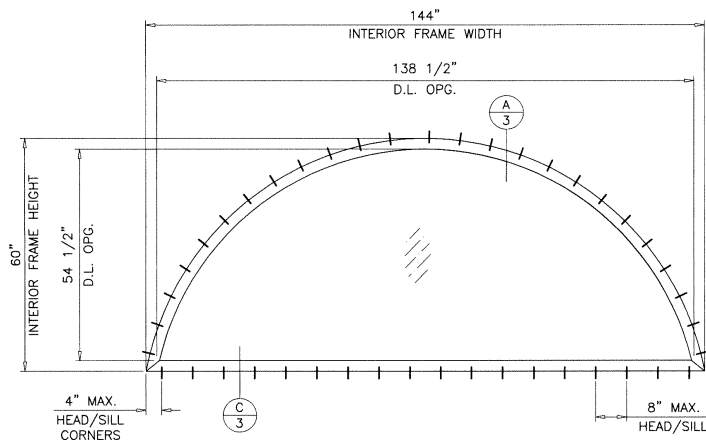
drawing no.
18-30F

sheet 1 of 6



NOTE:
FOR FLUSH FRAME WINDOWS WITH NAIL FINS 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.

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

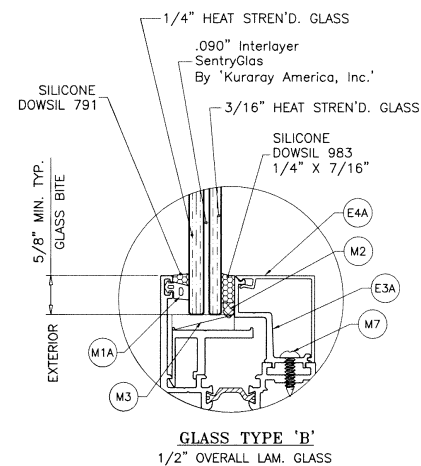
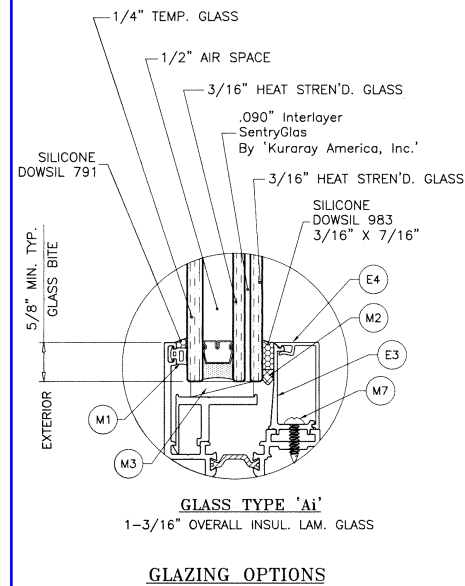


Sealed: 7/19/2023

FL #26359



AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 TEL. (305) 264-8100 FAX. (305) 262-6978 (C.A.N. 3538)	
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: 3/8"=1'-0" dr. by: TARIQ chk. by:
drawing no. 18-30F	
sheet 1.1 of 6	



A circular professional engineer seal for Jalal Farooq. The outer ring contains the text "JALAL FAROOQ" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. Inside the ring, the word "LICENSE" is at the top, "No. 81223" is in the center, and "STATE OF FLORIDA" is at the bottom, also separated by two stars. A stylized signature is written across the center of the seal.

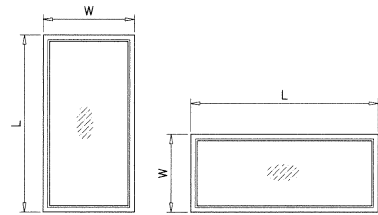
[illegible]

DESIGN LOAD CAPACITY - PSF					
WINDOW DIMS.		GLASS TYPES 'A' & 'Ai'		GLASS TYPE 'B'	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)
30"	60"	110.0	150.0	110.0	150.0
36"		110.0	150.0	110.0	150.0
42"		110.0	150.0	110.0	150.0
48"		110.0	137.5	110.0	137.5
54"		110.0	122.2	110.0	122.2
60"		110.0	110.0	110.0	110.0
66"		110.0	110.0	110.0	110.0
72"		110.0	110.0	110.0	110.0
78"		110.0	110.0	110.0	110.0
84"		110.0	110.0	110.0	110.0
30"	66"	110.0	150.0	110.0	150.0
36"		110.0	150.0	110.0	150.0
42"		110.0	150.0	110.0	150.0
48"		110.0	137.5	110.0	137.5
54"		110.0	122.2	110.0	122.2
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		100.0	100.0	100.0	100.0
78"		100.0	100.0	100.0	100.0
84"		100.0	100.0	100.0	100.0
30"	72"	110.0	150.0	110.0	150.0
36"		110.0	150.0	110.0	150.0
42"		110.0	150.0	110.0	150.0
48"		110.0	137.5	110.0	137.5
54"		110.0	122.2	110.0	122.2
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		91.7	91.7	91.7	91.7
78"		91.7	91.7	91.7	91.7
84"		91.7	91.7	91.7	91.7
30"	78"	110.0	150.0	110.0	150.0
36"		110.0	150.0	110.0	150.0
42"		110.0	150.0	110.0	150.0
48"		110.0	135.0	110.0	135.0
54"		110.0	122.2	110.0	122.2
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		91.7	91.7	91.7	91.7
78"		84.6	84.6	84.6	84.6
84"		84.6	84.6	84.6	84.6
30"	84"	110.0	150.0	110.0	150.0
36"		110.0	150.0	110.0	150.0
42"		110.0	135.0	110.0	135.0
48"		110.0	122.2	110.0	122.2
54"		110.0	110.0	110.0	110.0
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		91.7	91.7	91.7	91.7
78"		84.6	84.6	84.6	84.6
84"		78.6	78.6	78.6	78.6

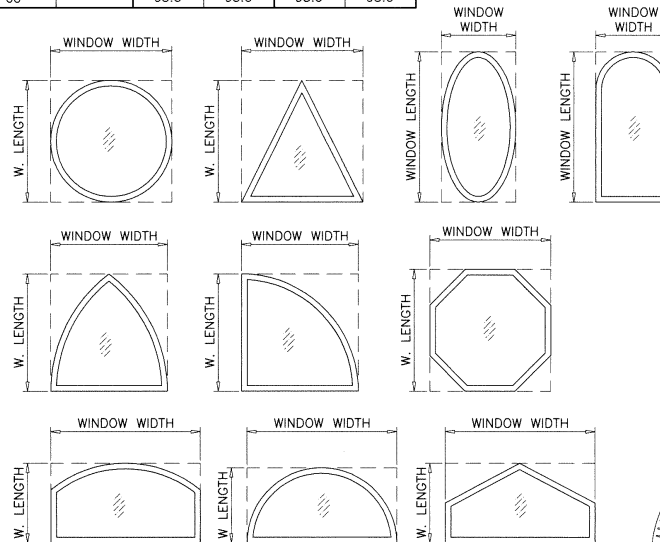
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS).

DESIGN LOAD CAPACITY - PSF					
WINDOW DIMS.		GLASS TYPES 'A' & 'Ai'		GLASS TYPE 'B'	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)
30"	90"	110.0	150.0	110.0	150.0
36"		110.0	150.0	110.0	150.0
42"		110.0	135.0	110.0	135.0
48"		110.0	135.0	110.0	135.0
54"		110.0	110.0	110.0	110.0
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		91.7	91.7	91.7	91.7
78"		84.6	84.6	84.6	84.6
84"		67.9	67.9	67.9	67.9
30"	96"	110.0	150.0	110.0	150.0
36"		110.0	150.0	110.0	150.0
42"		110.0	135.0	110.0	135.0
48"		110.0	135.0	110.0	135.0
54"		110.0	110.0	110.0	110.0
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		91.7	91.7	91.7	91.7
78"		73.1	73.1	73.1	73.1
84"		67.9	67.9	67.9	67.9
30"	102"	110.0	150.0	110.0	150.0
36"		110.0	135.0	110.0	135.0
42"		110.0	135.0	110.0	135.0
48"		110.0	110.0	110.0	110.0
54"		110.0	110.0	110.0	110.0
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		79.2	79.2	79.2	79.2
78"		73.1	73.1	73.1	73.1
84"		67.9	67.9	67.9	67.9
30"	108"	110.0	150.0	110.0	150.0
36"		110.0	135.0	110.0	135.0
42"		110.0	135.0	110.0	135.0
48"		110.0	110.0	110.0	110.0
54"		110.0	110.0	110.0	110.0
60"		110.0	110.0	110.0	110.0
66"		100.0	100.0	100.0	100.0
72"		79.2	79.2	79.2	79.2
78"		73.1	73.1	73.1	73.1
84"		67.9	67.9	67.9	67.9
30"	114"	110.0	150.0	110.0	150.0
36"		110.0	135.0	110.0	135.0
42"		110.0	110.0	110.0	110.0
48"		110.0	110.0	110.0	110.0
54"		110.0	110.0	110.0	110.0
60"		110.0	110.0	110.0	110.0
66"		86.4	86.4	86.4	86.4
72"		79.2	79.2	79.2	79.2
78"		73.1	73.1	73.1	73.1
84"		67.9	67.9	67.9	67.9
30"	120"	110.0	135.0	110.0	135.0
36"		110.0	135.0	110.0	135.0
42"		110.0	110.0	110.0	110.0
48"		110.0	110.0	110.0	110.0
54"		110.0	110.0	110.0	110.0
60"		110.0	110.0	110.0	110.0
66"		86.4	86.4	86.4	86.4
72"		79.2	79.2	79.2	79.2
78"		73.1	73.1	73.1	73.1
84"		67.9	67.9	67.9	67.9

DESIGN LOAD CAPACITY - PSF					
WINDOW DIMS.		GLASS TYPES 'A' & 'Ai'		GLASS TYPE 'B'	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)
30"	126"	110.0	135.0	110.0	135.0
36"		110.0	135.0	110.0	135.0
42"		110.0	110.0	110.0	110.0
48"		110.0	110.0	110.0	110.0
54"		110.0	110.0	110.0	110.0
60"		95.0	95.0	95.0	95.0
66"		86.4	86.4	86.4	86.4
30"	132"	110.0	135.0	110.0	135.0
36"		110.0	110.0	110.0	110.0
42"		110.0	110.0	110.0	110.0
48"		110.0	110.0	110.0	110.0
54"	138"	110.0	110.0	110.0	110.0
36"		110.0	110.0	110.0	110.0
42"		110.0	110.0	110.0	110.0
48"		110.0	110.0	110.0	110.0
54"	144"	95.0	95.0	95.0	103.9
36"		110.0	135.0	110.0	135.0
42"		110.0	110.0	110.0	110.0
48"		110.0	110.0	110.0	110.0
54"		95.0	95.0	95.0	102.8
60"		95.0	95.0	95.0	95.0



NOTE:
WIDTH AND LENGTH DIMENSIONS CAN BE ORIENTED
VERTICALLY OR HORIZONTALLY AS SHOWN ABOVE.



ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE
VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS
SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.

LIMIT MAX. LOADS FOR ALTERNATE SHAPES TO ± 95.0 PSF

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FL #26359



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
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COMP-ANL 18-30F-ES

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

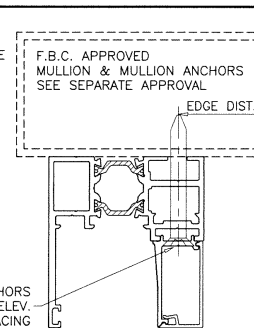
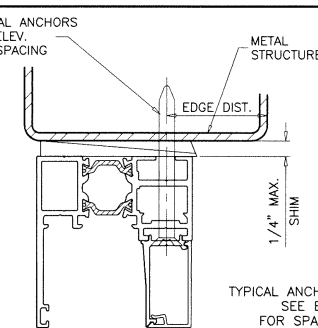
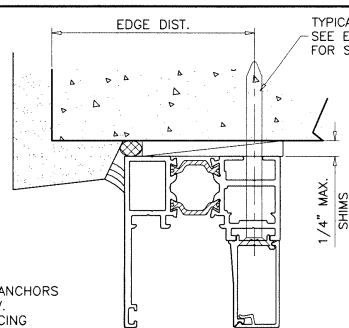
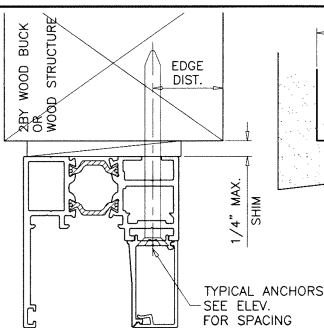
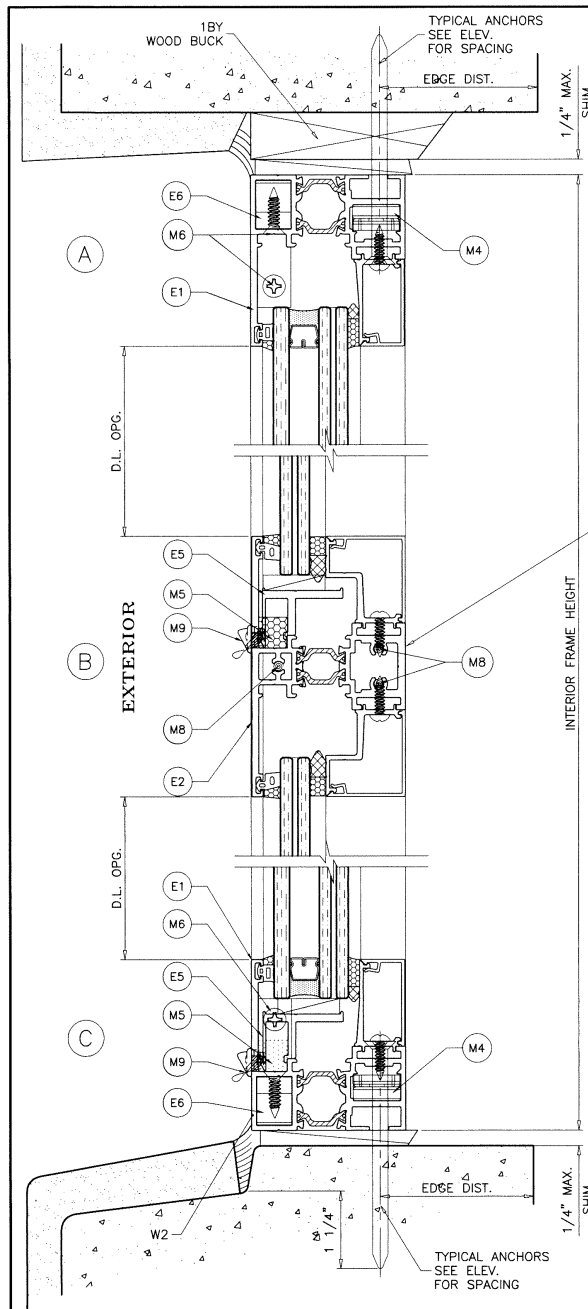
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL (305) 638-5151 FAX (305) 638-5158

revisions: no date by description

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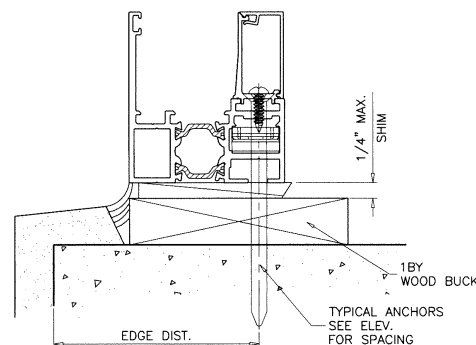
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sheet 2 of 6



LIMIT MAX. DESIGN LOADS FOR WINDOWS WITH IMPOST AS FOLLOWS

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

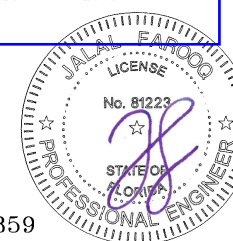


WOOD BUCKS AND METAL STRUCTURE NOT BY 'E.S. WINDOWS' MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

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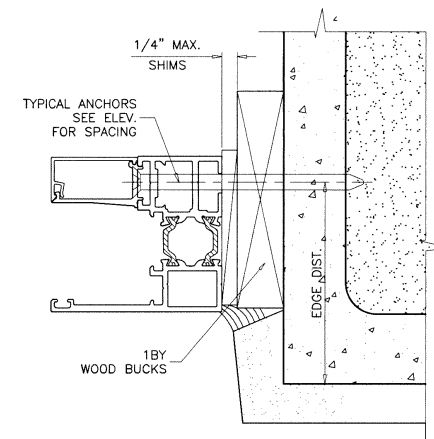
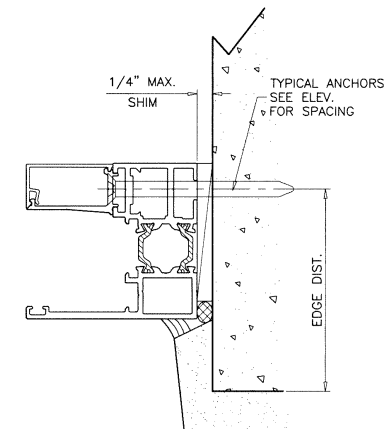
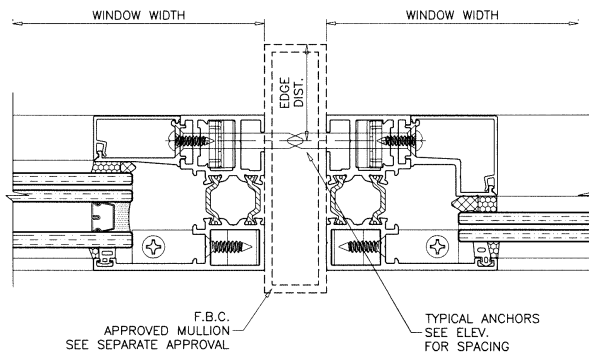
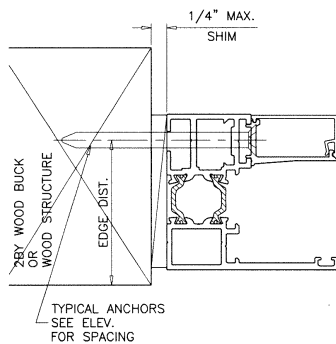
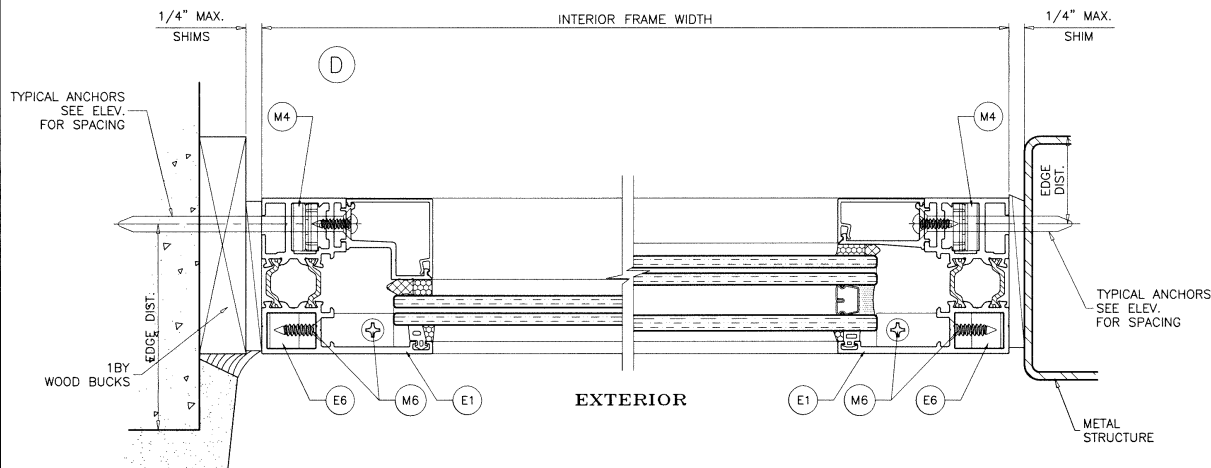
ES-P252 THERMAL ALUMINUM FIXED WDW. (L.M.I.)

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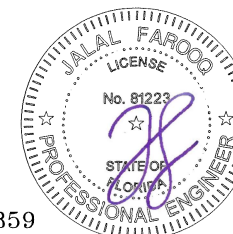
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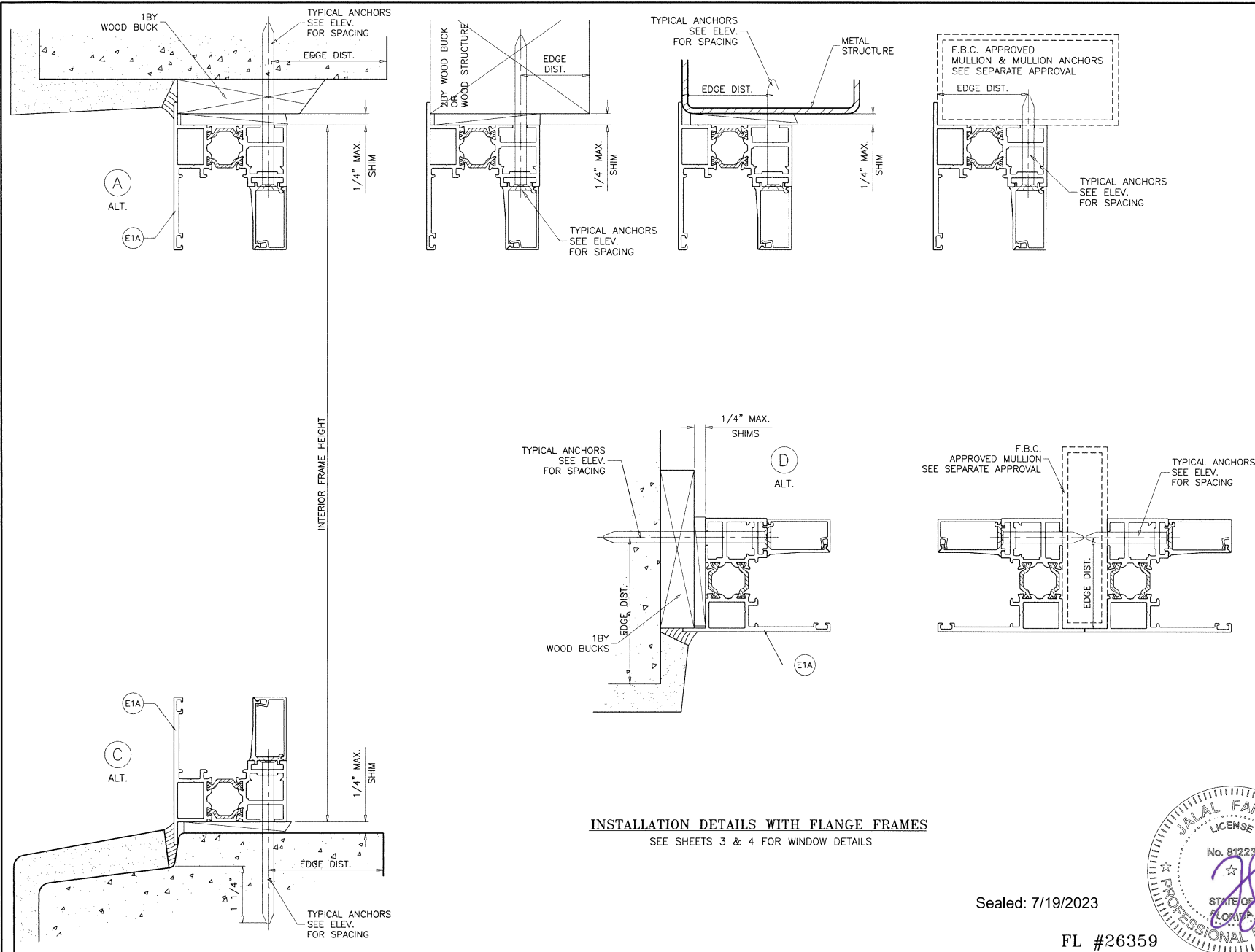
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INSTALLATION DETAILS WITH FLANGE FRAMES
SEE SHEETS 3 & 4 FOR WINDOW DETAILS

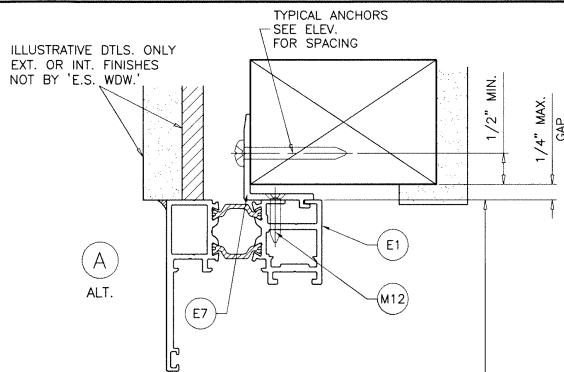
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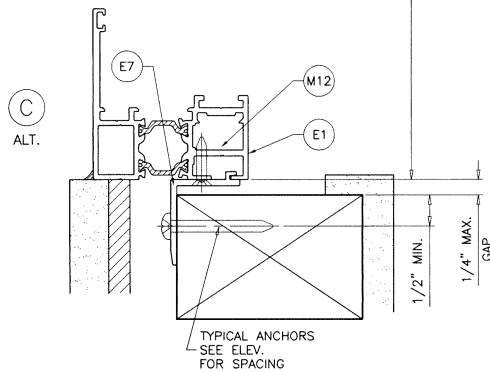
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sheet			5 of 6

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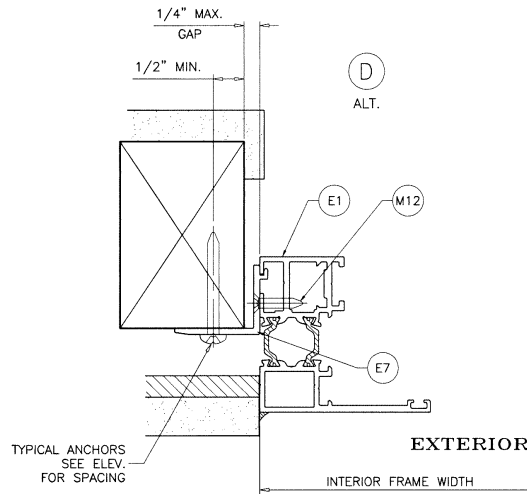
EXTERIOR

INTERIOR FRAME HEIGHT



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

#10 SMS OR WOOD SCREWS (GRADE 2 CRS)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1-1/4" MIN. PENETRATION INTO WOOD



INSTALLATION DETAILS FLUSH FRAMES WITH NAIL FINES
SEE SHEETS 3 & 4 FOR WINDOW DETAILS

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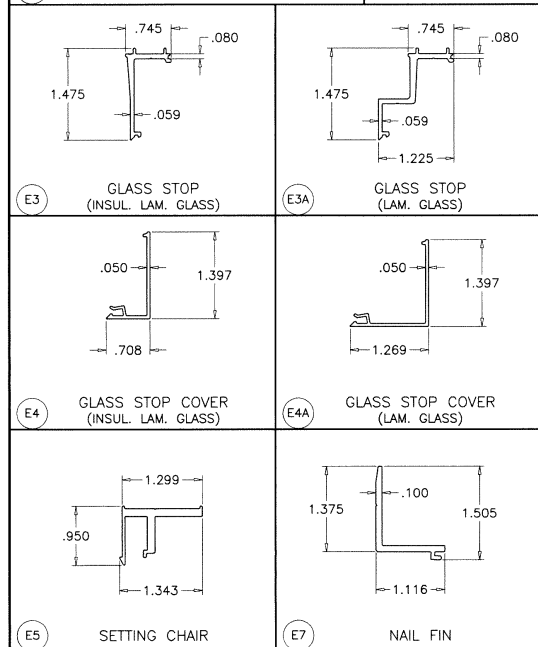
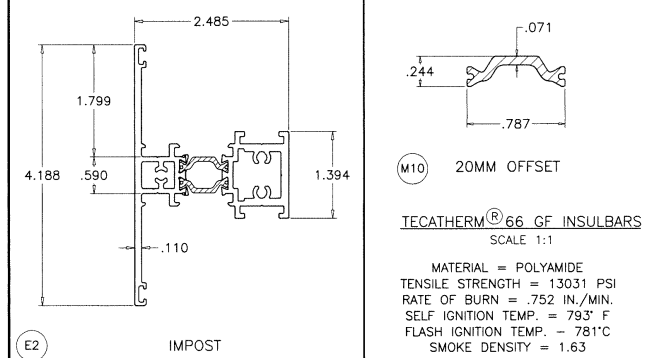
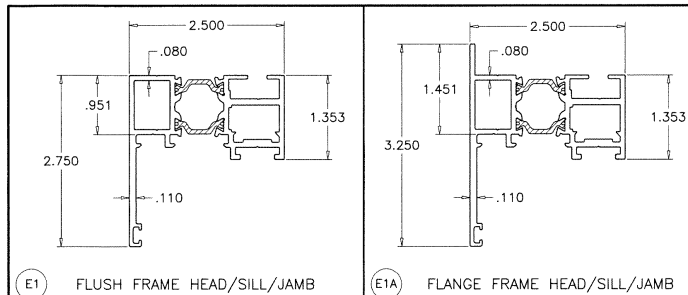
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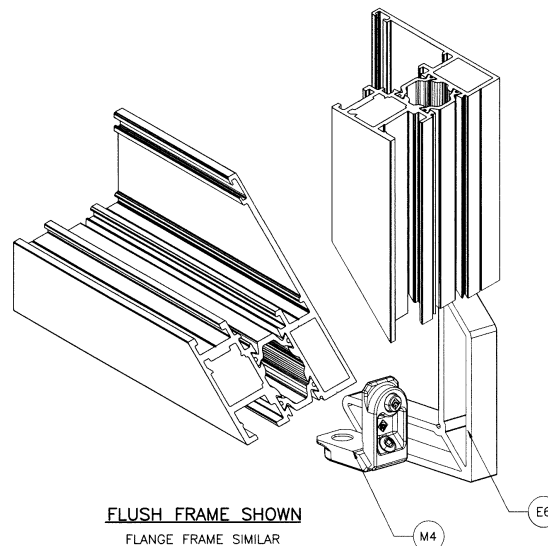
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ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-P252-501	4	FLUSH FRAME HEAD/SILL/JAMB	6063-T6	-
E1A	-	4	FLANGE FRAME HEAD/SILL/JAMB	6063-T6	-
E2	ES-P251-513	AS REQD.	IMPOST	6063-T6	-
E3	ES-P252-005	4	GLASS STOP (INSUL. LAM. GLASS)	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	SOLUCIONESCAUCHO, 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



SEALANT:

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

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sheet **6** of **6**