

FLORIDA DEPARTMENT OF
Business & Professional Regulation



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Product Approval
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SECRETARY

FL #	FL21461-R3
Application Type	Revision
Code Version	2020
Application Status	Approved

Comments

Archived

☐

Product Manufacturer	E.S. Windows, Inc.
Address/Phone/Email	10653 NE Quaybridge Ct. Miami, FL 33138 (305) 624-7775 achamorro@eswllc.com

Authorized Signature	Jalal Farooq veronica@afceng.com
----------------------	-------------------------------------

Technical Representative	Manuel Perez
Address/Phone/Email	10653 NE Quaybridge Ct. Miami, FL 33138 maph@bellsouth.net

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
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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	JAVAD AHMAD PE, INC. ☒ Validation Checklist - Hardcopy Received

Certificate of Independence	FL21461 R3 COI SS - FL150 FIXED ALUM WINDOW (LMI NI)-CI 2020.pdf
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Referenced Standard and Year (of Standard)	<u>Standard</u>	<u>Year</u>
	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

08/13/2020

Date Validated

08/13/2020

Date Pending FBC Approval

08/22/2020

Date Approved

10/13/2020

Summary of Products

FL #	Model, Number or Name	Description
21461.1	Series ES-EL150 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: +80/-105 Other: See drawing W16-76 for span vs. load combinations and installation details.		Installation Instructions FL21461_R3_II_SS - ES-EL150 FX (LMI) DWG W16-76 (2020).pdf Verified By: Jalal Farooq PE # 81223 Created by Independent Third Party: Yes Evaluation Reports FL21461_R3_AE_SS - ES-EL150 Alum FW (LMI)-PAE 2020.pdf Created by Independent Third Party: Yes
21461.2	Series ES-EL150 Aluminum Fixed Window	Non-impact resistant aluminum fixed window.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: +80/-80 Other: See drawing 20-61F for span vs. load combinations and installation details		Installation Instructions FL21461_R3_II_SS - ES-EL150 FIXED ALUM WDW (NI) - DWG 20-61F.pdf Verified By: Jalal Farooq PE # 81223 Created by Independent Third Party: Yes Evaluation Reports FL21461_R3_AE_SS - ES-EL150 Alum FW (NI)-PAE 2020.pdf Created by Independent Third Party: Yes

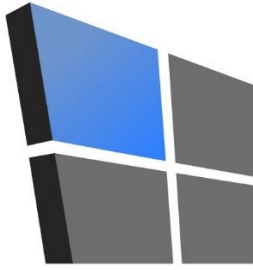
[Back](#)[Next](#)

[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

August 3, 2020

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

Ref: ES Windows, LLC
Series ES-EL150 Fixed Aluminum Window – L.M.I.
Series ES-EL150 Fixed Aluminum Window – N.I.
Certificate of Independence

To whom it may concern,

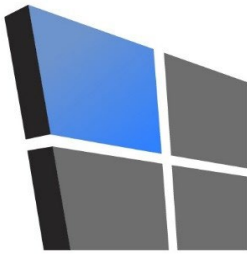
As the design engineer retained by ES Windows, LLC on the product referenced above, I do hereby declare that I do not have and will not have any financial interest in any company manufacturing or distributing the above referenced product, nor do I have or will have any financial interest with any other entity involved in the approval process of the product.

Sincerely,



Sealed: 8/3/2020

Jalal Farooq, P.E.
CFO



AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

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

FL 21461

Date: 8/7/2020

Detailed Product Description:

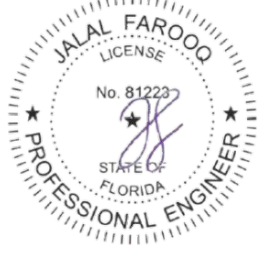
Manufacturer: E.S. WINDOWS, LLC

Manufacturer Address: 3550 NW 49 STREET. MIAMI, FL 33142

Model Name: SERIES ES-EL150 FIXED ALUMINUM WINDOW

Maximum Load: +80 PSF, -105 PSF (Large Missile Impact)

Installation Drawings # W16-76

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 <u> X </u> Yes <u> </u> 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	11/14/2016	BT-ESW-16-004	Constantin Bortes, P.E.
		Fenestration Testing Laboratory, Inc	4/23/2020	FTL-11027	Idalmis Ortega, P.E.
			4/30/2020	FTL-12002	
			4/30/2020	FTL-11035	
ASTM E331 OR ASTM E547 & TAS 202	Water Penetration	Blackwater Testing, Inc	11/14/2016	BT-ESW-16-004	Constantin Bortes, P.E.
		Fenestration Testing Laboratory, Inc	4/23/2020	FTL-11027	Idalmis Ortega, P.E.
			4/30/2020	FTL-12002	
			4/30/2020	FTL-11035	
ASTM E330 & TAS 202	Uniform Static Air Press.	Blackwater Testing, Inc	11/14/2016	BT-ESW-16-004	Constantin Bortes, P.E.
		Fenestration Testing Laboratory, Inc	4/23/2020	FTL-11027	Idalmis Ortega, P.E.
			4/30/2020	FTL-12002	
			4/30/2020	FTL-11035	
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) ANSI Z97.1	Large Missile Impact & Cyclic	Blackwater Testing, Inc	11/14/2016	BT-ESW-16-004	Constantin Bortes, P.E.
		Fenestration Testing Laboratory, Inc	4/23/2020	FTL-11027	Idalmis Ortega, P.E.
			4/30/2020	FTL-12002	
			4/30/2020	FTL-11035	
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 2020 Florida Building Code.					
Evaluation Report Engineer:					
Jalal Farooq		PE # 81223			
Al-Farooq Corporation		EB # 3538			
					
		Sealed: 8/7/2020			

ES-EL150
FIXED ALUMINUM WINDOW

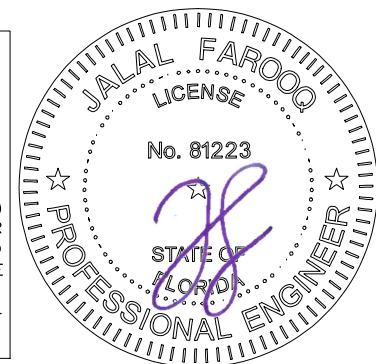
DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER CHARTS SHOWN ON SHEETS 3 AND 3.1.

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 2017 (6TH EDITION)/2020 (7TH 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 2017/2020 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.

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.

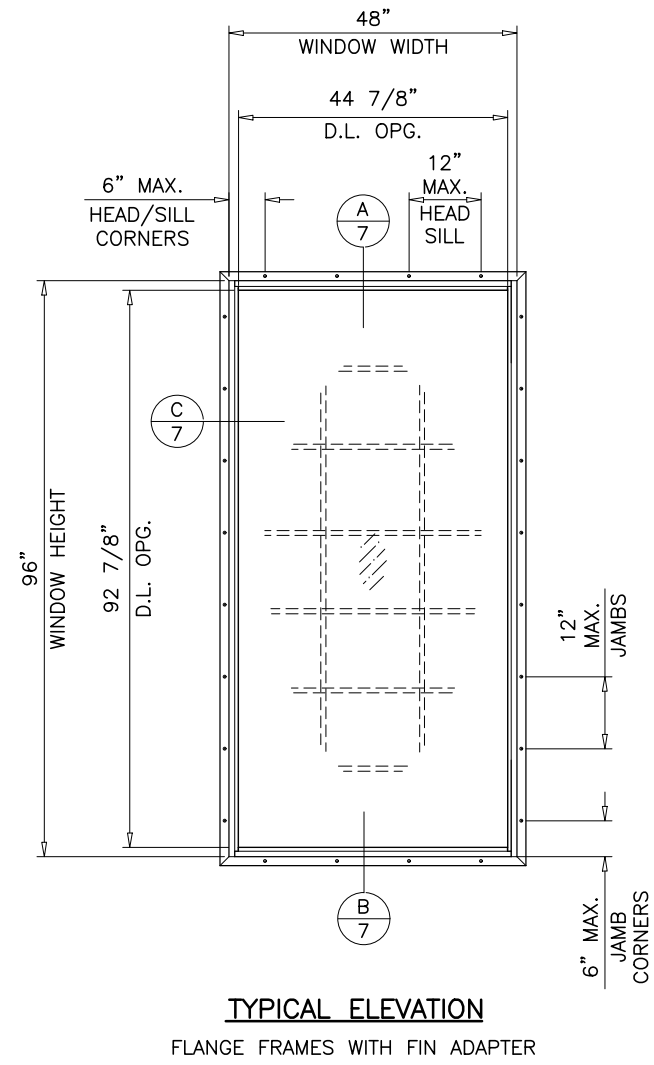
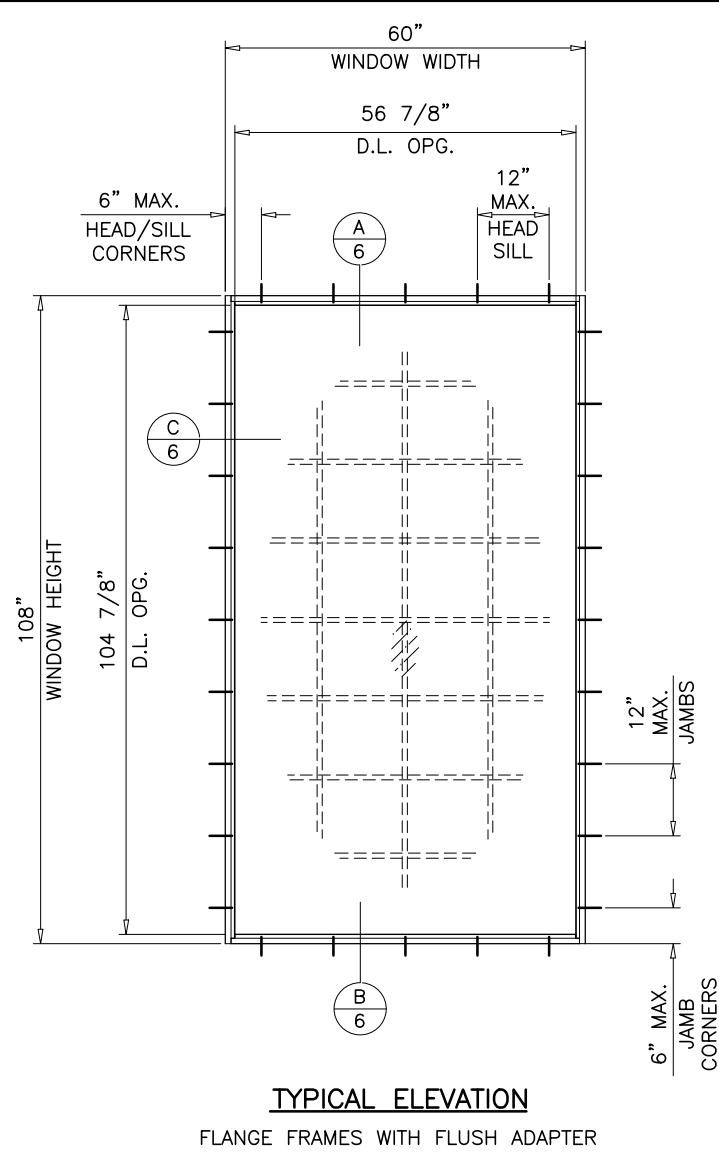
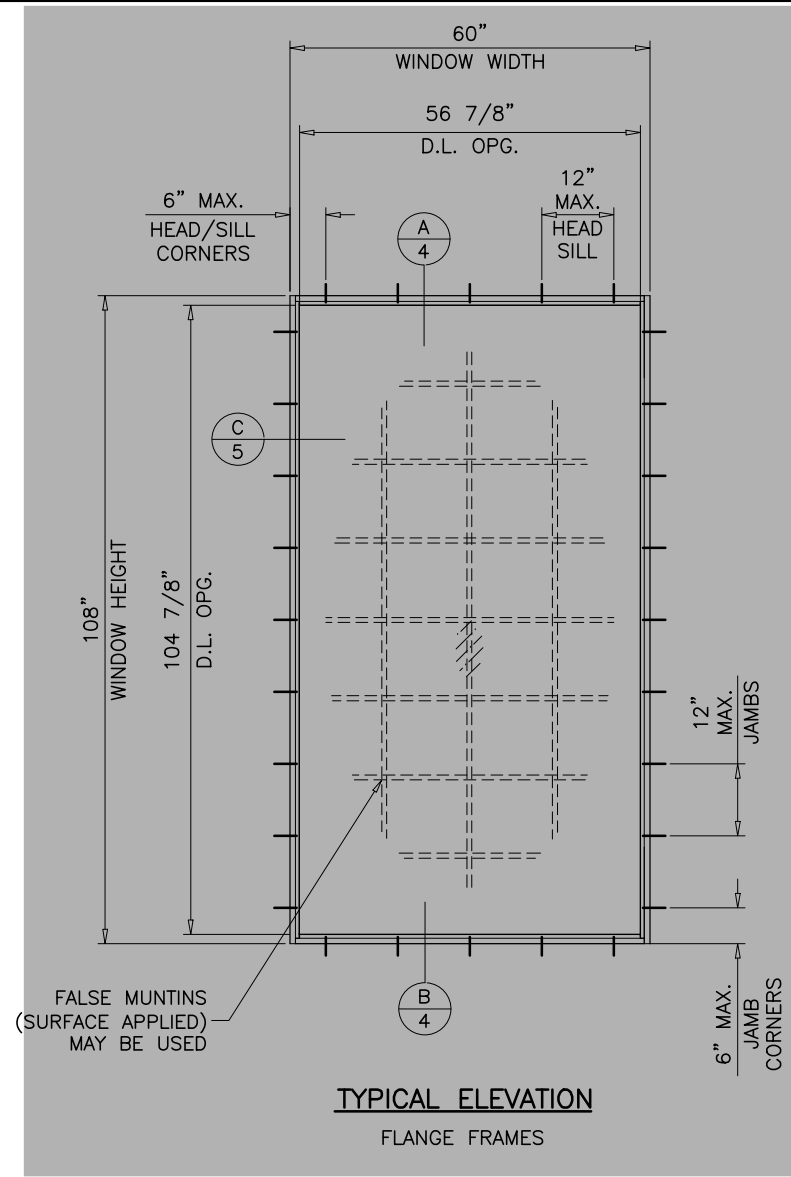
Sealed:8/13/2020



WINDOWS WITH GLASS TYPES 'AA', 'BB' & 'AAi' COMPLY WITH REQUIREMENTS OF ANSI Z97.1.

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

DAYLITE OPENINGS:
D.L.O. HEIGHT = WINDOW HEIGHT - 3.125"
D.L.O. WIDTH = WINDOW WIDTH - 3.125"



WINDOWS WITH FIN FRAME ADAPTERS LIMITED TO GLASS TYPES 'A', 'Ai', 'B', 'Di' & 'Ei' ONLY

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W16-76ES

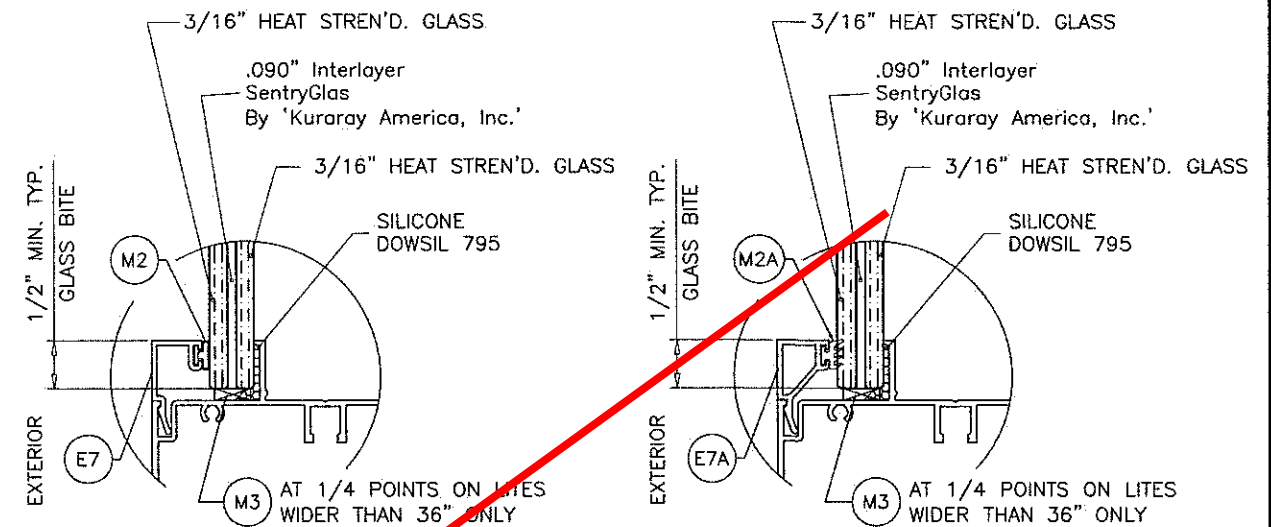
ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

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

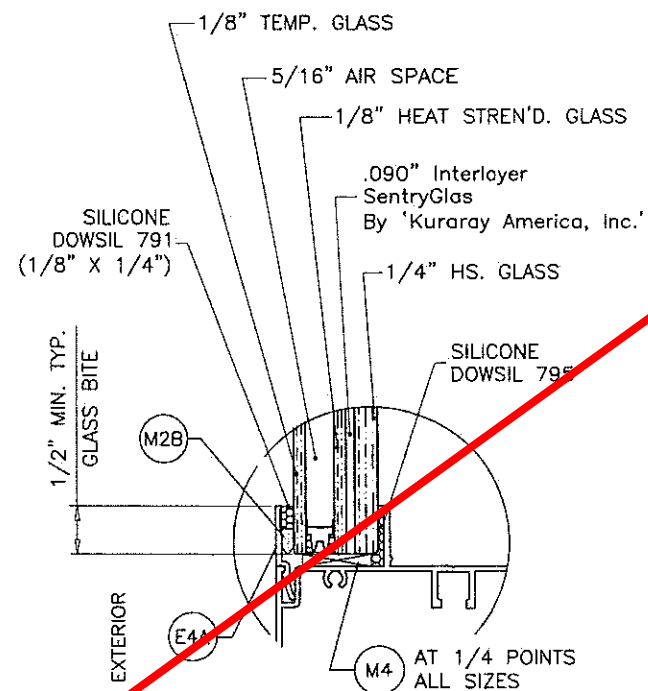
revisions:
no date by description
A 12.05.17 by UPDATED TO 2017 FBC
B 05.11.20 by GENERAL REVISION

date: 11-29-16
scale: 3/8"=1'-0"
dr. by: TARIQ
chk. by:

drawing no.
W16-76
sheet 1 of 9

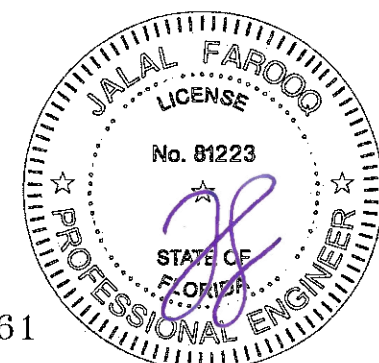


GLASS TYPE 'BB'
7/16" OVERALL LAM. GLASS



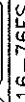
GLASS TYPE 'AAi'
7/8" OVERALL INSUL. LAM. GLASS

Sealed:8/13/2020



GLAZING OPTIONS

FL #21461

	
AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 <i>(C.A.N. 3538)</i> TEL (305) 264-8100 FAX (305) 262-6978	
COMP-ANL \ W16-76ES	

ES-EL150 FIXED ALUMINUM 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

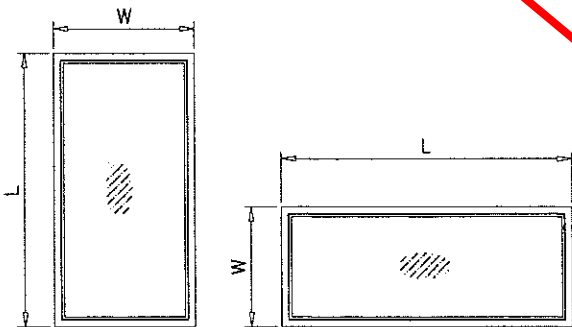
date: 11-29-16	
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dr. by: TARIQ	
chk. by:	

drawing	no.
W16-76	
sheet 2	of 9

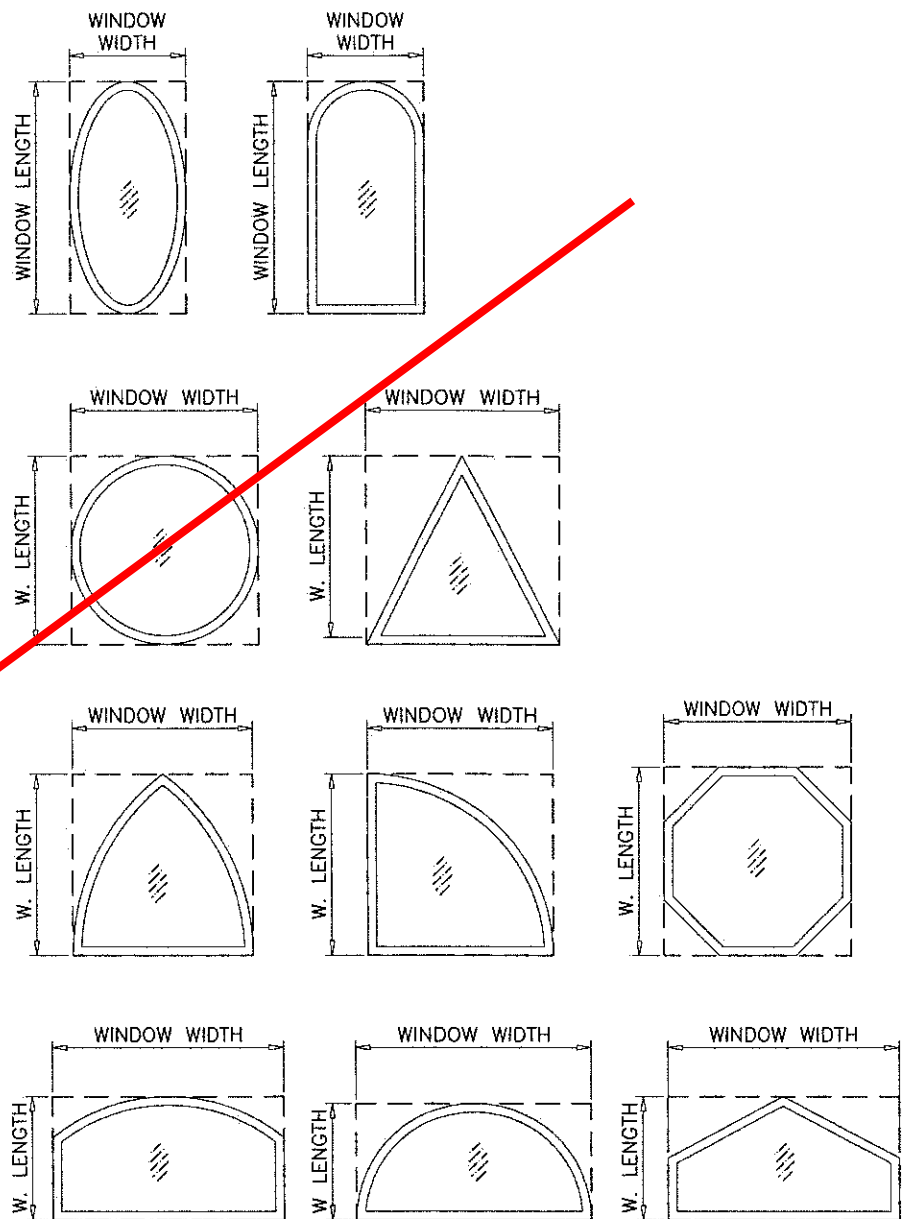
DESIGN LOAD CAPACITY - PSF FLANGE FRAMES & FLUSH FRAMES ONLY					
WINDOW DIMS.		GLASS TYPES 'AA' & 'AAI'		GLASS TYPE 'BB'	
WIDTH	HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
48"	48"	80.0	105.0	80.0	100.0
54"		80.0	105.0	80.0	100.0
60"		80.0	105.0	80.0	100.0
66"		80.0	105.0	80.0	100.0
72"		80.0	105.0	80.0	100.0
78"		80.0	105.0	80.0	100.0
48"	54"	80.0	105.0	80.0	100.0
54"		71.1	93.3	80.0	88.9
60"		71.1	93.3	80.0	88.9
66"		71.1	93.3	80.0	88.9
72"		-	-	80.0	88.9
78"		-	-	80.0	88.9
48"	60"	80.0	105.0	80.0	100.0
54"		71.1	93.3	80.0	88.9
60"		64.0	84.0	80.0	80.0
66"		-	-	80.0	80.0
72"		-	-	80.0	80.0
78"		-	-	80.0	80.0
48"	66"	80.0	105.0	80.0	100.0
54"		71.1	93.3	80.0	88.9
60"		-	-	80.0	80.0
66"		-	-	80.0	80.0
72"		-	-	80.0	80.0
78"		-	-	80.0	80.0
48"	72"	80.0	105.0	80.0	100.0
54"		-	-	80.0	88.9
60"		-	-	80.0	80.0
66"		-	-	72.7	72.7
72"		-	-	72.7	72.7
78"		-	-	72.7	72.7
48"	78"	80.0	105.0	80.0	100.0
54"		-	-	80.0	88.9
60"		-	-	80.0	80.0
66"		-	-	72.7	72.7
72"		-	-	66.7	66.7
78"		-	-	66.7	66.7
48"	84"	-	-	80.0	100.0
54"		-	-	80.0	88.9
60"		-	-	80.0	80.0
66"		-	-	72.7	72.7
72"		-	-	66.7	66.7
78"		-	-	66.7	66.7
48"	90"	-	-	80.0	100.0
54"		-	-	80.0	80.0
60"		-	-	80.0	80.0
66"		-	-	72.7	72.7
72"		-	-	66.7	66.7
78"		-	-	66.7	66.7
48"	96"	-	-	80.0	100.0
54"		-	-	80.0	80.0
60"		-	-	80.0	80.0
66"		-	-	72.7	72.7
72"		-	-	66.7	66.7
78"		-	-	66.7	66.7

DESIGN LOAD CAPACITY - PSF FLANGE FRAMES & FLUSH FRAMES ONLY					
WINDOW DIMS.		GLASS TYPES 'AA' & 'AAI'		GLASS TYPE 'BB'	
WIDTH	HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
48"	102"	-	-	80.0	80.0
54"		-	-	80.0	80.0
60"		-	-	80.0	80.0
48"	108"	-	-	80.0	80.0
54"		-	-	80.0	80.0
60"		-	-	80.0	80.0
48"	114"	-	-	80.0	80.0
54"		-	-	80.0	80.0
60"		-	-	80.0	80.0
48"	120"	-	-	80.0	80.0
54"		-	-	80.0	80.0

DESIGN LOAD CAPACITY - PSF FLANGE FRAMES & FLUSH FRAMES ONLY					
WINDOW DIMS.		GLASS TYPES 'AA' & 'AAI'		GLASS TYPE 'BB'	
WIDTH	HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
19-1/8"	26"	80.0	105.0	80.0	100.0
26-1/2"		80.0	105.0	80.0	100.0
37"		80.0	105.0	80.0	100.0
48"		80.0	105.0	80.0	100.0
53-1/8"		80.0	105.0	80.0	100.0
19-1/8"	38-3/8"	80.0	105.0	80.0	100.0
26-1/2"		80.0	105.0	80.0	100.0
37"		80.0	105.0	80.0	100.0
48"		80.0	105.0	80.0	100.0
53-1/8"		80.0	105.0	80.0	100.0
19-1/8"	50-5/8"	80.0	105.0	80.0	100.0
26-1/2"		80.0	105.0	80.0	100.0
37"		80.0	105.0	80.0	100.0
48"		80.0	105.0	80.0	100.0
53-1/8"		75.9	99.6	80.0	94.8
19-1/8"	58"	80.0	105.0	80.0	100.0
26-1/2"		80.0	105.0	80.0	100.0
37"		80.0	105.0	80.0	100.0
48"		80.0	105.0	80.0	100.0
53-1/8"		72.3	94.9	80.0	90.4
19-1/8"	63"	80.0	105.0	80.0	100.0
26-1/2"		80.0	105.0	80.0	100.0
37"		80.0	105.0	80.0	100.0
48"		80.0	105.0	80.0	100.0
53-1/8"		72.3	94.9	80.0	90.4
19-1/8"	76"	80.0	105.0	80.0	100.0
26-1/2"		80.0	105.0	80.0	100.0
37"		80.0	105.0	80.0	100.0
48"		80.0	105.0	80.0	100.0
53-1/8"		-	-	80.0	90.4



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

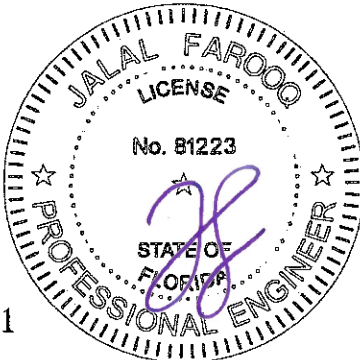


ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE
VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS
SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.

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

Sealed:8/13/2020

FL #21461



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL (305) 264-8100 FAX (305) 262-6978

ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

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

revisions:

no	date	by	description

date: 11-29-16

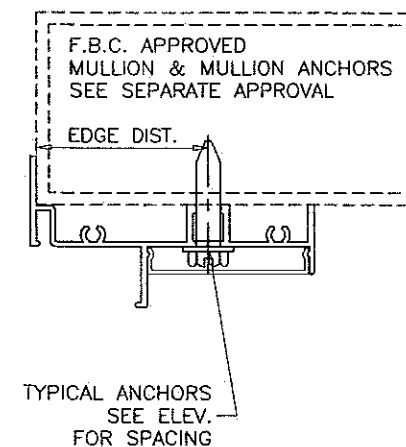
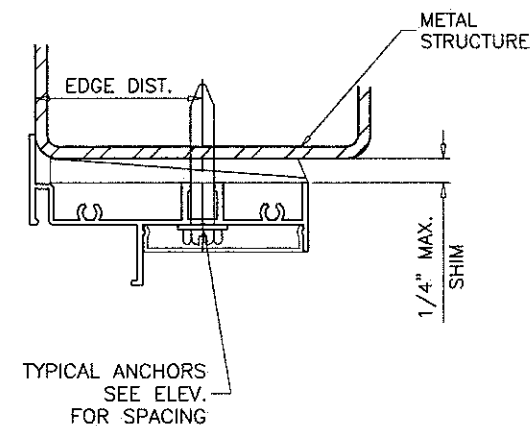
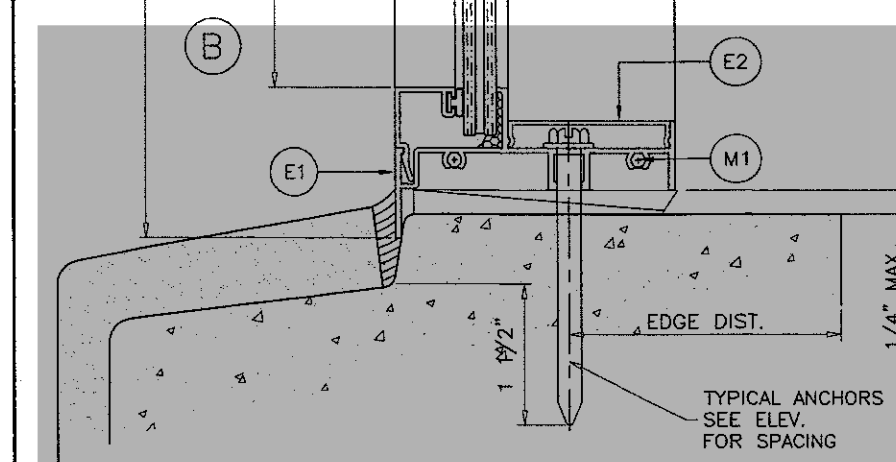
scale: 1/2" = 1"

dr. by: TARIQ

chk. by:

drawing no.
W16-76

sheet 3.1 of 9



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. TAPCON BY 'ITW' ($F_u=125$ KSI, $F_y=100$ KSI)

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 MASONRY

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

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

DIRECTLY INTO CONCRETE OR MASONRY

1-1/2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

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

1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)

INTO F.B.C. APPROVED MULLIONS

OR

INTO METAL STRUCTURES (HEAD/SILL/JAMBS)

(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS

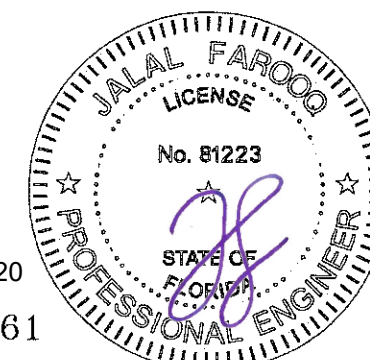
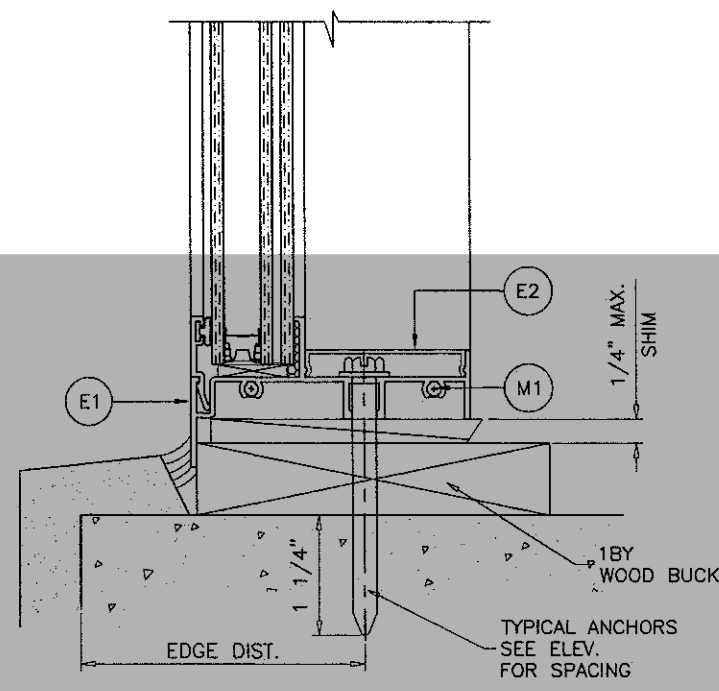
ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)

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

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

INTO CONCRETE AND MASONRY = 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.



FL #21461

date: 11-29-16

scale: 1/2" = 1"

dr. by: TARIQ

chk. by:

revisions:

no	date	description

drawing no. **W16-76**

sheet 4 of 9

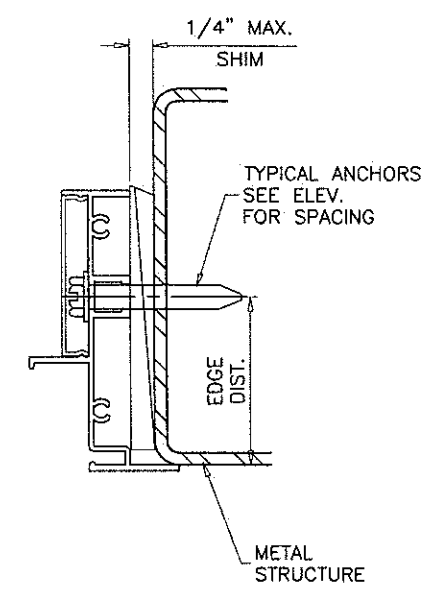
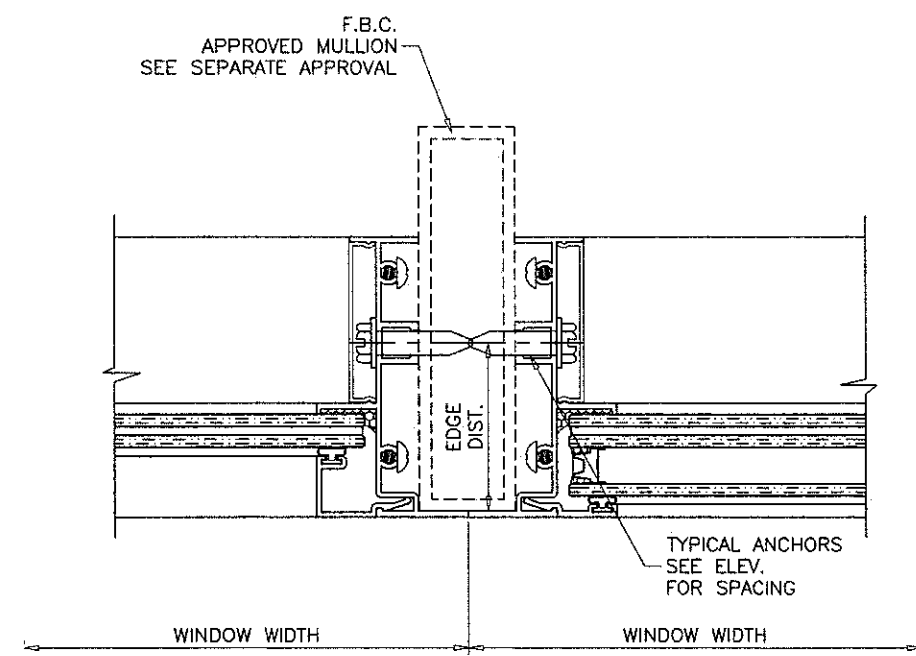
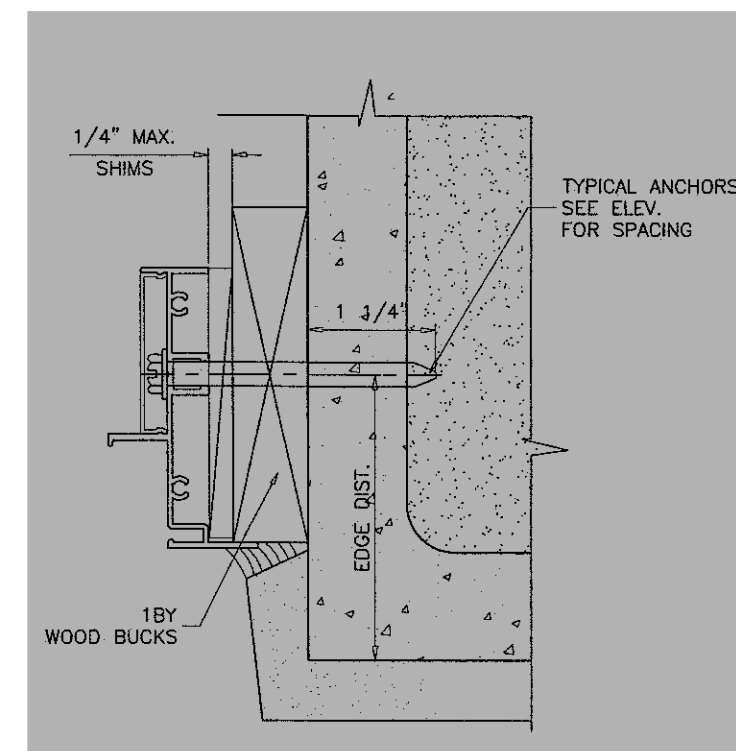
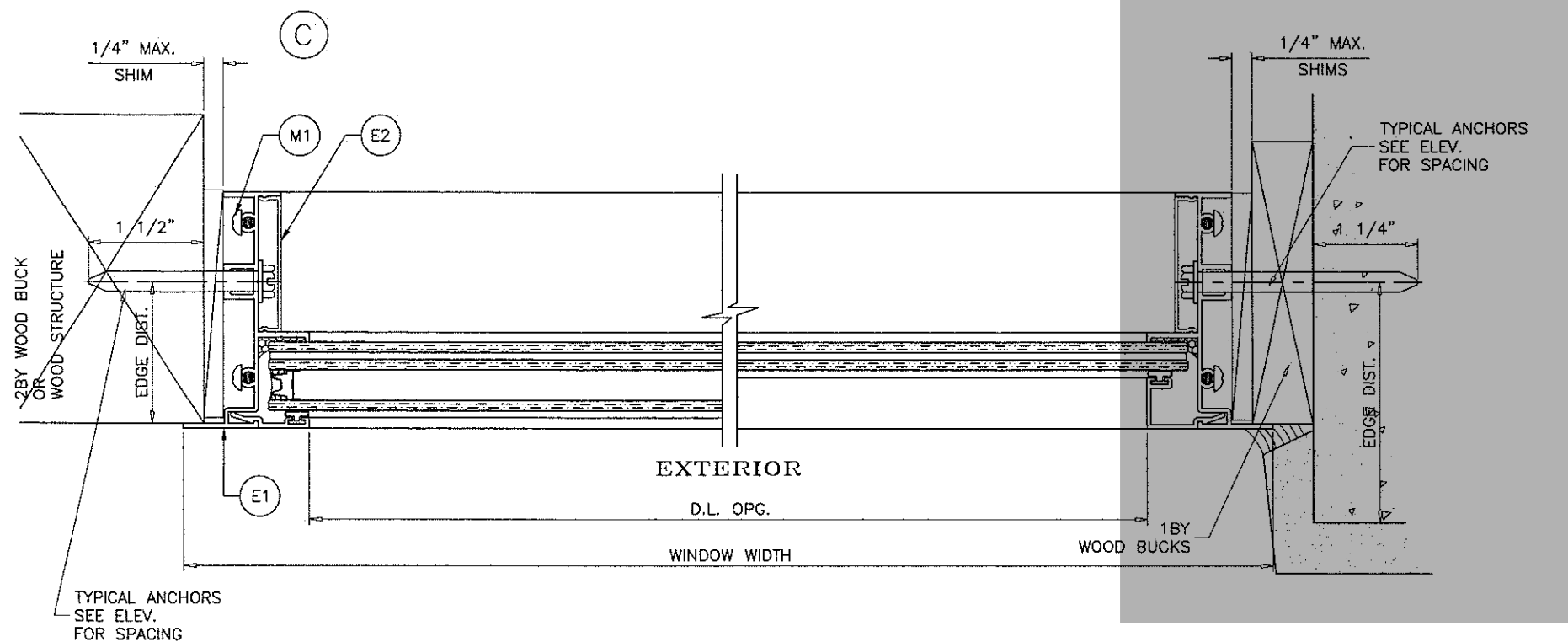
ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

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

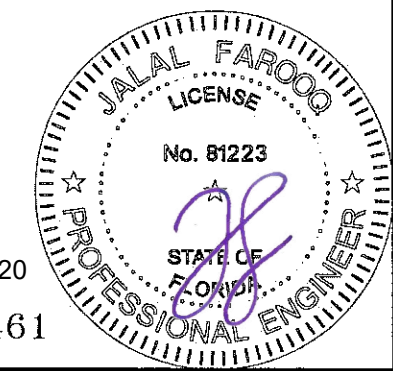
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978

W16-76

COMP-ANI\W16-76S



Sealed: 8/13/2020
FL #21461



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ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

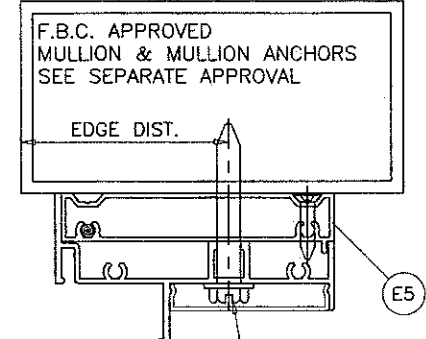
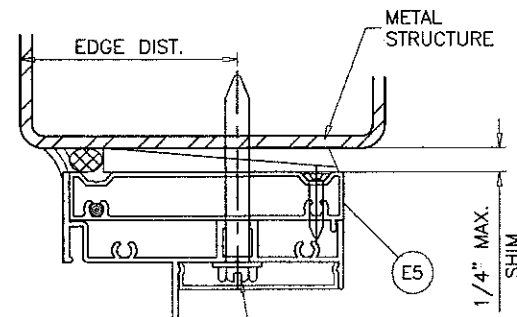
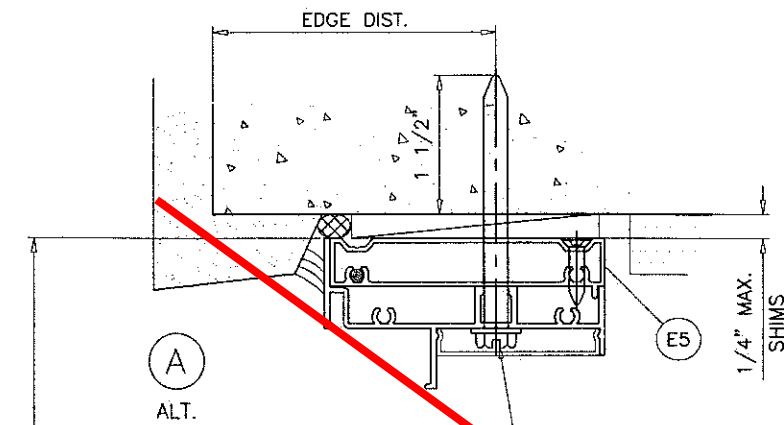
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

no	date	by	description

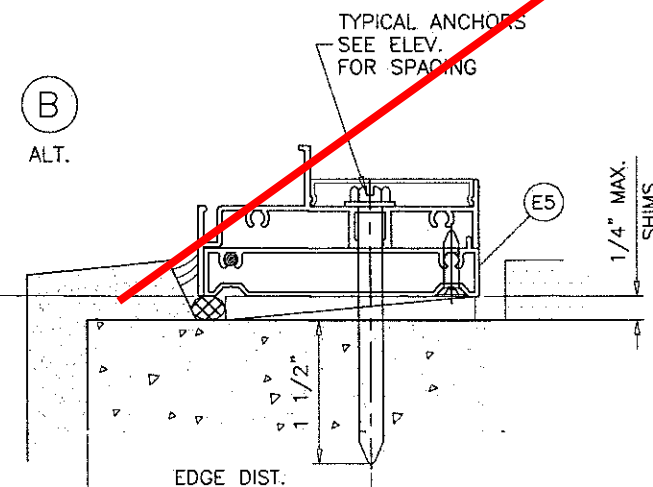
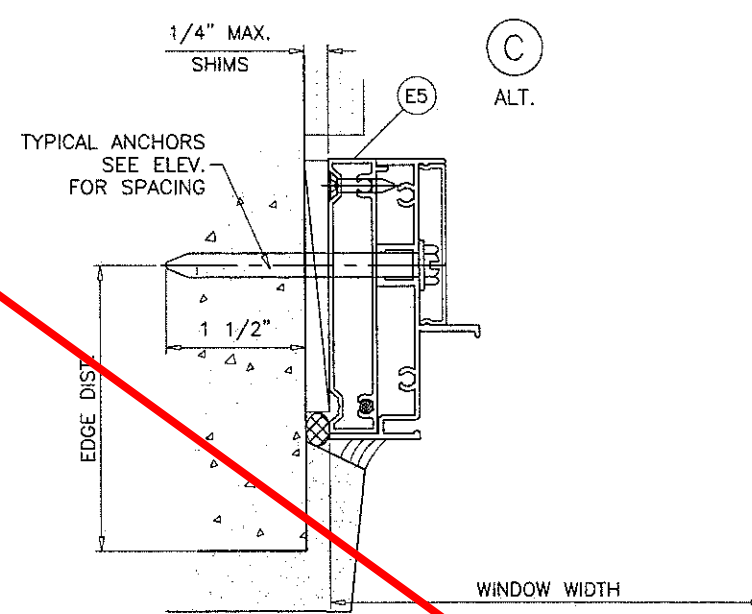
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dr. by: TARIQ
chk. by:

drawing no.
W16-76
sheet 5 of 9



WINDOW HEIGHT

EXTERIOR

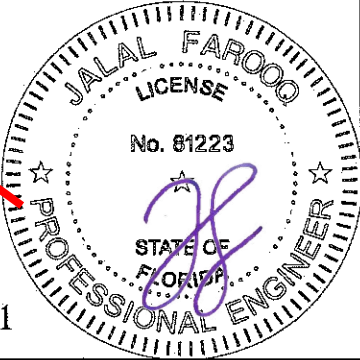


INSTALLATION DETAILS WITH FLUSH FRAME ADAPTERS

SEE SHEETS 4 & 5 FOR WINDOW DETAILS

Sealed: 8/13/2020

FL #21461



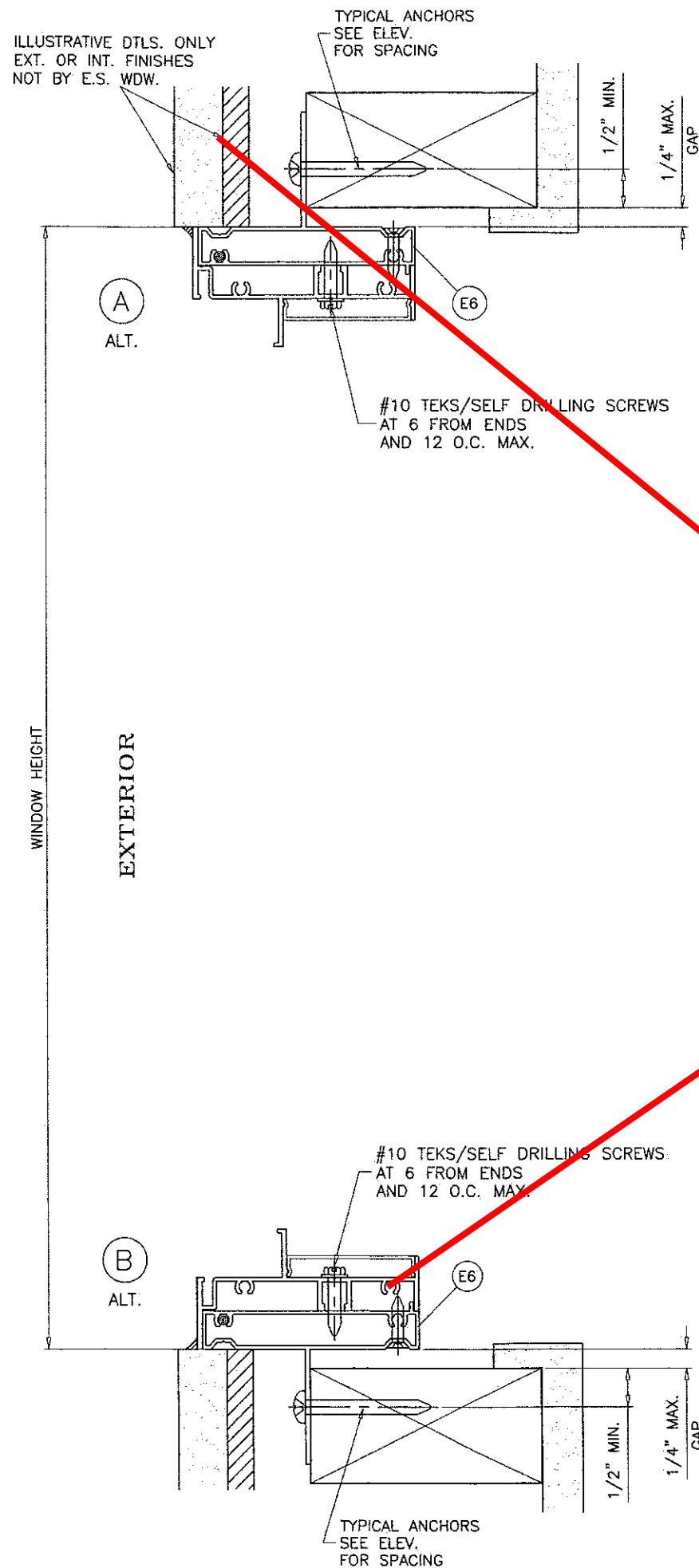
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(C.A.N. 3538)

COMP-ANL W16-76ES

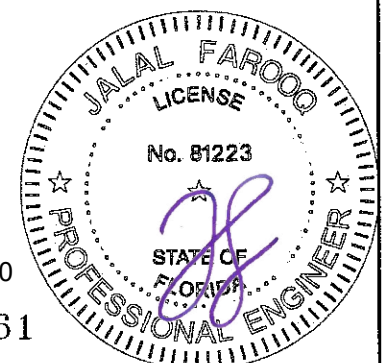
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E.S. WINDOWS, LLC 3550 N.W. 49 STREET MIAMI, FL. 33142 TEL. (305) 638-5151 FAX. (305) 638-5158	
revisions: no. date by description	
date: 11-29-16	scale: 1/2" = 1"
dr. by: TARIO	chk. by:
drawing no. W16-76	
sheet 6 of 9	



TYPICAL ANCHORS: SEE ELEV. FOR SPACING
#10 WOOD SCREWS (GRADE 2 CRS)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
 1-1/2" MIN. PENETRATION INTO WOOD

INSTALLATION DETAILS WITH FIN FRAME ADAPTERS
 SEE SHEETS 4 & 5 FOR WINDOW DETAILS

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 FL #21461



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COMP-ANL W16-76ES

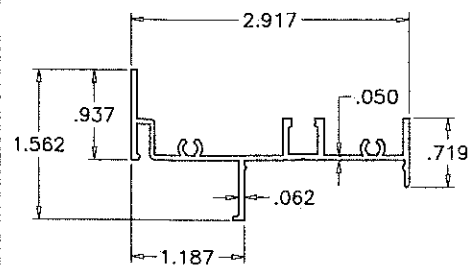
ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

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 3550 N.W. 49 STREET
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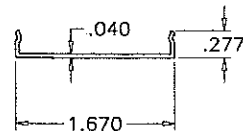
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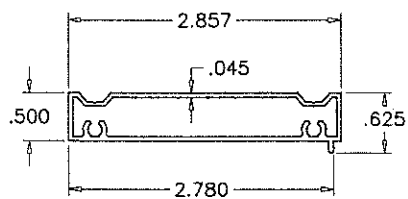
drawing no.
W16-76
 sheet 7 of 9



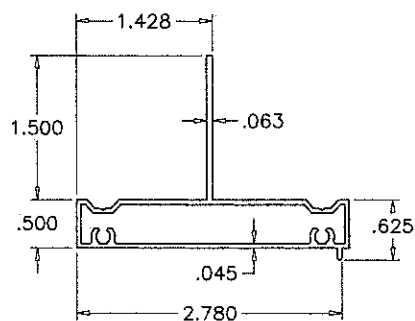
E1 FRAME



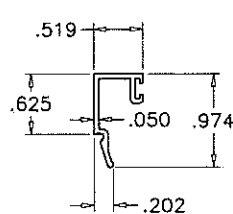
E2 FRAME SCREW COVER



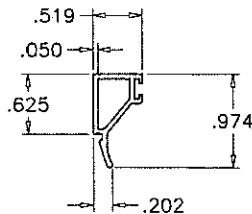
E5 FLUSH FRAME ADAPTER



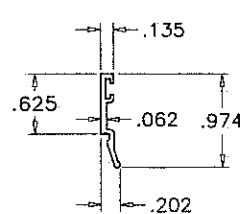
E6 FLUSH FRAME ADAPTER WITH FIN



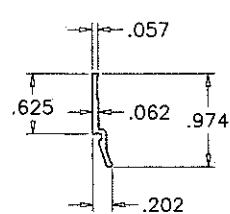
E7



E7A



E4



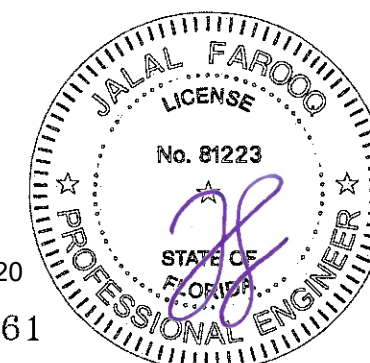
E4A

GLAZING BEADS

ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-EL151	1	FRAME	6063-T6	-
E2	ES-EL152	AS REQD.	FRAME SCREW COVER	6063-T6	-
E4	ES-EL111	AS RQD.	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T6	-
E4A	ES-EL116	AS RQD.	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T6	-
E5	ES-EL112	AS REQD.	FLUSH FRAME ADAPTER	6063-T6	-
E6	ES-EL115	AS REQD.	FLUSH FRAME ADAPTER WITH FIN	6063-T6	-
E7	ES-EL110	AS RQD.	GLAZING BEAD (7/16" LAM. GLASS)	6063-T6	-
E7A	ES-EL123	AS RQD.	GLAZING BEAD (7/16" LAM. GLASS)	6063-T6	-
M1	#8 X 1"	-	FRAME ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M2	ES-5008A	AS REQD.	EXTERIOR BULB GASKET	SILICONE	DUROMETER 60±5 SHORE A
M2A	EL100-G02	AS REQD.	EXTERIOR LEAF GASKET	SILICONE	DUROMETER 60±5 SHORE A
M2B	ES-H-340-G05	AS REQD.	EXTERIOR WEDGE GASKET	SILICONE	DUROMETER 65±5 SHORE A
M3	80-372A	2/ LITE	SETTING BLOCK AT 1/4 POINTS (LAM. GLASS)	SILICONE	DUROMETER 80±5 SHORE A
M4	EL100-B01	2/ LITE	SETTING BLOCK AT 1/4 POINTS (INSUL. LAM. GLASS)	SILICONE	DUROMETER 80±5 SHORE A
M5	#8 X 1"	-	FLUSH/FIN FRAME ADAPTER ASSEMBLY FASTENERS	ST. STEEL	FH SMS

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(C.A.N. 3538)

ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

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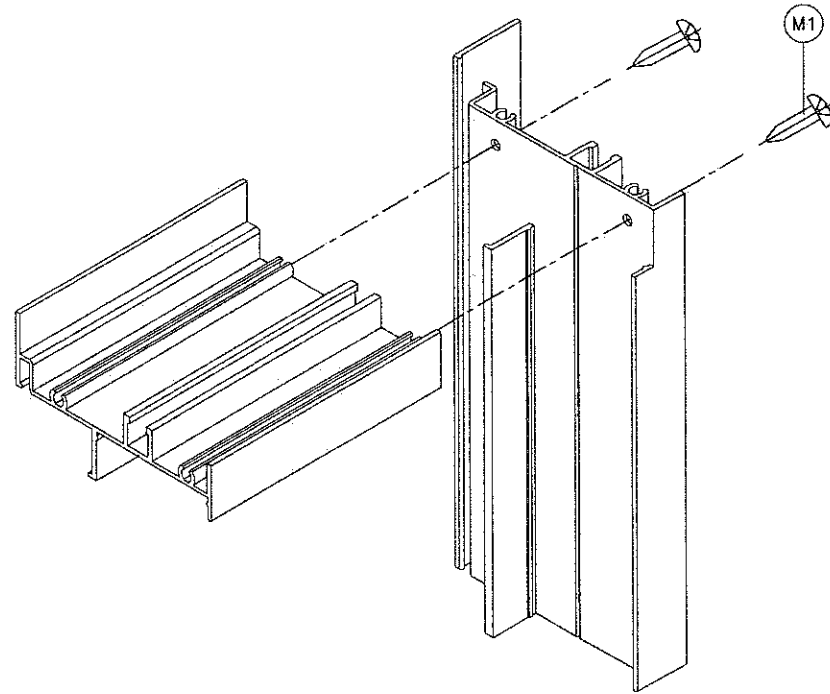
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chk. by:

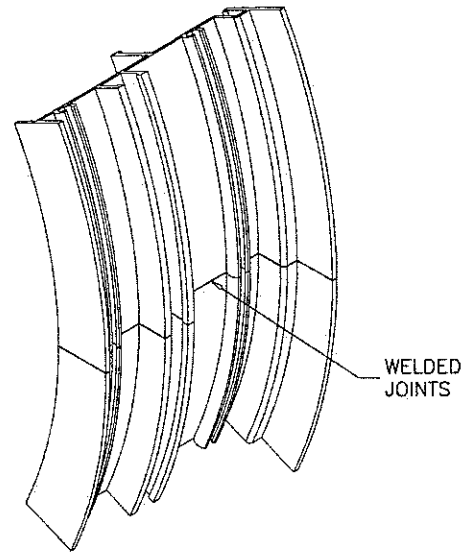
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W16-76

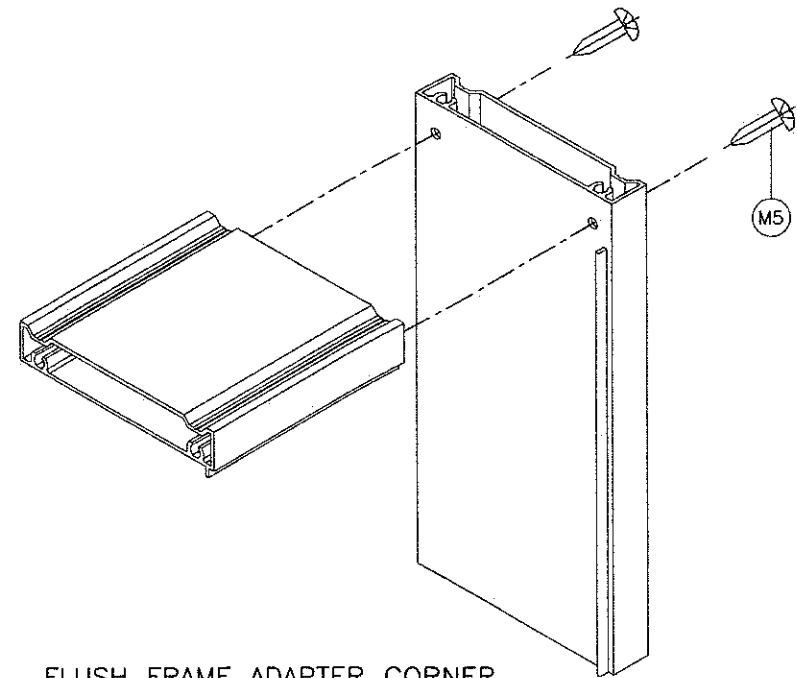
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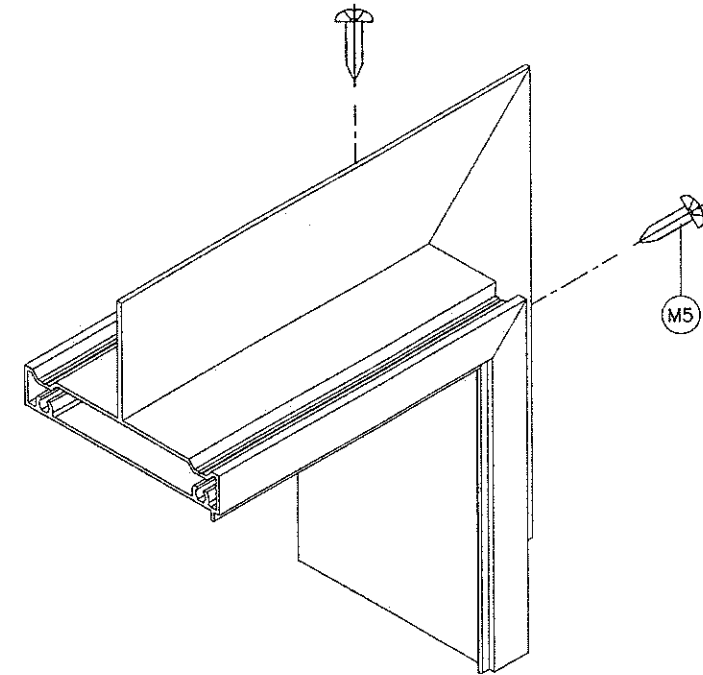
RECT. OR SQUARE WINDOWS



CIRCULAR WINDOWS



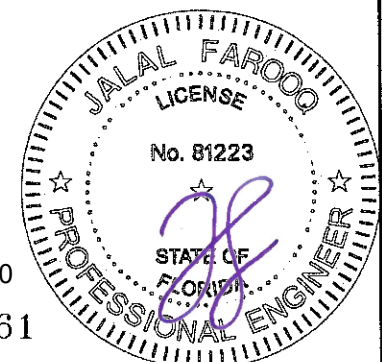
FLUSH FRAME ADAPTER CORNER



FIN FRAME ADAPTER CORNER

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FL #21461



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ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)			
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date: 11-29-16	scale: 1/2" = 1"	dr. by: TARIQ	chg. by:
no.	date	by	description
1	11-29-16	TARIQ	FIN FRAME ADAPTER CORNER
drawing no. W16-76			
sheet 9 of 9			