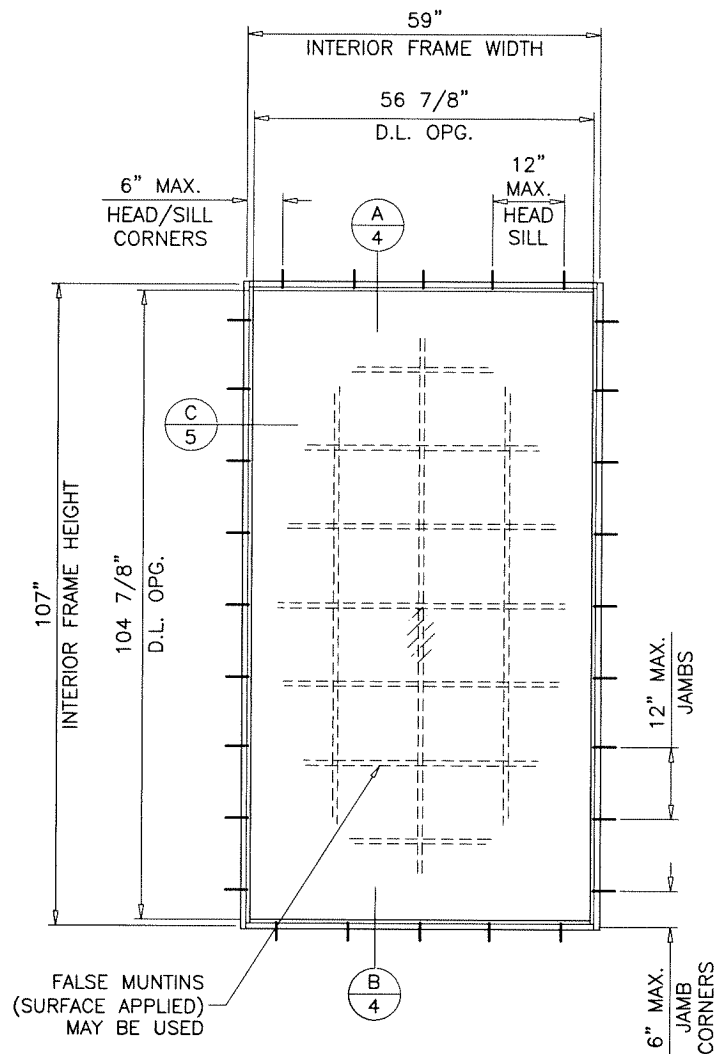
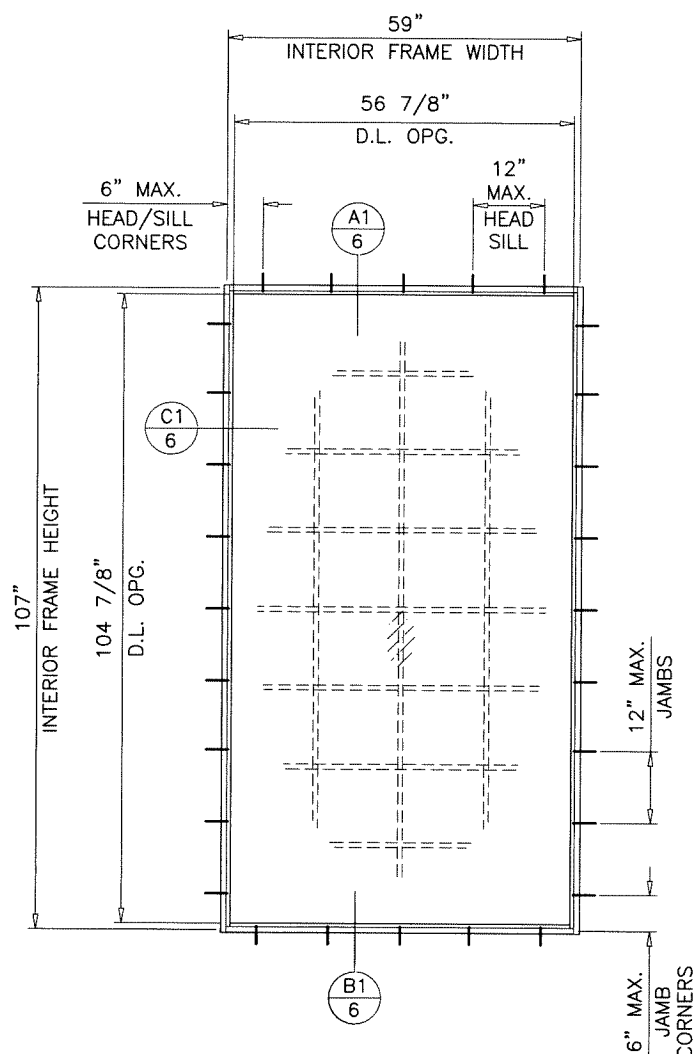
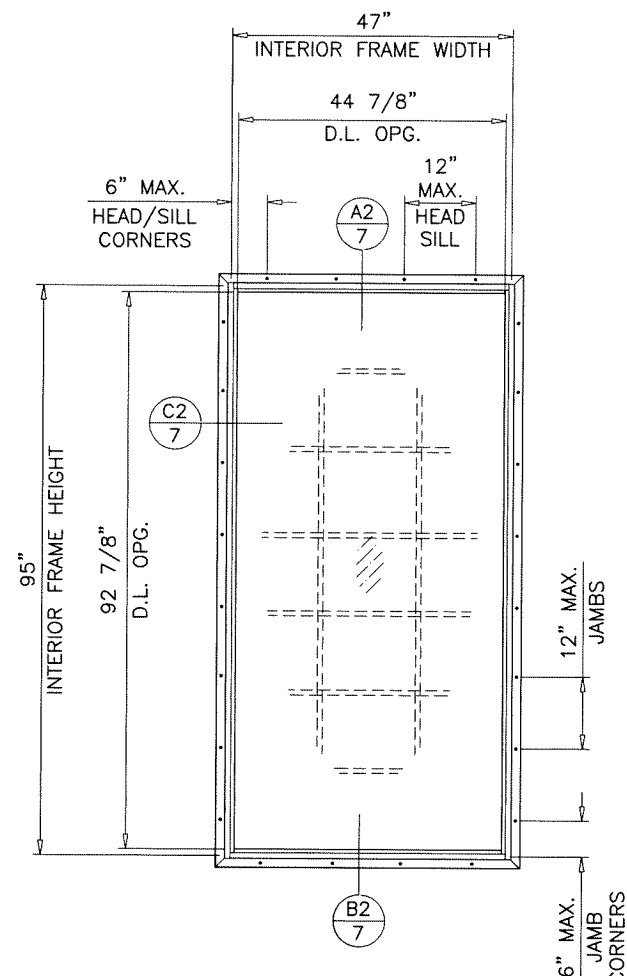




TYPICAL ELEVATION
FLANGE FRAMES



TYPICAL ELEVATION
FLANGE FRAMES WITH FLUSH ADAPTER



TYPICAL ELEVATION
FLANGE FRAMES WITH FIN ADAPTER

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

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 2023 (8TH EDITION)/2026 (9TH 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 LOAD-BEARING, (HIGH DENSITY PLASTIC/COMPOSITE, METAL OR OTHER RIGID MATERIALS).

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2023/2026 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.

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

WINDOWS COMPLY WITH REQUIREMENTS OF ANSI Z97.1.

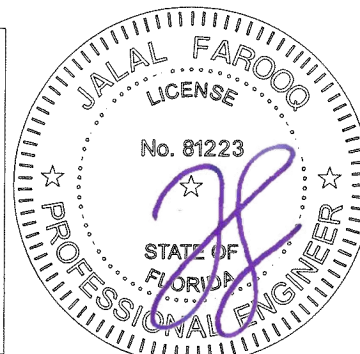
THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

FASTENERS AND CONNECTORS (AS APPLICABLE) SHOWN IN THIS APPROVAL MAY NOT MEET CORROSION RESISTANCE REQUIREMENTS FOR COASTAL OR SALT WATER EXPOSURE ZONES. COMPLIANCE WITH THESE CONDITIONS TO BE CHECKED PER FBC 1711.

Sealed: 7/13/2026

FL #21461

- 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 SET FORTH 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
TEL. (305) 264-8100 FAX. (305) 262-6978
C.A.N. 3538

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

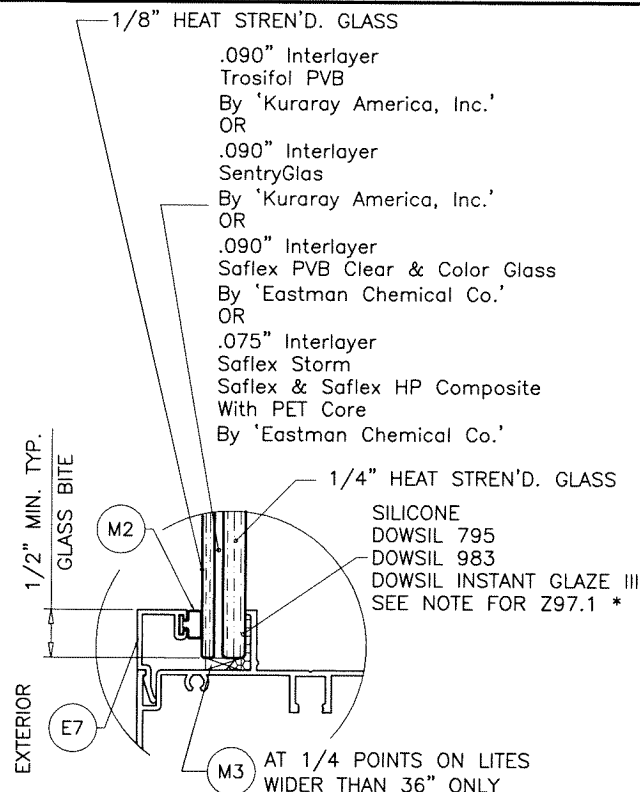
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:		no	date	by	description
		C	06.15.21	WDM	SIZES ADDED
		D	07.07.23		UPDATED TO 2023 FBC
		E	10.13.23	WDM	FRAME REV.
		F	03.27.25		Z97.1 NOTE REVISED
		G	07.10.26		UPDATED TO 2026 FBC

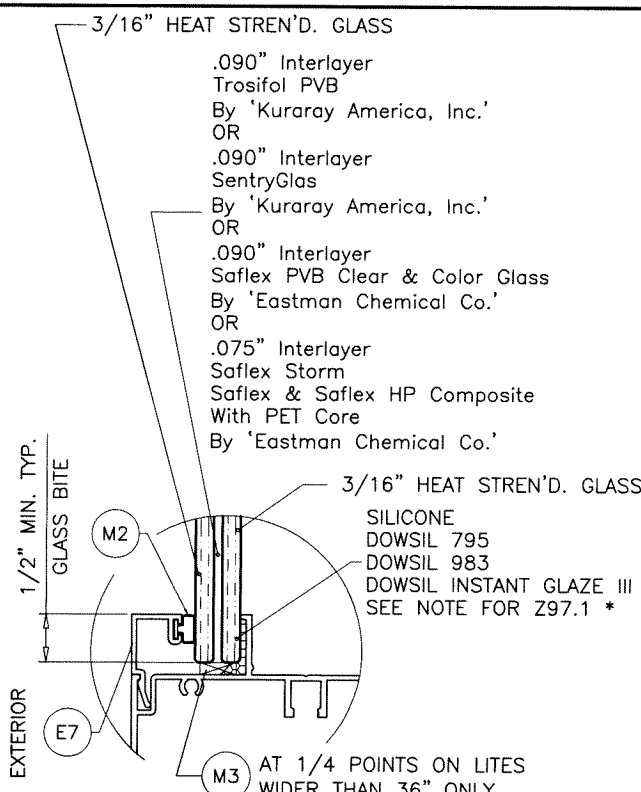
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dr. by:	TARIQ
chk. by:	

drawing no.	W16-76
sheet	1 of 9

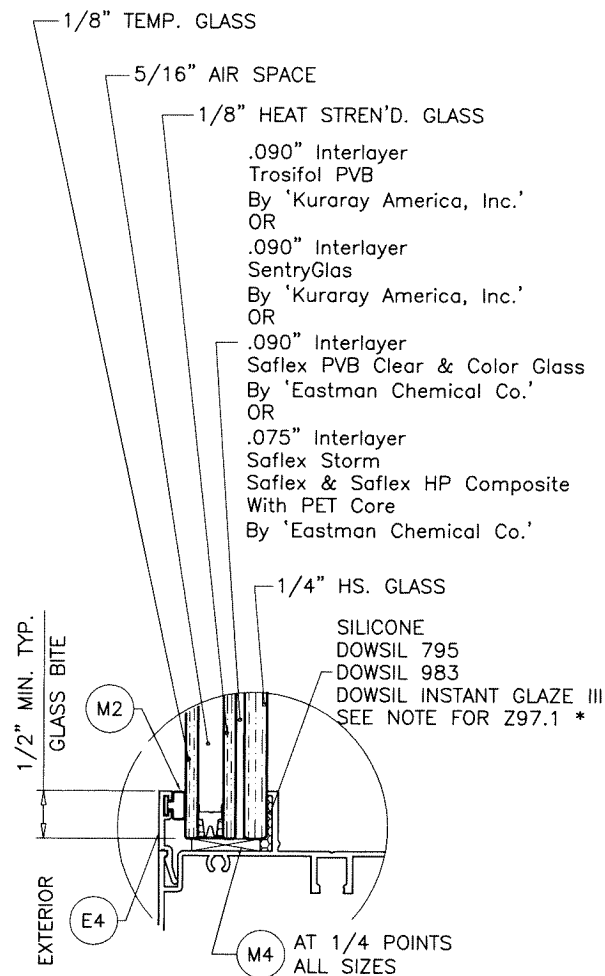
COMP-ANL W16-76ES



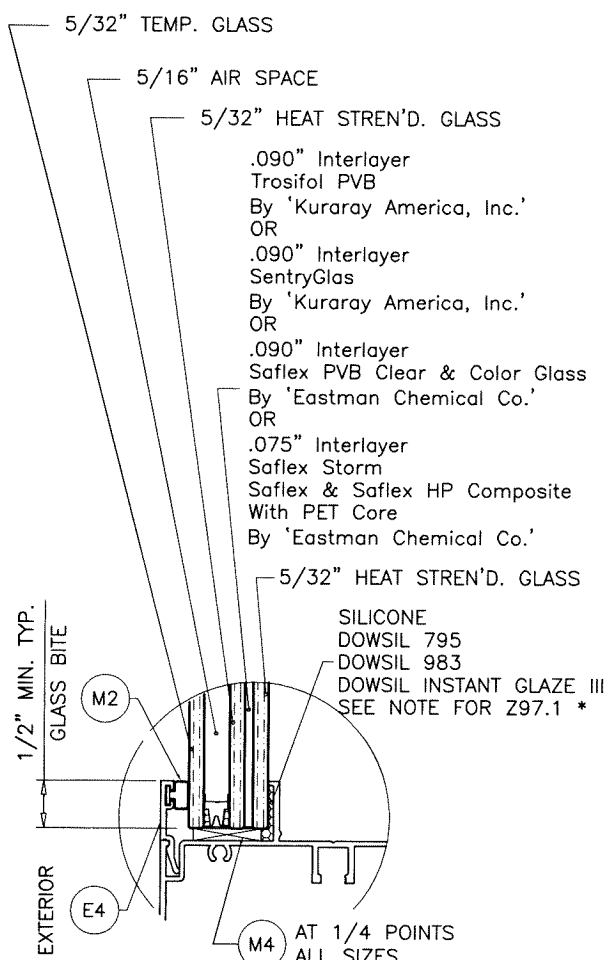
GLASS TYPE 'A'
7/16" OVERALL LAM. GLASS



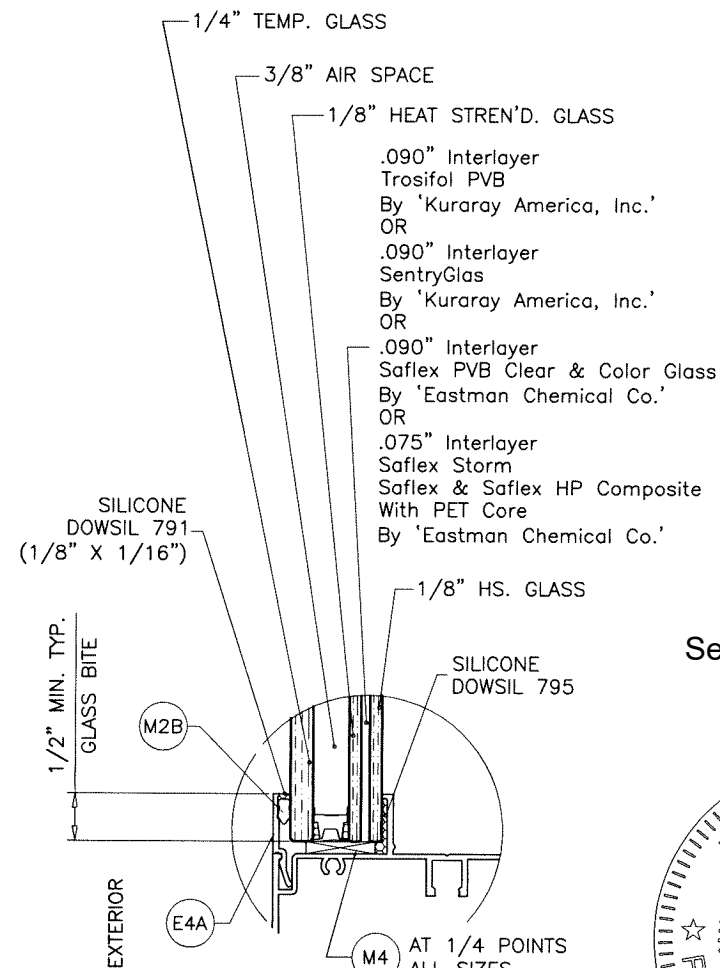
GLASS TYPE 'B'
7/16" OVERALL LAM. GLASS



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



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



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

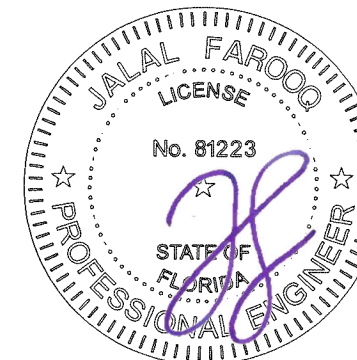
5/16" OR 3/8" AIR SPACE CONSISTING OF:
SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
SILICONE
DOW CORNING 791
GE 2000

*
NOTE SILICONE
DOWSIL INSTANT GLAZE III NOT APPROVED FOR
ANSI Z97.1 IMPACT

GLAZING OPTIONS

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FL #21461



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
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(C.A.N. 3538)
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

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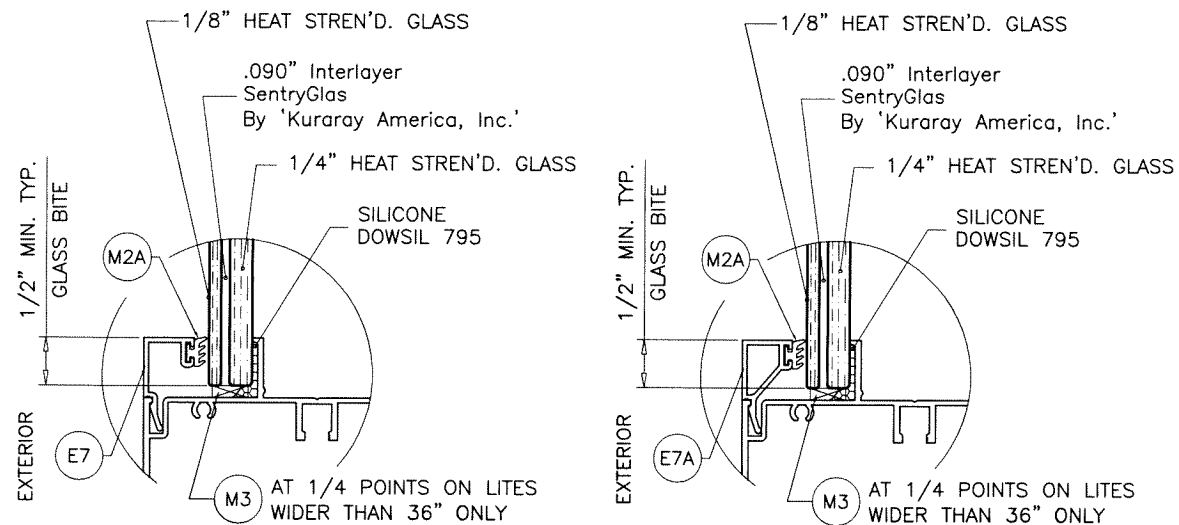
dr. by: TARIQ

chk. by:

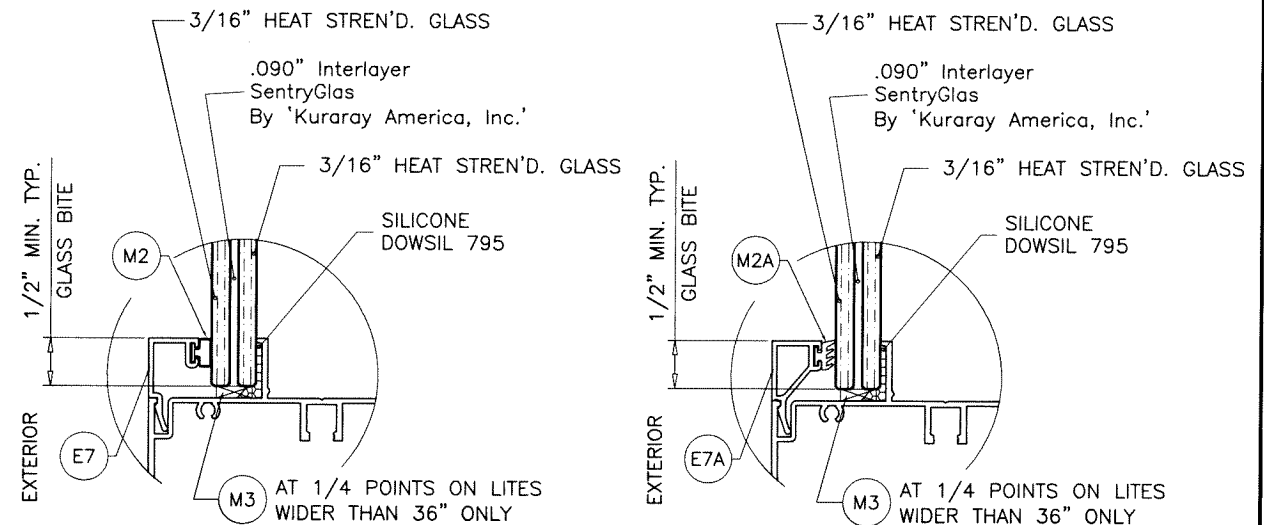
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W16-76

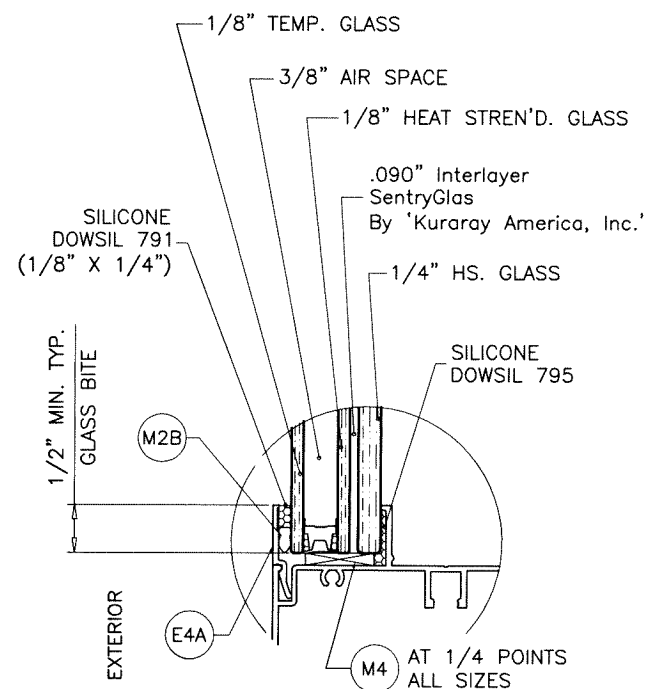
sheet 2 of 9



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

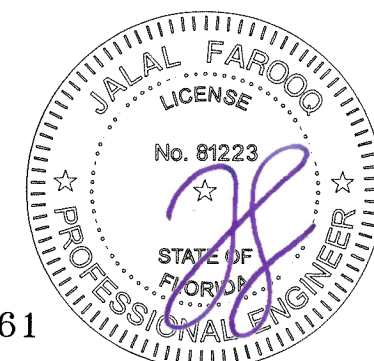


GLASS TYPE 'BB'
7/16" OVERALL LAM. GLASS



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

3/8" AIR SPACE CONSISTING OF:
SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
SILICONE
DOW CORNING 791
GE 2000



Sealed: 7/13/2026

FL #21461

GLAZING OPTIONS

af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
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COMP-ANL W16-76ES

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

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
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Revisions:	
no	by description

date: 11-29-16	scale: 1/2" = 1"
dr. by: TARIQ	chk. by:

drawing no.

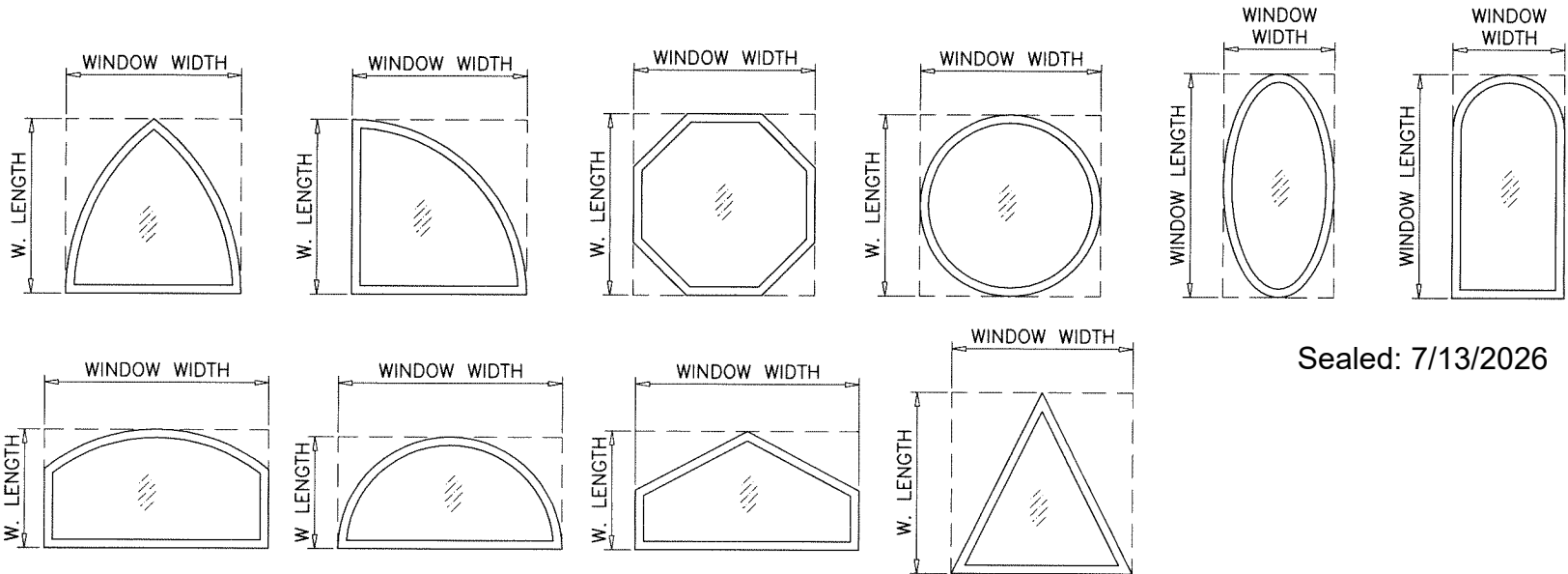
W16-76

sheet 2.1 of 9

DESIGN LOAD CAPACITY - PSF FLANGE FRAMES, FLUSH FRAMES, FIN FRAMES					
INTERIOR FRAME DIMS.		GLASS TYPE 'A'		GLASS TYPES 'B', 'Ai', 'Di', 'Ei'	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)
29"	47"	60.0	80.0	80.0	80.0
35"		60.0	80.0	80.0	80.0
41"		60.0	68.6	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		60.0	60.0	80.0	80.0
59"		60.0	60.0	80.0	80.0
29"	53"	60.0	80.0	80.0	80.0
35"		60.0	80.0	80.0	80.0
41"		60.0	68.6	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		53.3	53.3	71.1	71.1
29"	59"	60.0	80.0	80.0	80.0
35"		60.0	80.0	80.0	80.0
41"		60.0	68.6	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		48.0	48.0	64.0	64.0
29"	65"	60.0	80.0	80.0	80.0
35"		60.0	80.0	80.0	80.0
41"		60.0	68.6	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		48.0	48.0	64.0	64.0
29"	71"	60.0	80.0	80.0	80.0
35"		60.0	80.0	80.0	80.0
41"		60.0	68.6	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		48.0	48.0	64.0	64.0
29"	77"	60.0	80.0	80.0	80.0
35"		60.0	78.0	80.0	80.0
41"		60.0	68.6	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		48.0	48.0	64.0	64.0
29"	83"	60.0	80.0	80.0	80.0
35"		60.0	76.4	80.0	80.0
41"		60.0	68.6	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		48.0	48.0	64.0	64.0
29"	89"	60.0	80.0	80.0	80.0
35"		60.0	75.0	80.0	80.0
41"		60.0	67.1	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		48.0	48.0	64.0	64.0
29"	95"	60.0	80.0	80.0	80.0
35"		60.0	73.8	80.0	80.0
41"		60.0	65.8	80.0	80.0
47"		60.0	60.0	80.0	80.0
53"		53.3	53.3	71.1	71.1
59"		48.0	48.0	64.0	64.0

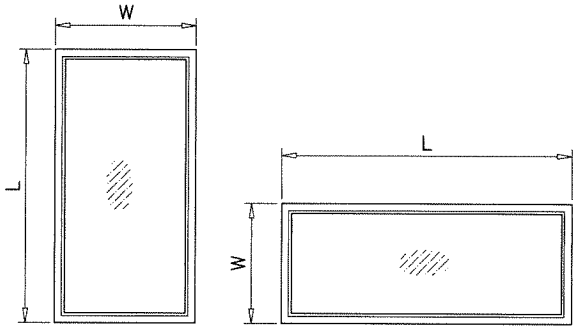
DESIGN LOAD CAPACITY - PSF FLANGE FRAMES, FLUSH FRAMES, FIN FRAMES					
INTERIOR FRAME DIMS.		GLASS TYPE 'A'		GLASS TYPES 'B', 'Ai', 'Di', 'Ei'	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)
29"	101"	60.0	80.0	80.0	80.0
32"		60.0	78.1	80.0	80.0
35"		60.0	72.9	80.0	80.0
38"		60.0	68.5	80.0	80.0
41"		60.0	64.8	80.0	80.0
44"		60.0	61.6	80.0	80.0
29"	107"	60.0	80.0	80.0	80.0
32"		60.0	77.3	80.0	80.0
35"		60.0	72.0	80.0	80.0
38"		60.0	67.6	80.0	80.0
41"		60.0	63.8	80.0	80.0
44"		60.0	60.0	80.0	80.0
29"	113"	60.0	80.0	80.0	80.0
32"		60.0	76.5	80.0	80.0
35"		60.0	71.3	80.0	80.0
38"		60.0	66.8	80.0	80.0
41"		60.0	62.3	80.0	80.0
44"		60.0	58.8	80.0	80.0
29"	119"	60.0	80.0	80.0	80.0
32"		60.0	75.9	80.0	80.0
35"		60.0	70.6	80.0	80.0
38"		60.0	65.3	80.0	80.0
41"		60.0	60.0	80.0	80.0
44"		60.0	55.0	80.0	80.0
29"	125"	60.0	80.0	80.0	80.0
32"		60.0	75.3	80.0	80.0
35"		60.0	70.0	80.0	80.0
38"		60.0	64.7	80.0	80.0
41"		60.0	59.4	80.0	80.0
44"		60.0	54.1	80.0	80.0
29"	131"	60.0	80.0	80.0	80.0
32"		60.0	74.8	80.0	80.0
35"		60.0	69.6	80.0	80.0
38"		60.0	64.3	80.0	80.0
41"		60.0	59.0	80.0	80.0
44"		60.0	53.7	80.0	80.0
29"	137"	60.0	80.0	80.0	80.0
32"		60.0	74.3	80.0	80.0
35"		60.0	68.9	80.0	80.0
38"		60.0	63.5	80.0	80.0
41"		60.0	58.1	80.0	80.0
44"		60.0	52.7	80.0	80.0
29"	143"	60.0	80.0	80.0	80.0
32"		60.0	73.1	80.0	80.0
35"		60.0	67.2	80.0	80.0
38"		60.0	61.3	80.0	80.0
41"		60.0	55.4	80.0	80.0
44"		60.0	49.5	80.0	80.0

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS).

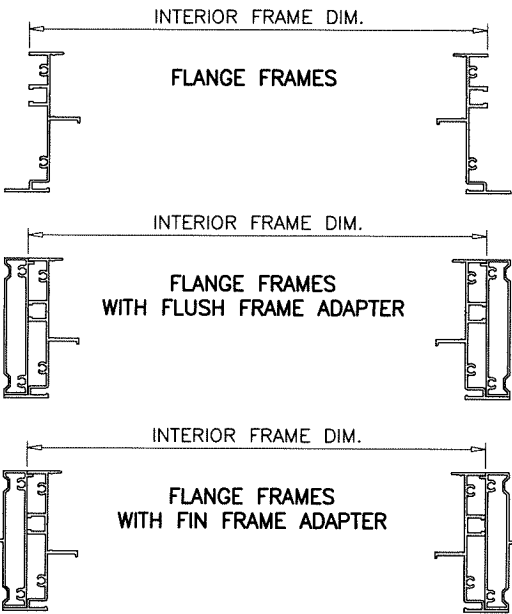


ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE
VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS
SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.

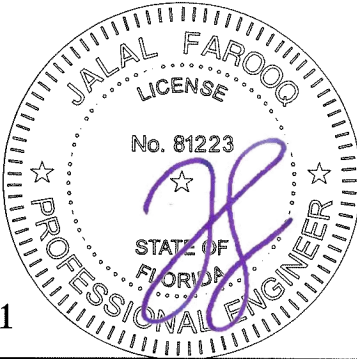
DESIGN LOAD CAPACITY - PSF FLANGE FRAMES, FLUSH FRAMES, FIN FRAMES					
INTERIOR FRAME DIMS.		GLASS TYPE 'A'		GLASS TYPES 'B', 'Ai', 'Di', 'Ei'	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)
18-1/8"	25"	60.0	80.0	80.0	80.0
25-1/2"		60.0	80.0	80.0	80.0
36"		60.0	80.0	80.0	80.0
47"		60.0	80.0	80.0	80.0
52-1/8"		60.0	80.0	80.0	80.0
59"		60.0	80.0	80.0	80.0
18-1/8"	37-3/8"	60.0	80.0	80.0	80.0
25-1/2"		60.0	80.0	80.0	80.0
36"		60.0	77.8	80.0	80.0
47"		60.0	75.0	80.0	80.0
52-1/8"		60.0	75.0	80.0	80.0
59"		60.0	75.0	80.0	80.0
18-1/8"	49-5/8"	60.0	80.0	80.0	80.0
25-1/2"		60.0	80.0	80.0	80.0
36"		60.0	77.8	80.0	80.0
47"		60.0	60.0	80.0	80.0
52-1/8"		56.9	56.9	75.9	75.9
59"		56.9	56.9	75.9	75.9
18-1/8"	57"	60.0	80.0	80.0	80.0
25-1/2"		60.0	80.0	80.0	80.0
36"		60.0	77.8	80.0	80.0
47"		60.0	60.0	80.0	80.0
52-1/8"		54.2	54.2	72.3	72.3
59"		54.2	54.2	72.3	72.3
18-1/8"	62"	60.0	80.0	80.0	80.0
25-1/2"		60.0	80.0	80.0	80.0
36"		60.0	77.8	80.0	80.0
47"		60.0	60.0	80.0	80.0
52-1/8"		54.2	54.2	72.3	72.3
59"		54.2	54.2	72.3	72.3
18-1/8"	75"	60.0	80.0	80.0	80.0
25-1/2"		60.0	80.0	80.0	80.0
36"		60.0	77.2	80.0	80.0
47"		60.0	60.0	80.0	80.0
52-1/8"		54.2	54.2	72.3	72.3
59"		54.2	54.2	72.3	72.3



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



Sealed: 7/13/2026



FL #21461

af c
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

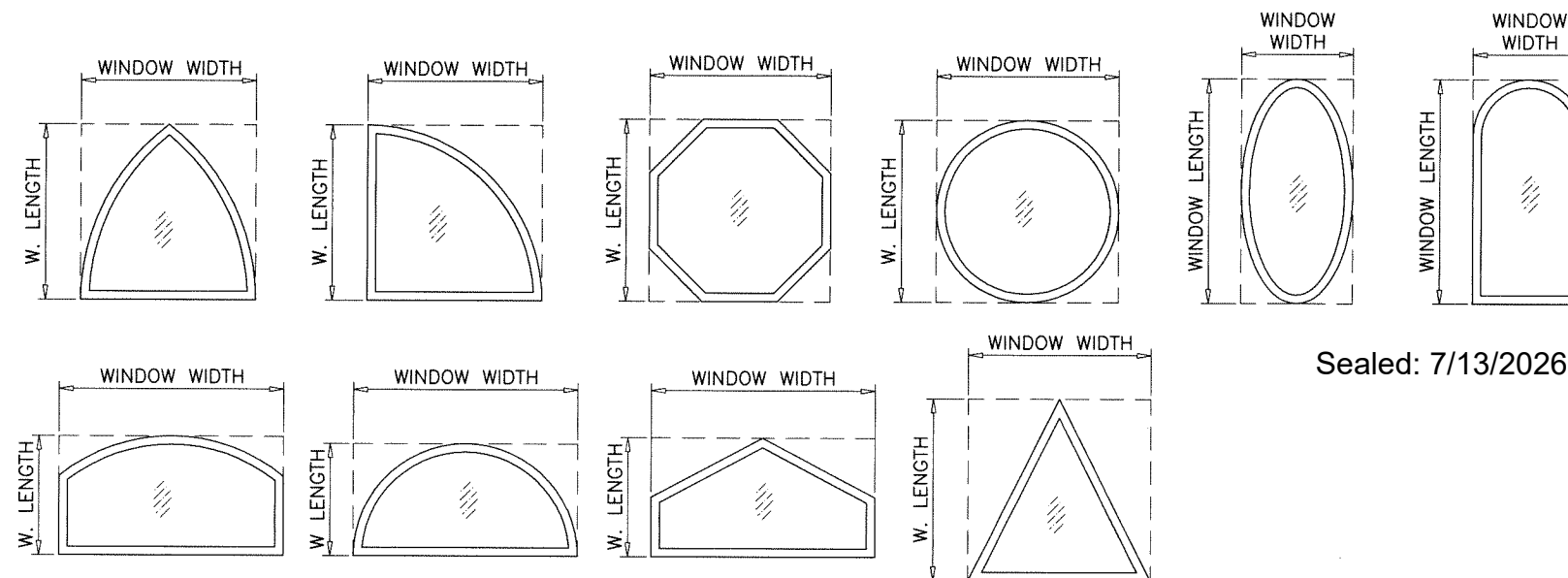
ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)
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revisions:
no date by description
date: 11-29-16
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:
drawing no.
W16-76
sheet 3 of 9

DESIGN LOAD CAPACITY – PSF FLANGE FRAMES & FLUSH FRAMES ONLY					
INTERIOR FRAME DIMS.		GLASS TYPES 'AA' & 'AAi'		GLASS TYPE 'BB'	
WIDTH	HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
47"	47"	80.0	105.0	80.0	100.0
53"		80.0	105.0	80.0	100.0
59"		80.0	105.0	80.0	100.0
65"		80.0	105.0	80.0	100.0
71"		80.0	105.0	80.0	100.0
77"		80.0	105.0	80.0	100.0
47"	53"	80.0	105.0	80.0	100.0
53"		71.1	93.3	80.0	88.9
59"		71.1	93.3	80.0	88.9
65"		71.1	93.3	80.0	88.9
71"		–	–	80.0	88.9
77"		–	–	80.0	88.9
47"	59"	80.0	105.0	80.0	100.0
53"		71.1	93.3	80.0	88.9
59"		64.0	84.0	80.0	80.0
65"		–	–	80.0	80.0
71"		–	–	80.0	80.0
77"		–	–	80.0	80.0
47"	65"	80.0	105.0	80.0	100.0
53"		71.1	93.3	80.0	88.9
59"		–	–	80.0	80.0
65"		–	–	72.7	72.7
71"		–	–	72.7	72.7
77"		–	–	72.7	72.7
47"	71"	80.0	105.0	80.0	100.0
53"		–	–	80.0	88.9
59"		–	–	80.0	80.0
65"		–	–	72.7	72.7
71"		–	–	66.7	66.7
77"		–	–	66.7	66.7
47"	77"	80.0	105.0	80.0	100.0
53"		–	–	80.0	88.9
59"		–	–	80.0	80.0
65"		–	–	72.7	72.7
71"		–	–	66.7	66.7
77"		–	–	61.5	61.5
41"	83"	80.0	105.0	80.0	100.0
47"		–	–	80.0	100.0
53"		–	–	80.0	88.9
59"		–	–	80.0	80.0
65"		–	–	72.7	72.7
71"		–	–	66.7	66.7
41"	89"	80.0	105.0	80.0	100.0
47"		–	–	80.0	100.0
53"		–	–	80.0	80.0
59"		–	–	80.0	80.0
65"		–	–	72.7	72.7
71"		–	–	66.7	66.7
35"	95"	80.0	105.0	80.0	100.0
41"		–	–	80.0	100.0
47"		–	–	80.0	100.0
53"		–	–	80.0	80.0
59"		–	–	80.0	80.0
65"		–	–	72.7	72.7

DESIGN LOAD CAPACITY – PSF FLANGE FRAMES & FLUSH FRAMES ONLY					
INTERIOR FRAME DIMS.		GLASS TYPES 'AA' & 'AAi'		GLASS TYPE 'BB'	
WIDTH	HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
35"	101"	80.0	105.0	80.0	100.0
41"		–	–	80.0	100.0
47"		–	–	80.0	80.0
53"		–	–	80.0	80.0
59"		–	–	80.0	80.0
29"		80.0	105.0	80.0	100.0
41"	107"	–	–	80.0	100.0
47"		–	–	80.0	80.0
53"		–	–	80.0	80.0
59"		–	–	80.0	80.0
29"	113"	80.0	105.0	80.0	100.0
47"		–	–	80.0	80.0
53"		–	–	80.0	80.0
29"	119"	80.0	105.0	80.0	100.0
47"		–	–	80.0	80.0
53"		–	–	80.0	80.0
29"	125"	80.0	105.0	80.0	100.0
23"		80.0	105.0	80.0	100.0
41"		–	–	80.0	80.0
47"	131"	–	–	80.0	80.0
23"		80.0	105.0	80.0	100.0
41"		–	–	80.0	80.0
23"	137"	80.0	105.0	80.0	100.0
41"		–	–	80.0	80.0
23"		80.0	105.0	80.0	100.0
41"	143"	–	–	80.0	80.0
41"		–	–	80.0	80.0

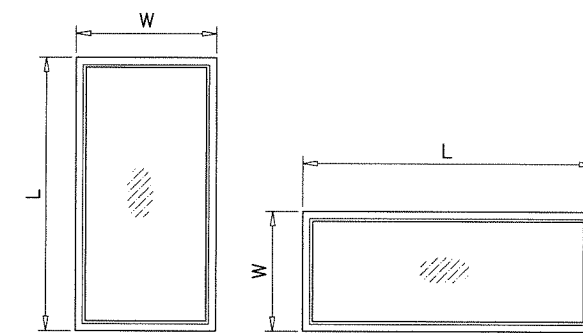
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS).



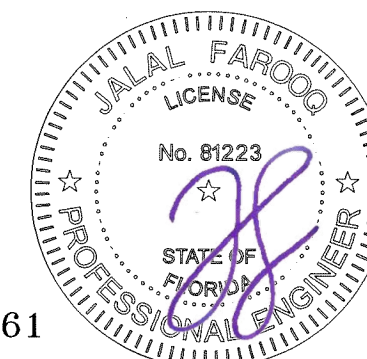
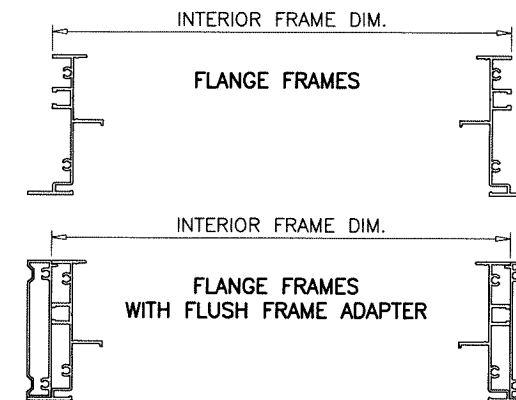
ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE
VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS
SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.

DESIGN LOAD CAPACITY – PSF FLANGE FRAMES & FLUSH FRAMES ONLY					
INTERIOR FRAME DIMS.		GLASS TYPES 'AA' & 'AAi'		GLASS TYPE 'BB'	
WIDTH	HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
18-1/8"	25"	80.0	105.0	80.0	100.0
25-1/2"		80.0	105.0	80.0	100.0
36"		80.0	105.0	80.0	100.0
47"		80.0	105.0	80.0	100.0
52-1/8"		80.0	105.0	80.0	100.0
18-1/8"		80.0	105.0	80.0	100.0
25-1/2"	37-3/8"	80.0	105.0	80.0	100.0
36"		80.0	105.0	80.0	100.0
47"		80.0	105.0	80.0	100.0
52-1/8"		80.0	105.0	80.0	100.0
18-1/8"	49-5/8"	80.0	105.0	80.0	100.0
25-1/2"		80.0	105.0	80.0	100.0
36"		80.0	105.0	80.0	100.0
47"		80.0	105.0	80.0	100.0
52-1/8"	57"	75.9	99.6	80.0	94.8
18-1/8"		80.0	105.0	80.0	100.0
25-1/2"		80.0	105.0	80.0	100.0
36"		80.0	105.0	80.0	100.0
47"	62"	80.0	105.0	80.0	100.0
52-1/8"		80.0	105.0	80.0	100.0
18-1/8"		80.0	105.0	80.0	100.0
25-1/2"		80.0	105.0	80.0	100.0
36"	75"	80.0	105.0	80.0	100.0
47"		80.0	105.0	80.0	100.0
52-1/8"		80.0	105.0	80.0	100.0
52-1/8"		–	–	80.0	90.4

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



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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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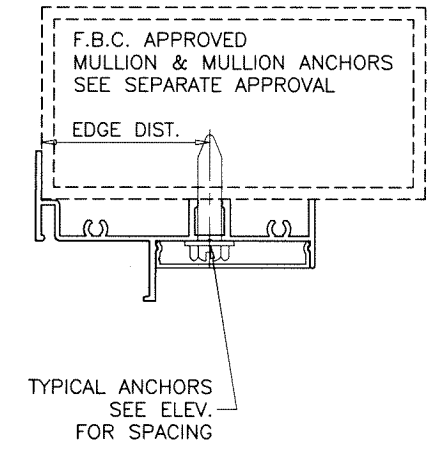
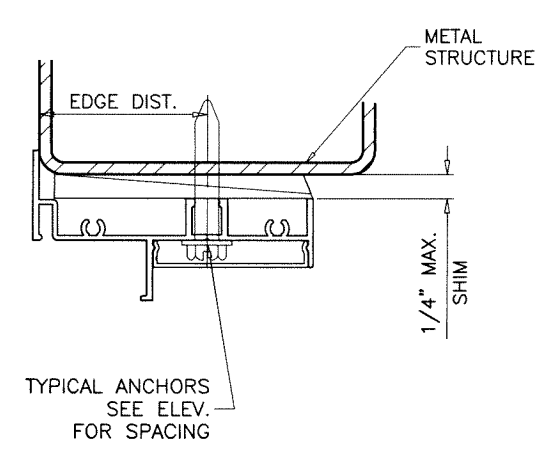
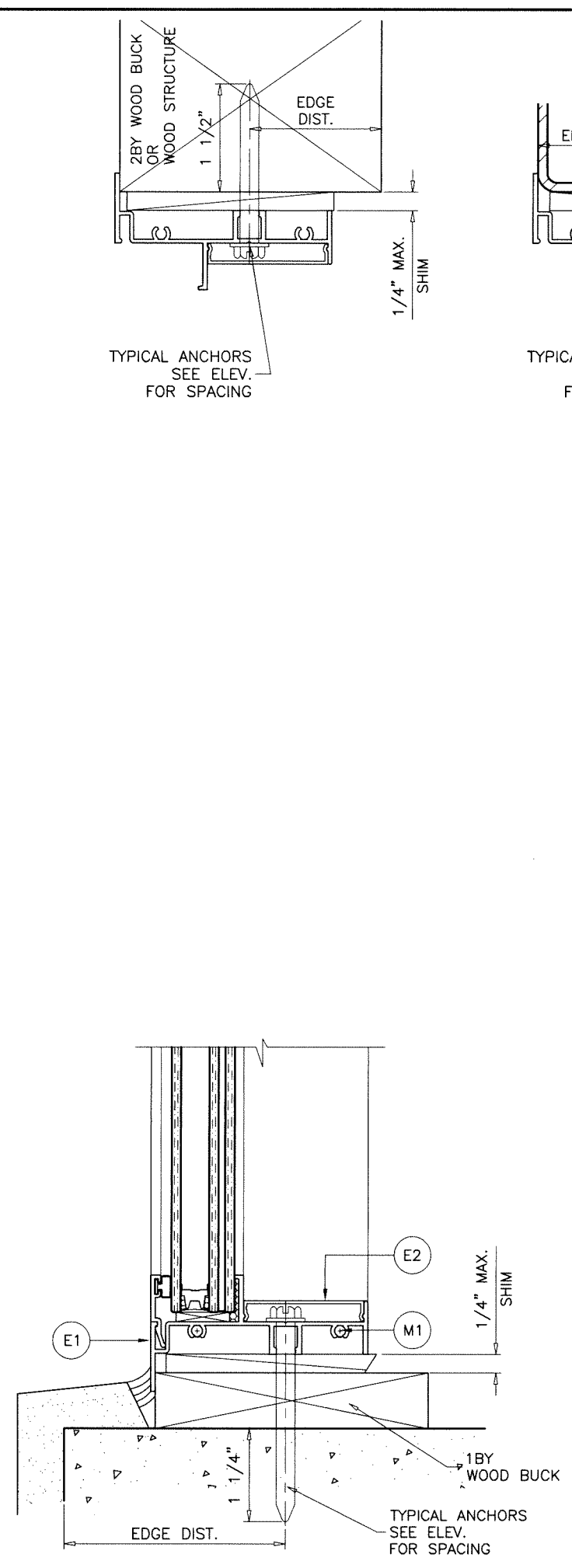
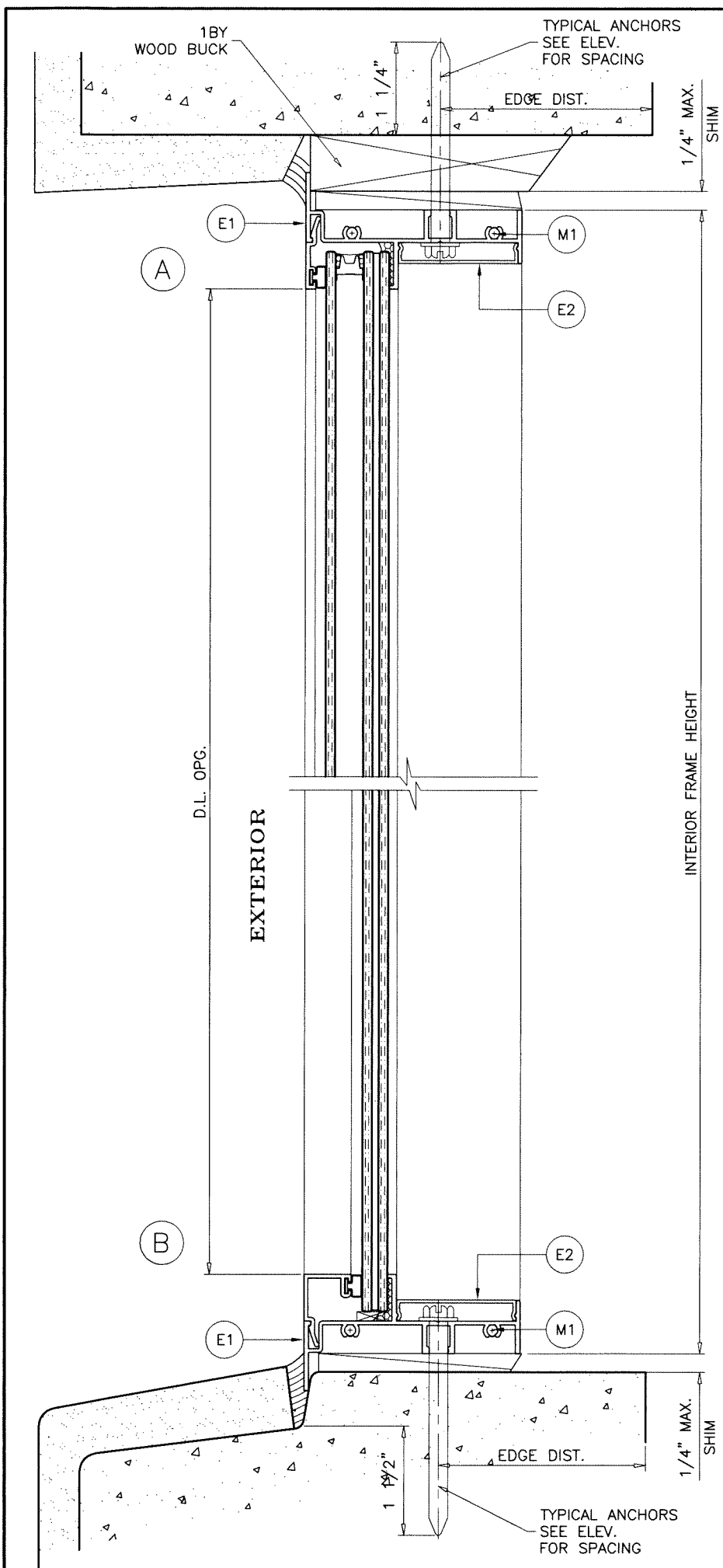
dr. by: TARIQ

chk. by:

drawing no.

W16-76

sheet 3 of 9



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. TAPCON BY 'ITW' (Fu=125 KSI, Fy=100 KSI)

1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=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. (Fy = 36 KSI MIN.)

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

TYPICAL EDGE DISTANCE

INTO CONCRETE AND MASONRY = 2" MIN.

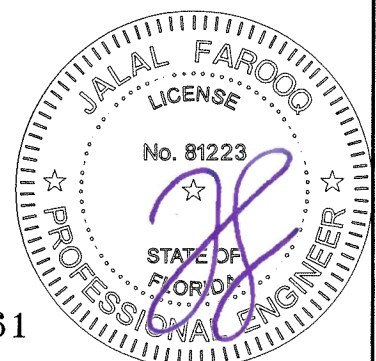
INTO WOOD STRUCTURE = 1" MIN.

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.



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(C.A.N. 3538)

COMP-ANL W16-76ES

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

E.S. WINDOWS, LLC
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revisions:		no	date	by	description
no	date				

date: 11-29-16

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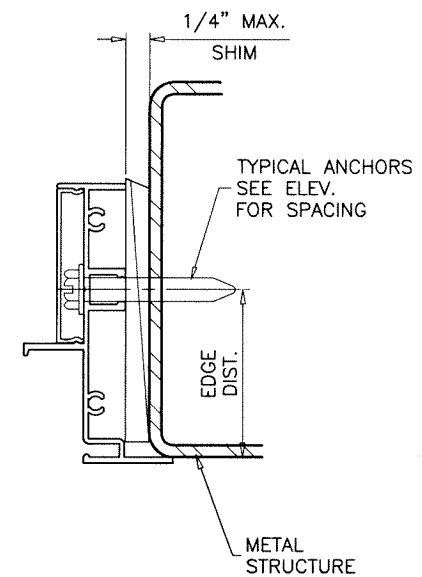
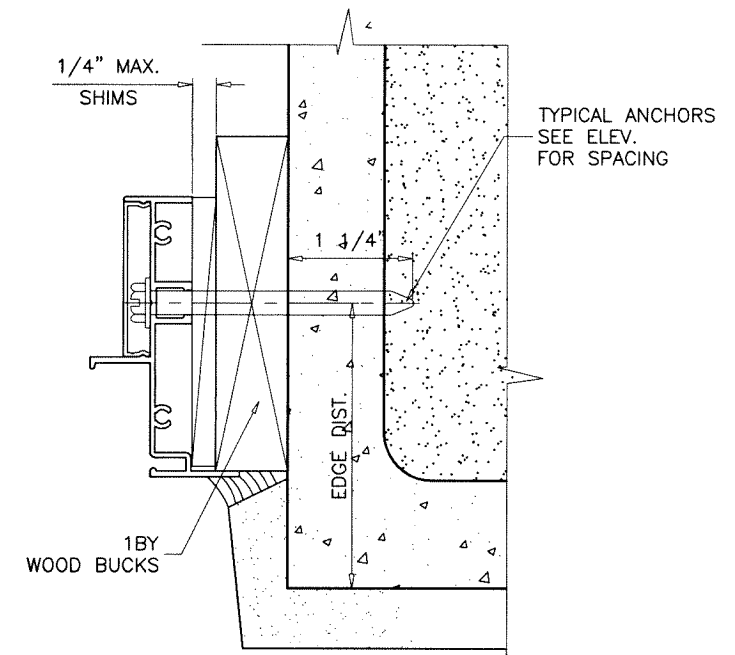
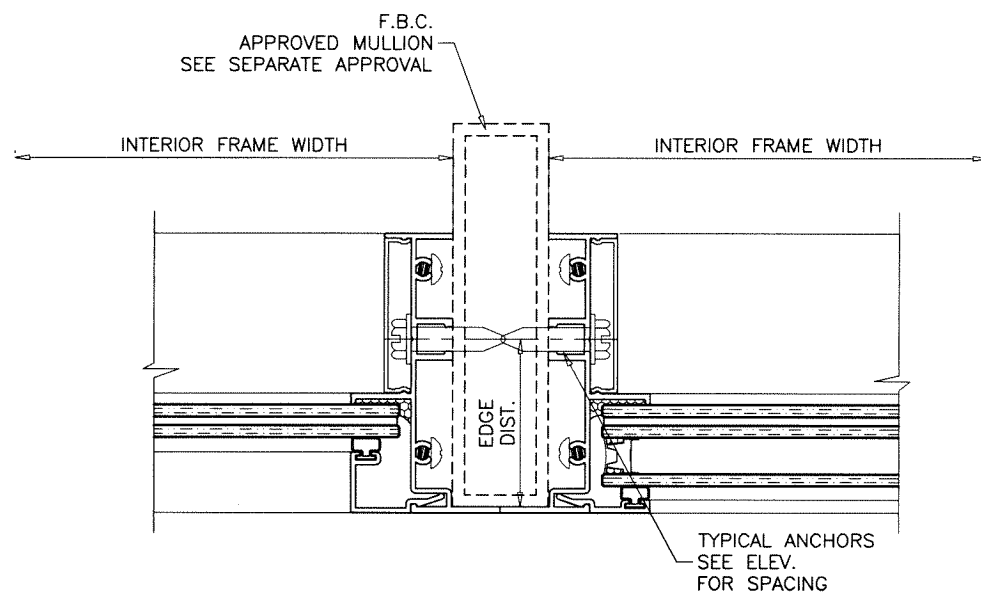
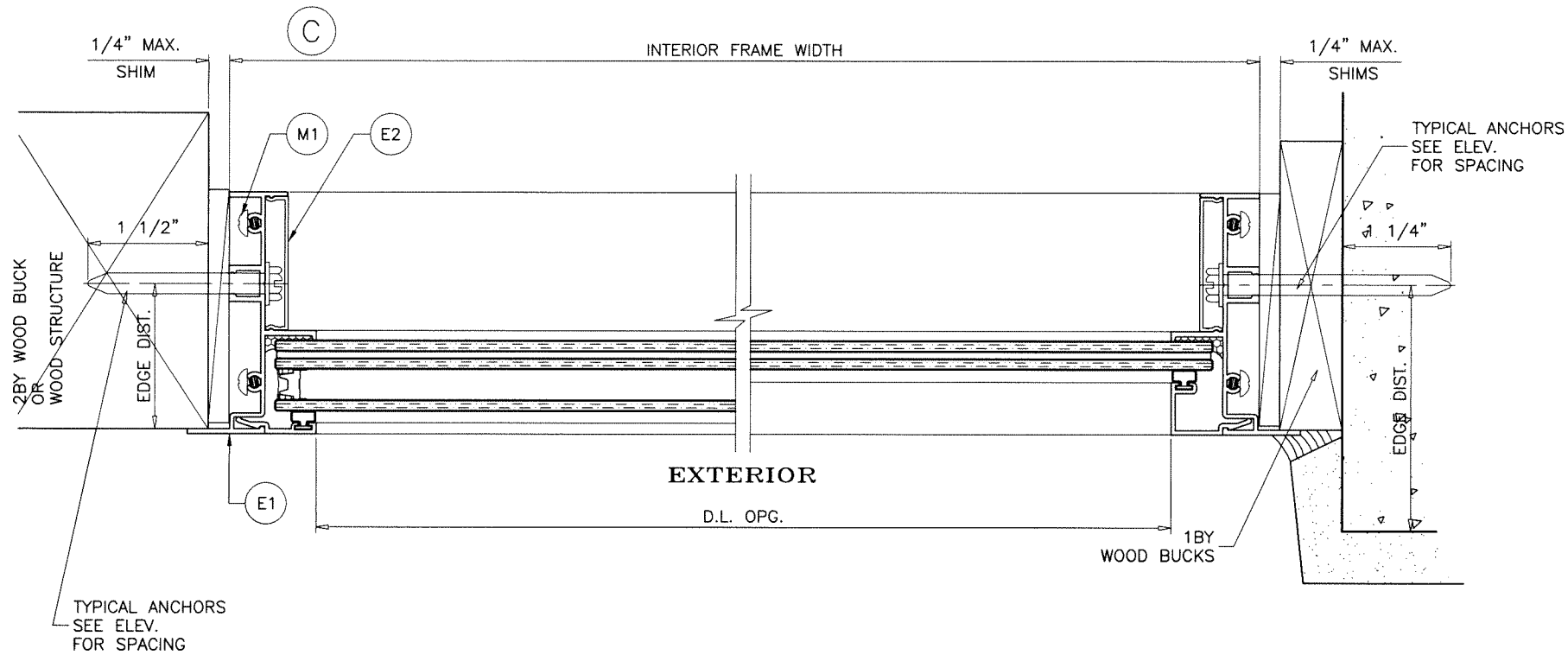
dr. by: TARIQ

chk. by:

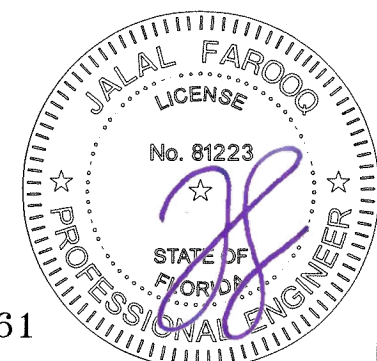
drawing no.

W16-76

sheet 4 of 9



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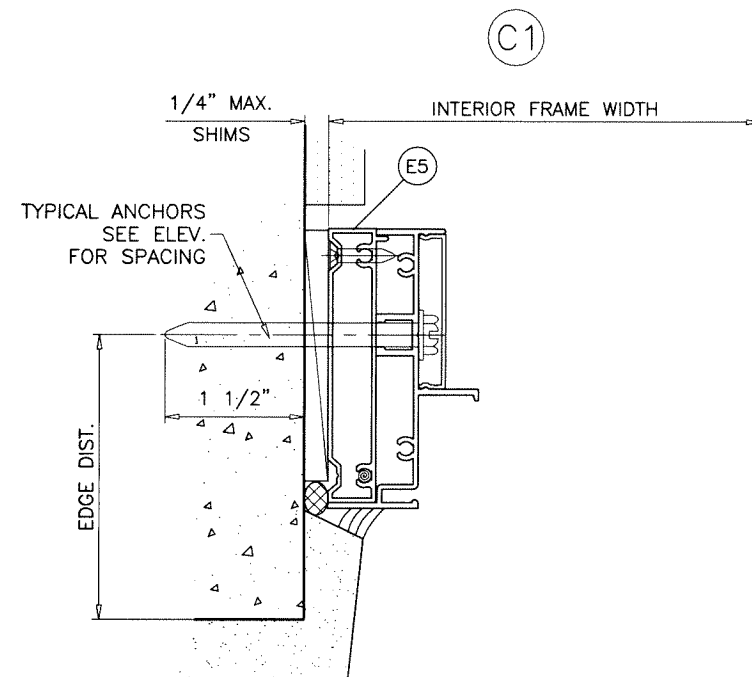
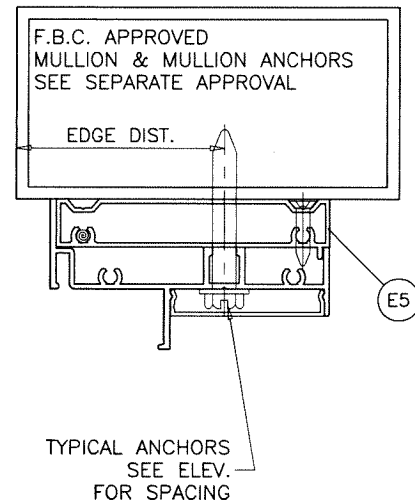
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date:	11-29-16	scale:	1/2" = 1"
dr. by:	TARIQ	chk. by:	
drawing no.	W16-76		
sheet	5	of	9

COMP-ANL W16-76ES

The image contains two technical cross-section drawings of a window frame, labeled A1 and B1.

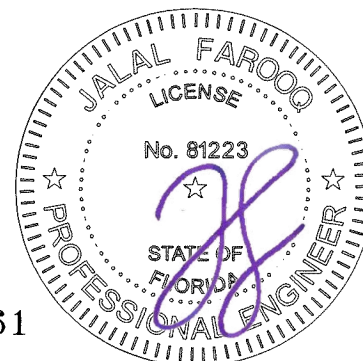
Drawing A1 (Top): Shows a cross-section of a window frame. The exterior side (top) is labeled "EXTERIOR". The interior side (bottom) is labeled "INTERIOR FRAME HEIGHT". The drawing shows a multi-pane window with a central pane and side panes. The frame is labeled "A1" and "E5". The exterior wall is labeled "EDGE DIST." and "1 1/2\"". The interior wall is labeled "1/4\" MAX." and "SHIMS". The text "TYPICAL ANCHORS SEE ELEV. FOR SPACING" is present.

Drawing B1 (Bottom): Shows a cross-section of a window frame. The exterior side (top) is labeled "EXTERIOR". The interior side (bottom) is labeled "INTERIOR FRAME HEIGHT". The drawing shows a multi-pane window with a central pane and side panes. The frame is labeled "B1" and "E5". The exterior wall is labeled "EDGE DIST." and "1 1/2\"". The interior wall is labeled "1/4\" MAX." and "SHIMS". The text "TYPICAL ANCHORS SEE ELEV. FOR SPACING" is present.



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SEE SHEETS 4 & 5 FOR WINDOW DETAILS



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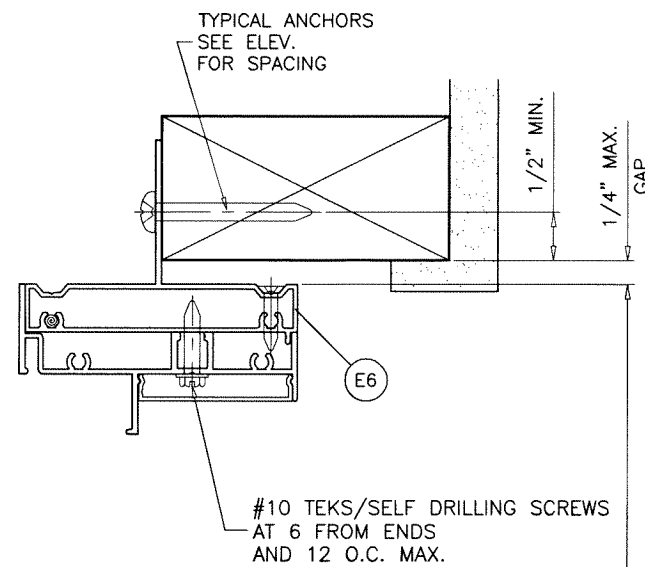
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date: 11-29-16	scale: 1/2" = 1"	dr. by: TARIQ	chk. by:	
drawing no. W16-76				
sheet 6 of 9				

FL #21461

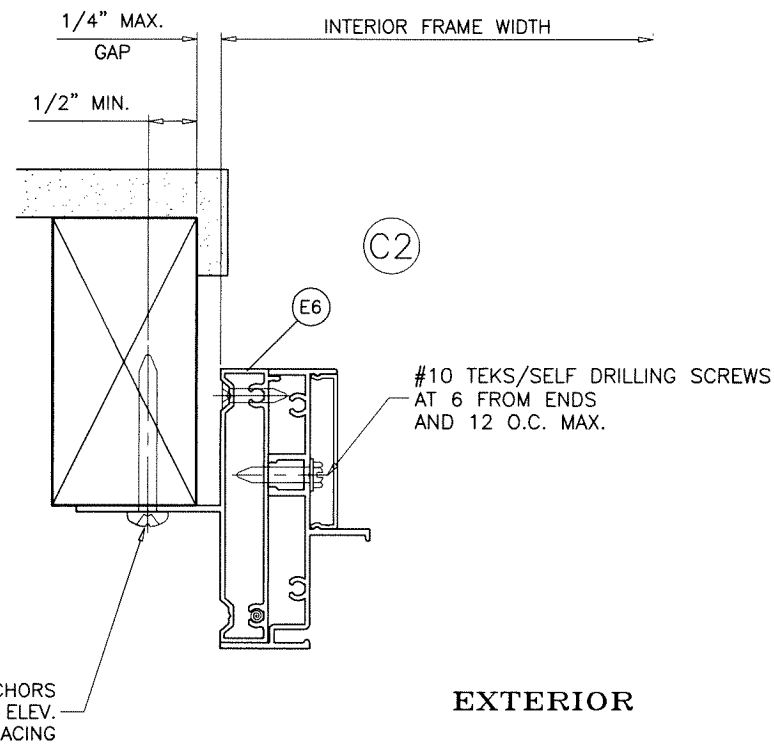
EXTERIOR

A2



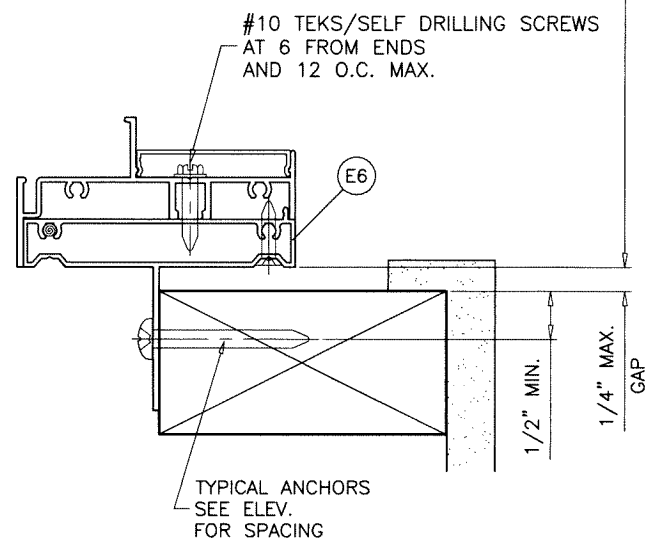
TYPICAL ANCHORS: SEE ELEV. FOR SPACING

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



EXTERIOR

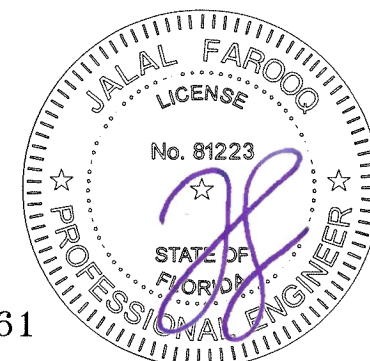
B2



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

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FL #21461



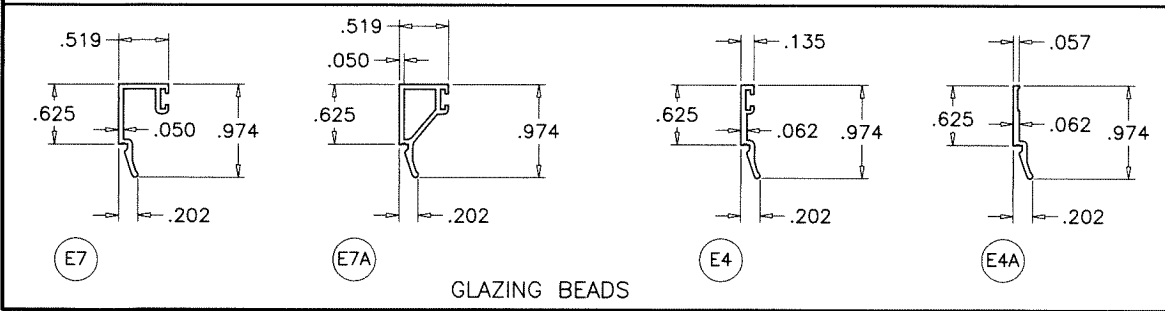
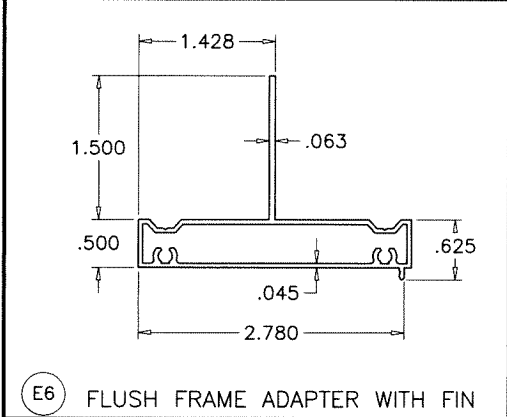
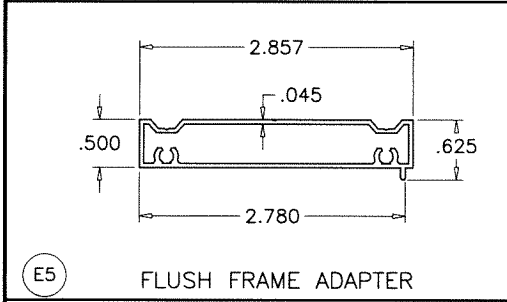
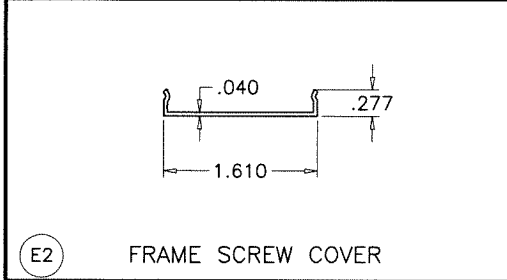
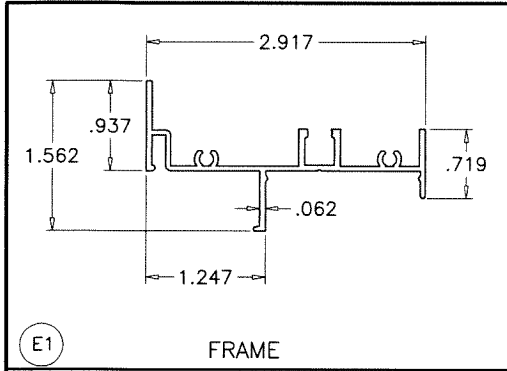
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ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

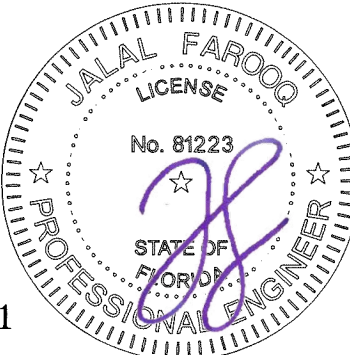
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revisions:		no date by description	
date:	11-29-16	no	date
scale:	1/2" = 1"	by	description
dr. by:	TARIQ		
chk. by:			
drawing no.	W16-76		
sheet	7 of 9		



ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-EL155	1	FRAME	6063-T6	-
E2	ES-EL156	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)

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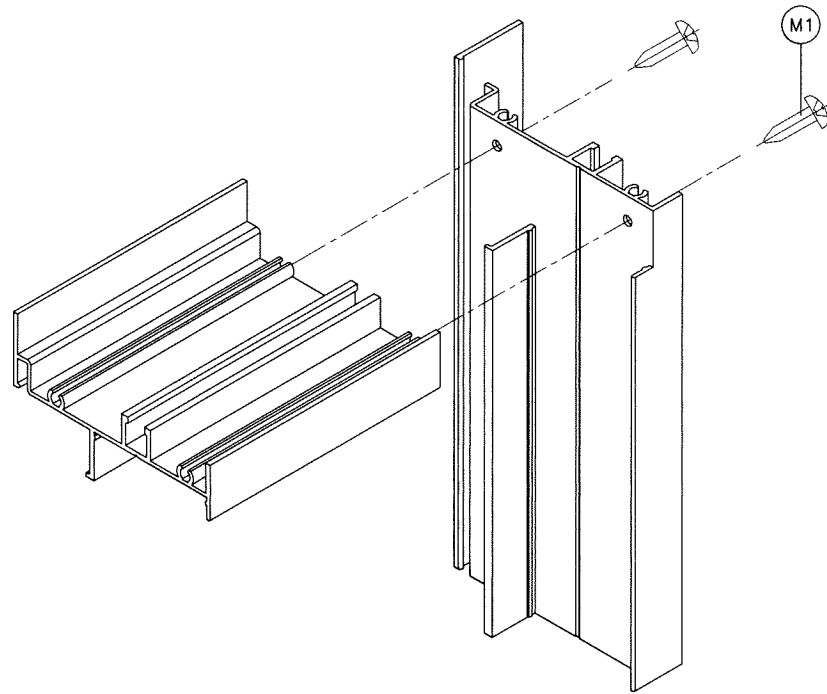
ES-EL150 FIXED ALUMINUM WDW. (L.M.I.)

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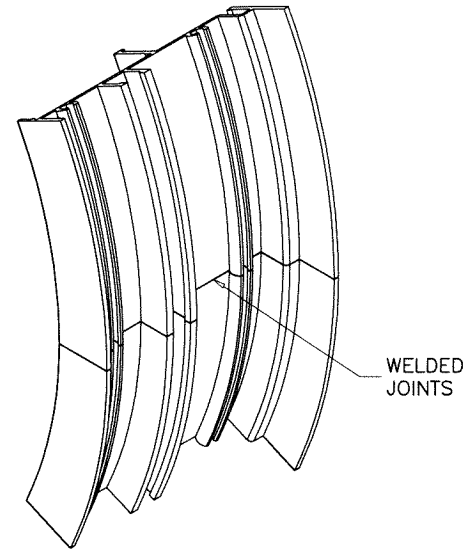
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chk. by:

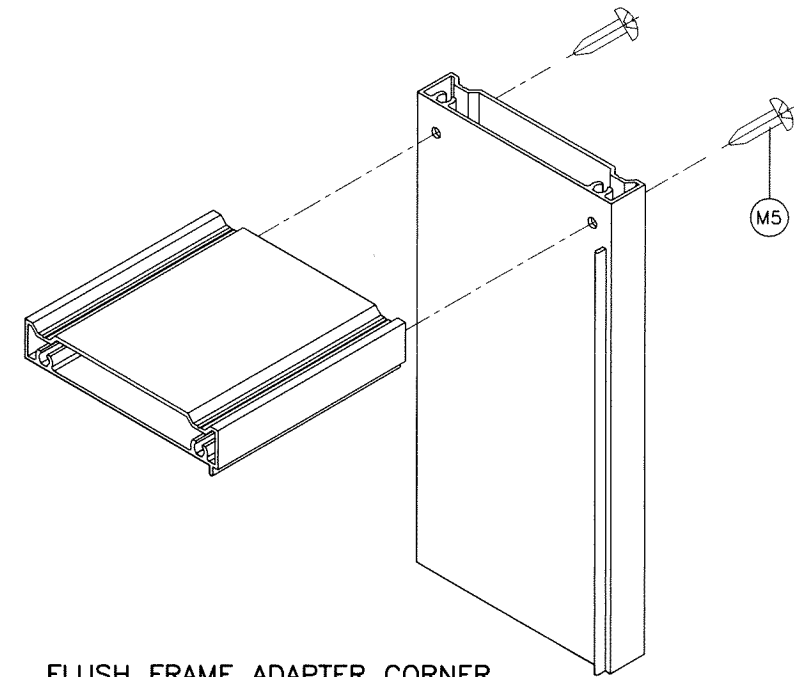
drawing no.
W16-76
sheet 8 of 9



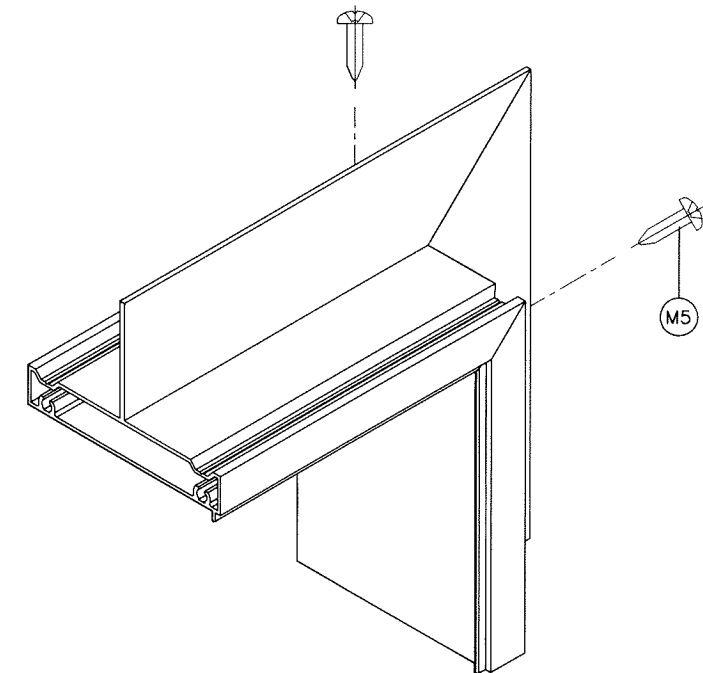
RECT. OR SQUARE WINDOWS



CIRCULAR WINDOWS



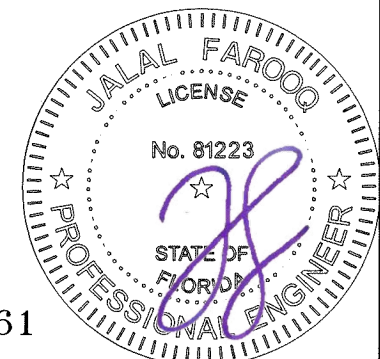
FLUSH FRAME ADAPTER CORNER



FIN FRAME ADAPTER CORNER

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afc

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date: 11-29-16
scale: 1/2" = 1"

dr. by: TARIQ

chk. by:

drawing no.

W16-76

sheet 9 of 9